probably would require additional clarification by the instructor.

The problem lists are adequate, and answers are given to the odd problems. A reasonable number of illustrative examples to the theory are given, and ample material occurs on identities and on trigonometric equations.

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Tables of Integral Transforms. vol. II. Based in part on notes left by Harry Bateman. Bateman Project Staff, A. Erdélyi, Ed. McGraw-Hill, New York–London, 1954. xvi + 451 pp. $8.

This is the final volume of the Bateman Manuscript Project's tables of definite integrals. The first part of volume II continues the plan initiated in volume I [reviewed in *Science* **120**, 302 (1954)] of listing as many integrals as possible in the notation of transforms. The transforms tabulated here have never been tabulated extensively before: they are transforms in which the kernel is a Bessel function of some kind (not only the Hankel transform), fractional integrals, Stieltjes transforms, and Hilbert transforms. The second part of the volume contains assorted definite integrals, most of which are not in transform form. These integrals involve orthogonal polynomials, gamma functions and their relatives, Bessel functions and hypergeometric functions. As in volume I, there is an appendix, giving the notations used, so that each volume can be used independently.

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Monomolecular Layers. A symposium presented at the Philadelphia meeting of the AAAS. Harry Sobotka, Ed. AAAS, Washington, D.C., 1954. vii + 207 pp. Illus. $4.25; members, $3.75.

The recent progress in the study of monomolecular layers is aptly presented by current workers in the field. Included are "Modern film techniques and their application to biochemical reactions," by Hans J. Trurnit; "Determination of molecular weights of proteins by the horizontal surface balance," by E. Mishuck and F. Eirich; "Mechanical properties of the surface films on aqueous solutions of detergents," by A. P. Brady and A. G. Brown; "Study of adsorption at a solution-air interface by radiotracers," by J. K. Dixon, C. M. Judson, and D. J. Salley; "Deposited radioactive monolayers," by D. E. Beischer; "Hydrophobic monolayers and their adsorption from aqueous solution," by E. G. Shafrin and W. A. Ziswan; "Review of the properties of films at oil-water interfaces," by E. Hutchinson; "Chemical reactions of sample and mixed monomolecular layers," by Harry Sobotka and Shirley Rosenberg; and "Chemical reactions and electric potential in monolayers," by E. Havinga. Most of these sections are well balanced and illustrated summaries of talks presented at the symposium at the Philadelphia meeting. Each presents a well-balanced summary of historical background, experimental technique, practical applications, and current theory involved. Sufficient detail is given to convince the reader of the widespread utilities of film studies in the fields of physical, colloid, organic, and analytic chemistry, in addition to biochemistry and chemical engineering.

The new tools, including a recording ellipsometer, an automatic dipping device for building up a uniform series of step gages, a new horizontal surface balance accurate to .01 dyne, and techniques for the isolation of films directly from pure molten compounds are adequately illustrated. The authors all succeed in pointing out the potential usefulness of further study of two-dimensional chemistry.

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Das Glas im chemischen Laboratorium. Fritz Friedrichs. Springer, Berlin, ed. 2, 1954. viii + 144 pp. Illus. DM 16.50.

A chemical laboratory without glassware is unthinkable. Nevertheless, the average chemist knows very little about the substance glass, its history and manufacture. Fritz Friedrichs, who can look back on 40 years of activity in one of the world's leading manufacuring centers of laboratory glassware, makes an attempt to remedy this situation and introduces his book with a brief history of glass through the ages.

As a descendant of the founder of the first Thuringian apparatus glass manufacturing company and a partner of the leading house of Greiner and Friedrichs, Wertheim (Main), the author is uniquely qualified to give us a lively picture of the development of apparatus glass and the manufacture of different laboratory equipment. Guided by an authority, the reader learns what types of glasses are available and their main properties as far as they are interesting to the chemist. Even though we buy our laboratory equipment and take it for granted that our pipettes, burettes, thermometers, and so forth, are properly calibrated, it is of interest to learn how other instruments are made, which tools the glass blower uses, and what training he has to qualify him for the job.

After World War I the apparatus division of the German Chemical Society activated a program which led to a gradual standardization of the equipment and its dimensions. For example, from the 119 different types of apparatus for developing gases in the laboratory only a few were chosen to remain on the market. The decision as to which types were essential could be made only by carefully analyzing the advantages and disadvantages of each type of apparatus, both for the user and the manufacturer. In order to help the scientist select the proper condenser, suction pump, absorption flasks, and so forth, the author critically discusses their particular features.

The book is well written and has excellent pictures

(175) of the various pieces of standard equipment. References to the catalogue of Greiner and Friedrichs are supplemented by the numbers of the German standards (D.I.N.). The present trend toward the standardization of laboratory equipment and the manufacture of exchangeable parts will make this book valuable to everyone interested in the manufacture and use of chemical equipment.

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Practical Physiological Chemistry. Philip B. Hawk, Bernard L. Oser, and William H. Summerson. Blakiston (McGraw-Hill), New York, ed. 13, 1954. xvi + 1439 pp. Illus. $12.

