compress the work of ordinary writers into a third of the space it took originally, but I write carefully, weighing every word, and I knew that no such liberties could be taken with my stories without destroying them. I was, therefore, indignant when I heard you had done it also to me—but I must confess that you improved my work."

The most notable event among the popular magazines of the last decade has been the phenomenal success of the *Reader's Digest,* which has not only outstripped in popularity all the old-line magazines in its general field, but has driven several of them to the wall. Indeed, some of those magazines which survive do so only from the proceeds of abstracting rights sold to the *Reader's Digest.* It is noteworthy that the advertising carried by the old-line magazines does not suffice to save them. It would be worth while for the scientific journals to study the factors in the success of the *Reader's Digest.*

If one takes the trouble to compare the abridged articles of the *Reader's Digest* with their originals, he finds not only that often nothing has been lost by abbreviation, but that frequently something has been gained. Could research papers be improved by similar treatment? For the most part, I believe that they could except for the few investigators in cognate fields who must have detail. Skilful editing by one closely in touch with the science concerned could solve the problems of many a journal.

Another strong factor is operating to compel condensation of scientific publication. No man can read all the material published even in a small field. If the volume of publication is reduced, there will be better support for what remains.

After the editor has done his work, still further economies (and improvements) can be made in type and format. Scientific periodicals have made very great progress toward better printing in the last decade. But there are still very great differences in the printing of scientific publications. Study of the organs of the member societies of the Division of Biology and Agriculture of the National Research Council reveals that some of them get three times as much print onto a square foot of paper as others. Clearly a good deal of improvement could be made here.

Recent researches into the visual task imposed by reading point the way to further improvements beyond the best of our scientific serials to-day. Matters concerning type and format, however, can not be profitably discussed within the limits of this paper. The means of meeting congestion and delay in publication here advocated are, however, independent of typography or format. It is believed an effective advance notification service would permit substantial contraction (without loss to science) of published papers. This would be brought about by prompt publication of advance abstracts of researches as soon as completed accompanied by wide availability of copies, by microfilm or otherwise, of the manuscripts to those directly concerned.

ROBERT F. GRIGGS
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SCIENTIFIC BOOKS

CHEMISTRY

Organic Chemistry for the Laboratory. By C. W. PORTER and T. D. STEWART. vi + 222 pp. $5\frac{1}{2} \times 9$ in. The Athenaeum Press. Boston, New York, etc.: Ginn and Company. 1943. $2.00.

THIS little manual has been prepared as a guide for an introductory laboratory course in organic chemistry. As the authors explain in their preface, the manual provides for work extending through a period of one year, but it is particularly designed for a half-year course of thirty to forty laboratory periods. The manual is divided into four sections: I. General Directions; II. Experiments; III. Mechanical Operations; IV. Appendix. The first section is very brief (5 pp.), and the next section (154 pp.), comprising theoretical discussions and laboratory procedures for some fifty experiments, divided about equally between aliphatic and aromatic compounds, constitutes the main part of the manual. After the first three experiments, "Distillation," "Crystallization" and "Qualitative Tests for the Elements," the experiments are largely of the preparative type and similar in nature and arrangement to those that are to be found in other organic laboratory manuals. Optional procedures and short "reaction" experiments frequently follow the preparation directions. The latter are quite explicit in the earlier experiments and are given in more general terms as the student advances. Most of the experiments end with a set of five or six suggestive and helpful problems. The experimental section is concluded with a very brief discussion and series of tests on "The Classification and Identification of Compounds."

The third section (51 pp.) presents a simple and straightforward discussion of the theory and principles underlying the following mechanical operations: "Distillation," "Extraction," "Filtration," "Crystallization," "Sublimation," "Determination of Boiling Point," "Determination of Melting Point," "Calibration and Use of Thermometers" and "Methods of Dry-

ing." The discussion includes a brief review of the apparatus that is used in each operation. The Appendix (4 pp.) includes the methods of preparing the various indicators, reagents and solvents used throughout the manual.

