

to Vol. III in which P. de Mayo discusses the more recent work on sesquiterpenes and diterpenes. Second addenda to Volumes I and II which were last prepared in 1950 are now desirable and we hope that the junior authors who have contributed so admirably to Simonsen's work will continue the task.

In the reviewer's opinion, Volume V can be criticized on only one count. It contains a large number of formula errors. A partial listing of incomplete or incorrect formulae includes these: p. 34, XXV; p. 57, XIII; p. 88, XLVI; p. 92, LVI; p. 146, XVIII; p. 153, III; p. 161, XXVI; p. 201, LXXXVIII should be LXX; p. 520, VIII and XI; p. 523, XXV; p. 525, XXX; p. 535, V; p. 538, II and XIX; p. 551, IV; p. 554, XIX; p. 555, XXIV; p. 566, VII; p. 567, XII to XV; p. 569, VII and VIII; p. 570, XVI; p. 573, XXVIII; p. 574, XX; p. 576, II; p. 577, IV; p. 578, II; p. 579, VIII; p. 582, X; p. 586, VII and VIII should be interchanged; p. 592, VIII; p. 608, XXII. The sufferings of that lovely province Alsace-Lorraine never seem to end (J. Pharm. Elsass-Lothnagen, p. 593). It is hoped that the incorrect formulae will be replaced in future printings.

Regardless of these errors the book is excellent and can be recommended highly to any chemist.

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**Semiconductors and Phosphors.** Proceedings of the International Colloquium 1956 "Semiconductors and Phosphors" at Garmisch-Partenkirchen. Edited by Prof. DR. M. SCHON, München, and Prof. DR. H. WELKER, Erlangen. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1958. viii + 684 pp. 16.5 × 24 cm. Price, \$16.50.

This volume contains approximately 100 papers which were presented, a foreword by the editors, and accompanying remarks by Dr. Walter Shottky. Seven of the papers are in French; the remainder are approximately equally divided between English and German.

Because of the numbers involved, it is obviously impractical to review them individually, or even to list the names or authors of the papers. The volume begins with a paper on Growth and Defects of Semiconductor Crystals and ends with a paper on Glasartige Halbleiter. The topics cover a wide range; most of them are concerned with semiconductors rather than phosphors. There appears to have been little attempt to group the papers according to subject matter; one observes, for example, that the 6th and 98th papers are concerned with surface states. The lengths vary from less than one page (abstract) to 50 pages, the longest being on "The Role of Low-Frequency Phonons in Thermoelectricity and Thermal Conduction." In general, the figures and references are adequate.

This volume will serve as a permanent record of this 1956 Colloquium, but the two-year delay in publication detracts considerably from current interest. It is to be hoped that the Proceedings of the subsequent International Conference held at the University of Rochester during August, 1958, will appear more promptly.

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**Zeitschrift für physikalische Chemie.** Sonderheft. Internationales Polarographisches Kolloquium im Institut für Elektrochemie und Physikalische Chemie der Technischen Hochschule Dresden vom 3-7 June, 1957. Edited by K. SCHWABE. Akademische Verlagsgesellschaft Geest und Portig K.-G., Sternwartenstrasse 8, Leipzig C 1, Germany. July, 1958. 302 pp. 15.5 × 23.5 cm. Price, DM 32,—.

It has become customary to publish in a special issue of a journal papers presented before a Symposium on a particular subject. The above issue of the "Z. Physik. Chem." is especially welcome to polarographers as it makes available in German (only one brief paper is in English) progress in polarographic research in the eastern European countries. Eighteen of the 28 papers originate in Czechoslovakia, 2 in