The appearance of the 13th edition of *Practical Physiological Chemistry* by Hawk, Oser, and Summerson is a landmark in physiological chemistry, since this marks the 50th anniversary of a book which has been of inestimable value to laboratory workers in biochemistry and allied fields. The impressive list of collaborators includes workers of prominence in many fields of biochemistry.

In general, the organization of material has remained the same as in earlier editions, but the book has been completely reset in a more readable form. This is especially true of experimental procedures. The use of chapter numbers on each page will be of great assistance as there are numerous references to previous chapters. Although several chapters were rewritten, most were not, but rather the sections were expanded by discussions of new developments introduced at appropriate places. This method of revision has limitations, but in general has proved more satisfactory than might be expected.

Inclusion of new developments and concepts has increased the size by 116 pages. Little of the material from previous editions has been deleted and many of the classical experiments that were carried on into this edition are of greater historical than practical interest. One might question the necessity for including the procedural details for all these tests. This new edition contains many experiments covering modern developments in biochemistry, such as paper and column chromatography, microbiological methods, use of radioisotopes, and countercurrent distribution. Two new additions of interest to clinical laboratories are the sections on liver-function tests and micromethods in clinical chemistry. It is regrettable that greater recognition was not given to the microgasometric technics developed by Scholander and coworkers.

Although nearly half of the 13th edition is devoted to textual material, it is probable that this book will continue to find its greatest use as a laboratory manual and reference for experimental biochemistry.

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New Books

Electroplating Engineering Handbook. A. Kenneth Graham, Ed.; H. L. Pinkerton, Asst. Ed. Reinhold, New York 22, 1955. 650 pp. $10.

The Psychiatrist and the Dying Patient. K. R. Eissler. International Universities Press, New York 11, 1955. 338 pp. $5.

Mosquitoes. Their bionomics and relation to disease. William R. Horsfall. Ronald Press, New York 10, 1955. 723 pp. $16.

Proto-Lima. A Middle period culture of Peru. A. L. Kroeber. Fieldiana: Anthropology, vol. 44, No. 1. Chicago Natural History Museum, Chicago, 1954. 157 pp. Paper, $4.

Laboratory Manual for Histology. J. F. Smithcors. Burgess, Minneapolis 15, 1954. 101 pp. Paper, $3.

Proceedings of the Conference on Auroral Physics. N. C. Gerson, T. J. Keneshea, and R. J. Donaldson, Jr., Eds. Geophysical Research Papers, No. 30. Sponsored by Dept. of Physics, Univ. of Western Ontario, and Geophysics Research Directorate, Air Force Cambridge Research Center, 1954 (Order from U.S. Dept. of Commerce, Office of Tech. Services, Washington 25). 450 pp.

Le Magnétisme des corps célestes, vol. 3, *Les Aurores polaires et la luminescence nocturne.* pt. IV of *Physique cosmique.* A. Dauvillier. Hermann, Paris, 1954. 142 pp.

Abstracts of the Literature on Semiconducting and Luminescent Materials and Their Applications. 1953 issue. Compiled by Battelle Memorial Inst. Wiley, New York 16; Chapman & Hall, London, 1955. 169 pp. Paper, $5.

National Advisory Committee on Research in the Geological Sciences, Fourth Annual Report 1953–54. Including survey of current research in the geological sciences in Canada, 1953–54. Geological Survey of Canada, Dept. of Mines and Technical Surveys, Ottawa, 1954. 117 pp. Paper, $0.50.

Laboratory Explorations in General Zoology. Karl A. Stiles. Macmillan, New York 11, ed. 3, 1955. 291 pp. Paper, $3.75.

Insanity, Art and Culture. Francis Reitman. Philosophical Library, New York, 1954. 111 pp. $3.75.

Grundriss der Allgemeinen Zoologie. Alfred Kuhn. Thieme, Stuttgart, Germany, ed. 11, 1955 (Order from Intercontinental Medical Book Corp., New York 16). 281 pp. $3.95.

Lectures on Partial Differential Equations. I. G. Petrovsky. Trans. by A. Shenitzer. Interscience, New York–London, Engl. ed. 1, 1954. 245 pp. $5.75.

An Introduction to Plant Taxonomy. George H. M. Lawrence. Macmillan, New York 11, 1955. 179 pp. $3.25.

The Language of Social Research. A reader in the methodology of social research. Paul F. Lazarsfeld and Morris Rosenberg, Eds. Free Press, Glencoe, Ill., 1955. 590 pp. $6.75.

The Human Organisms. Russell Myles De Coursey. McGraw-Hill, New York–London, 1955. 550 pp. $5.75.

Contributions to the Theory of Partial Differential Equations. Annals of Mathematics Studies, No. 33. L. Bers, S. Bochner, and F. John, Eds. Princeton Univ. Press, Princeton, N.J., 1954. 257 pp. Paper, $4.

The Volcanic Rocks of the Ross Archipelago. W. Campbell Smith. British Antarctic ("Terra Nova") Expedition, 1910, Natural History Rpt., Geology, vol. II, No. 1 British Museum (Natural History), London, S.W.7, 1954. 107 pp. Paper, £3.