The reviewer feels that the manual is a worthy companion to the text "Organic Chemistry" by Porter and Stewart (Ginn and Company, 1943) and that it should be very useful in an elementary organic course of the type for which it has been designed. The diagrams throughout the manual are entirely adequate, and the paper, press work and binding are very good.

CHARLES R. DAWSON

COLUMBIA UNIVERSITY

Second Year College Chemistry. By W. H. CHAPIN and L. E. STEINER. New York: John Wiley and Sons, Inc. Fifth edition. 575 pages. 1943. $3.75.

SCHOLARLY additions by the junior author give this text better balance of subject-matter than its predecessors. Although sequence of topics remains the same, much material appears for the first time. This includes a more rigorous correlation between the physics and chemistry of liquids and of solids; new mathematical derivations inserted in smaller type for the abler student; 165 miscellaneous problems in the appendix; crystal structure with splendid diagrams and an excellent discussion of ionic and covalent radii; mathematical derivation of the law of radioactive decay; descriptive material on tracer isotopes; and a detailed treatment of the Brønsted system of acids and bases.

The preface states that "the kinetic point of view is maintained throughout." For this reason it might have been advisable to include such subjects as reaction rates and the simpler aspects of quantum and statistical mechanics and the use of potential energy curves in this otherwise well-rounded, valuable text.

HUBERT N. ALYEA

PRINCETON, N. J.

General Chemistry. By HORACE G. DEMING. New York: John Wiley and Sons, Inc. Fifth edition. 706 pages. 1943. $3.75.

COMPLETELY rewritten, the new edition still emphasizes physical chemistry aspects, an approach for which Professor Deming has gained a worthy reputation. As such the treatment should appeal particularly to students in engineering. Rearrangement in order of topics has been extensive, with chapters on the atmosphere, the periodic table, atomic structure and pH appearing much earlier than in the fourth edition. Discussion of principles is curtailed somewhat to provide room for approximately a hundred pages of new material on industrial chemistry in the war effort: plastics, elastomers, ceramics, hydrogenations, light metals, detergents, and so forth. Once again the author has given us a top-notch, up-to-the-minute text.

HUBERT N. ALYEA

PRINCETON, N. J.

AUDIOMETRY

Clinical Audiometry. By C. C. BUNCH. Pp. 186. Illustrated. St. Louis: The C. V. Mosby Company. 1943. $4.00.

This is an intensely personal account of the author's life work—the development and use of the audiometer and the obtaining of countless audiograms. The sudden and untimely death of the author, just after completion of the manuscript, probably accounts for the frequent repetitions, quick digressions and returns that might have been eliminated in a final "polishing off."

The point of view of the book is highly specialized and does not extend far into any of the related fields of physics, physiology, psychology or clinical otology. For example, the author does not accurately explain or define the decibel, although it is now the accepted unit of measurement of hearing loss.

It is surprising, also, that no mention is made of the calibration of an audiometer, or of the range of variation of "normal" thresholds, or of possible differences in calibration of different commercial instruments.

In spite of its shortcomings, however, the book will remain a valuable record of the development of audiometry and of Dr. Bunch's extensive acquaintance with human auditory function.

HALLOWELL DAVIS

HARVARD MEDICAL SCHOOL

REPORTS

DOCTORATES IN SCIENCE[1]

BOTH the total number of doctorates granted in all fields of knowledge, including the sciences, and the total granted in the sciences alone reached an all-time high in the 1940–41 academic year. In all fields together the decline was about 9 per cent. from 1941 to 1942 and 17 per cent. from 1942 to 1943. In the group of the sciences alone, the decline was about 10 per cent. from 1941 to 1942 and 16 per cent. from 1942 to 1943. These figures are surprisingly uniform. They reflect an interestingly stable relation between the sciences as a group on the one hand and the social sciences and humanities as a group on the other. For

[1] Based upon "Doctoral Dissertations Accepted by American Universities, No. 10, 1942/43." New York: H. W. Wilson Company. 1943.