journals, which have been completely translated into English, in a continuing project by Consultants Bureau, are the following: *Journal of General Chemistry of the U.S.S.R.*; *Journal of Applied Chemistry of the U.S.S.R.*; *Journal of Analytical Chemistry of the U.S.S.R.*; *Colloid Journal*; *Bulletin of the Academy of Sciences, U.S.S.R., Division of Chemical Science*; *Proceedings of the Academy of Sciences, U.S.S.R., Chemical Technology Section.*

The selections in this volume comprise 17 papers covering a wide variety of topics. Nevertheless, the range is more restricted than that of the first two volumes, and all of the papers incorporate some aspect of crystallographic or diffraction technique. The emphasis is still on inorganic chemistry, and there are no novel contributions to the field of crystallography itself. Nevertheless, within the restrictions set for this volume, the selection is fairly reasonable and fulfills the aim of providing a supplement to the main body of Soviet publications in crystallography, which is available in translation elsewhere.

The volume is printed in offset in the same form as the first two volumes, but the editing and composition have perhaps been somewhat improved.

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Progress in Industrial Microbiology. vol. 1. D. J. D. Hockenhull, Ed. Interscience, New York, 1959. 248 pp. Illus. + plates $8.

This is the first volume in yet another attempt to review, annually, the large amount of current and past literature on selected topics in industrial microbiology. The six subjects covered include several on antibiotics. Hockenhull briefly discusses penicillin formation by fermentation, including the role of corn steep liquor, salts of organic acids, lipids, and other nutrients. Most of the paper deals, however, with the biosynthesis of penicillin, and it is largely a speculative and interesting essay on the possible routes to penicillamine. The tetracyclines are discussed by DiMarco and Pennella under the misleading title "The fermentation of the tetracyclines," which implies decomposition rather than biosynthesis. Many of the details concerning the preparation of inoculum, the composition of fermentation media, and other cultural conditions could be obtained only from the patent literature which often lacks specificity and completeness. On the whole, however, the review contains much useful information on the historical background and current microbial methods of producing the various tetracyclines.

The microbiological assay of antibiotics, vitamins, and amino acids is reviewed by Sokolski and Carpenter. An introductory statement that "No form of life has completely unique metabolic or functional processes" is not entirely correct since chemoautotrophic bacteria are unique in their ability to utilize energy liberated from the oxidation of inorganic compounds. The microbial assays for vitamins and amino acids are covered in a superficial and incomplete manner. There is little or no discussion of specificity, free and bound forms of vitamins, methods for liberation of bound forms, and so forth. But antibiotic assays are dealt with in great detail, and there is an extensive treatment of the theory and statistical analysis of agar diffusion assays.

In a paper certain to be controversial because of the nature of the subject, Bisset presents his views on the taxonomy of the Actinomycetes, a group which includes the important producers of antibiotics, the *Streptomyces*. Bisset concludes that the classification of the Actinomycetes is still inadequate for purposes of recognition and identification, partly because potentially valuable morphological structures, such as the sporophores, have not been adequately studied.

Goodwin describes the various yeasts, molds, and bacteria which synthesize appreciable quantities of riboflavin and also the media and cultural conditions which affect riboflavin production. These aspects are followed by a good review of the present knowledge of the biosynthesis of riboflavin.

In the final paper of the series, Woodbine presents a very extensive review, somewhat overburdened by details, of fat production by microorganisms. The microorganisms involved, the effect of cultural conditions on fat yield, the chemical nature of the fats, biosynthetic pathways, and the possible use of microbial fat as food are discussed. Woodbine concludes that fat production by microorganisms is technologically feasible but that microbial fat cannot as yet compete economically with animal and vegetable fats.

The reviews should be of considerable value to microbiologists and to others working in related fields. It will be interesting to learn to what extent the present series will be complemented by a similar series *Advances in Applied Research*, published by Academic Press.

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New Books

Advances in Space Science. vol. 1. Frederick I. Ordway, III, Ed. Academic Press, New York, 1959. 424 pp. $12.

Mathematical Methods and Theory in Games, Programming, and Economics. vol. 1, *Matrix Games, Programming, and Mathematical Economics,* 443 pp.; vol. 2, *The Theory of Infinite Games,* 397 pp. Samuel Karlin. Addison-Wesley, Reading, Mass., 1959. $12.50 per volume.

Maya Hieroglyphic Writing. An introduction. J. Eric S. Thompson. Univ. of Oklahoma Press, Norman, 1960 (reproduced from ed. 1, Carnegie Institution of Washington, 1950). 370 pp. 64 plates. $10.

Paul Ehrenfest, Collected Scientific Papers. Martin J. Klein, Ed. North-Holland, Amsterdam; Interscience, New York, 1959. 169 pp. $13.75.

Physical Methods of Investigating Textiles. R. Meredity and J. W. S. Hearle. Textile Book Publishers (Interscience), New York, 1959. 420 pp. $13.

The Placenta and Fetal Membranes. Claude A. Villee, Ed. Williams and Wilkins, Baltimore, Md., 1960. 415 pp. $10.

Probability and Statistics. The Harald Cramer volume. Ulf Grenander, Ed. Almquist and Wiksell, Stockholm; Wiley, New York, 1959. 434 pp. $12.50.

Strahlenbiologie, Strahlentherapie, Nuklearmedizin, und Kresbforschung. 1952–1958. H. R. Schinz, H. Holthusen, H. Langendorff, B. Rajewsky, G. Schubert, Eds. Thieme, Stuttgart, Germany, 1959. 998 pp. $65.50.

Surveyor of the Sea. The life and voyages of Captain George Vancouver. Bern Anderson. Univ. of Washington Press, Seattle, 1960. 286 pp. $6.75.

The Survival Book. Paul H. Nesbitt, Alonzo W. Pond, William H. Allen. Van Nostrand, New York, 1959. 343 pp. $7.50.

Theory of Elasticity. L. D. Landau and E. M. Lifshitz. Translated from the Russian by J. B. Sykes and W. H. Reid. Pergamon, London; Addison-Wesley, Reading, Mass., 1959. 140 pp. $6.50.

The Theory of Optimum Noise Immunity. V. A. Kotel'nikov. Translated by R. A. Silverman. McGraw-Hill, New York, 1959. 140 pp. $7.50.