knowledge of new techniques and of the latest developments in their own fields.

The general solution to the problem of the utilization of scientists has been well stated by Professor Wilder Penfield,[4] who speaks from his experience as a participant in the Canadian and British war effort. In Professor Penfield's words: "It should be recognized as a principle in a democratic country that the government can not be considered omniscient, or always wise. Leadership must therefore develop spontaneously in every department of our national life. New ideas and new efforts should break out among men in all walks of life, from laborer to industrialist and professor, like an epidemic of influenza."

The American Association of Scientific Workers, through several of its branches, is developing activity to aid scientists in formulating and presenting projects for war research. This small-scale experiment is sufficiently promising that it is being paralleled by other groups. The extension of such activity throughout the country appears desirable and the AAScW has recommended to our national authorities various steps which will encourage and promote the exercise of their creative initiative by our civilian scientists so that new problems and new types of research useful to the war effort may arise on the basis of peacetime skills.

HARRY GRUNDFEST,
National Secretary, American Association of Scientific Workers

SCIENTIFIC BOOKS

ORGANIC CHEMISTRY

Organic Reactions. Vol. I. ROGER ADAMS, editor-in-chief; WERNER E. BACHMANN, LOUIS F. FIESER, JOHN R. JOHNSON and H. R. SNYDER. Pp. vi + 391. New York: John Wiley and Sons, Inc.; London: Chapman & Hall, Ltd. 1942. Price, $4.00.

THIS is the first volume of a publication which it is hoped to issue periodically in books of about 12 chapters each, under the general editorship of Dr. Roger Adams, an editorial board and a group of associate editors. The editorial group and the contributors of the individual chapters are all recognized leaders in their chosen fields, on both the experimental and the literary sides. The result, as was to be expected, is an admirable piece of work, constituting an exceptionally valuable contribution to the literature of organic chemistry.

Every investigator, in the prosecution of his experimental laboratory work on synthetic organic chemical problems, draws upon our accumulated knowledge of chemical reactions as stored up for him in texts and reference books. Space limitations prevent the inclusion in such books of adequate discussion of the scope and limitations of these reactions, of the conditions determining maximum yields or of giving specific illustrative examples of variations in technic. The investigator, therefore, may have to spend a large amount of valuable time in searching the literature for this information. The purpose of the present undertaking is to meet this need, and all organic chemists will be grateful to those who are carrying through this project.

This first volume consists of 12 chapters, each devoted to a single reaction, or a definite phase thereof, as follows: (1) Reformatsky Reaction; (2) Arndt-Eistert Synthesis; (3) Chloromethylation of Aromatic Compounds; (4) Amination of Heterocyclic Bases by Alkali Amides; (5) Bucherer Reaction; (6) Elbs Reaction; (7) Clemmensen Reduction; (8) Perkin Reaction; (9) Acetoacetic Ester Condensation; (10) Mannich Reaction; (11) Fries Reaction; (12) Jacobsen Reaction. These subjects are presented from the preparative view-point, and the authors have had practical personal experience with the processes described. Each chapter begins with a Table of Contents, lists in tables the different compounds to which the reaction has been applied and includes full references to the literature. The book is indispensable to every investigator of synthetic organic chemical problems.

As it is practically impossible, in gathering data of this kind, not to miss some facts of interest buried in unexpected places, one way in which organic chemists can express their appreciation to the authors of this and subsequent volumes is to call their attention to any omissions they may note. Cooperation in this direction, the reviewer is confident, will be both welcome and helpful.

As is always the case with Wiley publications, paper, presswork and binding are admirable.

Organic Syntheses. Vol. 22. An Annual Publication of Satisfactory Methods for the Preparation of Organic Chemicals. LEE IRVIN SMITH, editor-in-chief, with an editorial board and an advisory board. Pp. 114. New York: John Wiley and Sons, Inc.; London: Chapman & Hall, Ltd. 1942. Price, $1.75.

THE new volume of this very useful series describes the preparation of the following: Acetobromoglucose;

[4] "Some Problems in Wartime Neurology," *Arch. Neurol. and Psychiat.*, May, 1942.

9-Aminoacridine; 2-Amino-*p*-cymene; *alpha*-Aminodiethylacetic acid; 2-Amino-6-methylbenzothiazole; 3-Amino-2-naphthoic acid; *dl-alpha*-Aminophenylacetic acid; *dl-beta*-Amino-*beta*-phenylpropionic acid; Azobenzene; *o*-Carboxyphenylacetonitrile; 4,4′-Diaminodiphenylsulfone; 2,6-Dimethoxybenzonitrile; 2,3-Dimethylanthraquinone; 2,3-Dimethylbutadiene-1,3; 2,5-Dinitrobenzoic acid; 3,5-Dinitrobenzoic acid; Diphenylacetylene; Diphenyliodonium iodide; *beta*-Gentiobiose octaacetate; *beta-d*-Glucose-1,2,3,4-tetraacetate; Guanidoacetic acid; Homophthalic acid; 2-Hydroxy-1-naphthaldehyde; Imidazole; Iodobenzene dichloride; Iodosobenzene; Iodoxybenzene; Linoleic acid; Linolenic acid; *d*-Mannose; N-Methyl-3,4-dihydroxyphenylalanine; 2-Methylindole; Phenyl azide, 2-Phenylindole.

As usual, these preparations have been checked by other chemists in addition to those who sent them in, and are accompanied by pertinent explanatory notes and numerous references to the literature. It is noteworthy that the contributors are not limited to our own country, but include also chemists from Canada, Australia, South America and other lands. The cumulative subject index covers Volumes 20, 21 and 22.

An Outline of Organic Nitrogen Compounds. By ED. F. DEGERING, CARL BORDENCA and B. H. GWYNN, with the cooperation of 21 collaborators and many graduate students. Third edition (previous editions 1938 and 1940). 381 pp. Planographed by John S. Swift Company, Inc., Cincinnati, Ohio. May, 1942. Price, $6.

THIS is the first planographed edition of the notes which the author has accumulated and digested during ten years of lecturing in this field to graduate students. As the title states, the book is intended to be only an outline of the subject, and does not aim to be complete either in its coverage of all classes of organic nitrogen compounds or in the details supplied for those classes which are included. So far as the reviewer is aware, it is the only book available which deals with the subject in just this way, and should be very helpful to students, research workers and specialists. Although presented only in outline, briefly, compactly and concisely, the information supplied is very considerable and clearly intelligible.

The arrangement of the subject-matter is, on the whole, logical, beginning with General Concepts, the Fixation of Atmospheric Nitrogen and the Ammonia System of Compounds, then taking up nitro, nitroso, oximino, amino, etc., derivatives, aliphatic and aromatic alkaloids and nitrogen heterocycles, etc., although the reviewer might raise the question whether the Isomerism of the Organic Nitrogen Compounds, instead of being the last chapter in the book, might not better appear much earlier. A separate chapter on Explosives is timely and instructive. Bibliographies and references to the literature are numerous and add greatly to the value of the work. Both author and subject indexes are provided. The book is cordially recommended.

Organic Chemistry. By REYNOLD C. FUSON and H. R. SNYDER. 506 pp. New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1942. Price, $3.50.

AS the authors state in the preface, this book aims to cover the ground required of students in the courses known as Chem. 34 and Chem. 36, which together cover the first year's work in organic chemistry at the University of Illinois, where they have been given for many years.

Chem. 34, represented by Part I, consisting of Chapters I to XVIII inclusive, is an initial course. It gives the student a bird'e-eye view of the general field of organic chemistry and familiarizes him with the principal classes of organic compounds.

Chem. 36, as set forth in Part II, Chapters XIX to XXXIV inclusive, likewise covers the general field of organic chemistry, but with more emphasis upon details and especially upon the use of standard reactions in synthesis. This Part II has been found useful by graduate students as a survey and review course and in preparation for Ph.D. examinations.

Manifestly, this method of presentation involves a certain amount of repetition but, in the opinion of the authors, this is distinctly advantageous.

At the end of most of the chapters, "Problems and Suggested Readings" are given, and at the close of the book, in addition to the index, Appendix A discusses "Nomenclature and Pronunciation," and Appendix B gives an extensive list of additional "Problems and Questions for Review."

A praiseworthy feature of Part II, in emphasizing important reactions, is the association therewith of the names of the chemists by whom they were discovered or developed. The student thus becomes acquainted with some of the builders of the vast edifice of organic chemistry. Another useful feature is the attention given to the industrial applications of the experimental facts recorded.

The book constitutes an admirable first-year course, lucidly and logically presented, up to date, and is a good illustration of the excellent instruction given in this field at the University of Illinois. Paper, press-work and binding are first-class.

MARSTON TAYLOR BOGERT