Poland, 1 in Russia, 4 in East Germany, 1 in West Germany, 1 in Japan and 1 in Australia. Some of the papers are of theoretical and some of more practical importance. No detailed discussion of each paper can be expected in this column. An exception may be made for the first paper by J. Heyrovsky, the originator of polarography. Much has been written on polarographic maxima of the first and the second kinds, but the former are still incompletely understood. Heyrovsky reports interesting experiments from which he concludes that the surface of the mercury drop is not in motion. Maxima of the first kind are attributed by him to the inhomogeneous electric field around the growing drop of mercury. Other papers deal with experimental studies of maxima, tensammetry, abnormal polarographic reduction of iodate and bromate, oscillography, current-time curves, elimination of residual current, hydrogen overvoltage, chronopotentiometry, polarography of aluminum, thorium, cobalt dipyrindyl and other complex ions, phenylglyoxal, tropon, tropylium ions, sydnone, azulene, pyridine derivatives, and aromatic hydrocarbons. Of particular interest to biochemists are Brdicka's review paper on the polarographic protein reaction, a paper on the use of this reaction in sulfosalicylic acid filtrates of blood sera and a description of an application of the polarographic method in respiration studies of tissues.

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**Advances in Cancer Research. Volume V.** Edited by JESSE P. GREENSTEIN, National Cancer Institute, National Institutes of Health, U. S. Public Health Service, Bethesda, Maryland, and ALEXANDER HADDOW, Chester Beatty Research Institute, Institute of Cancer Research, Royal Cancer Hospital, London, England. Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y. 1958. ix + 463 pp. Price, \$10.80.

The fifth volume in the series "Advances in Cancer Research" may, in very general terms, be considered to cover two major areas, carcinogenesis and tumor-host relationships. Under carcinogenesis may be grouped the chapters, Primary Carcinoma of the Liver by Charles Berman; Chemically Induced Tumors of Fowls by P. R. Peacock; Chemistry, Carcinogenicity and Metabolism of 2-Fluorenamine and Related Compounds by Elizabeth K. Weisburger and John H. Weisburger; Tumor-Host Relations by R. W. Begg; Protein Synthesis with Special Reference to Growth Processes both Normal and Abnormal by P. N. Campbell; The Newer Concept of Cancer Toxin by Waro Nakahara and Fumiko Fukuoka; Anemia in Cancer by Vincent E. Price and Robert E. Greenfield; and Specific Tumor Antigens by L. A. Zilber comprise the chapters pertaining more or less to aspects of events initiated by a tumor growing in a host. It might be anticipated that the chapter by the Weisburgers on the fluorenamines would by its nature be of more interest to chemists; however even the more clinically oriented chapters have sufficient biochemical bases and implications to attract quite a few other chemists. The review of the fluorenamines has included: the relationship of chemical structure to carcinogenesis among the considerable number that have been synthesized and tested biologically, the wide variety of sites of production of cancer from this class of carcinogen, the influence of dietary and hormonal factors on the process, and the metabolism of N-2-fluorenamine.

Berman, in addition to discussing clinical and pathological aspects of liver cancer, has presented thought-stimulating considerations on geographic and demographic distribution and the possible role of environmental factors in the disease. Peacock mentions resemblances of the induced tumors of the fowl to those of mammals and has discussed questions of the relationships of viruses to such tumors.

Begg has surveyed the biochemical and morphological changes in tissues without obvious cancer cells in the tumor-bearing host. Effects of host on the tumor have been omitted. The ability of tumors to concentrate metabolites has been reviewed as has been the production of substances by the tumor. One such material, Toxohormone, is the subject of an entire chapter by Nakahara and Fukuoka. This material, apparently with characteristics of a polypeptide, is a toxic substance produced by cancer cells and causes certain systemic changes in the cancer host. One such change

is a marked decrease in liver catalase. The synthesis of proteins as applied to tumors and rapidly growing tissues was reviewed with several self-imposed limitations on the material covered by the author. Campbell considered that studies with microorganisms, on enzyme adaptation, and on the relationship of nucleic acids and protein synthesis would extend too greatly his review and further that these had been adequately covered elsewhere. It was pointed out that the tumor cells synthesize proteins different from those of normal cells, that the tumor cells possess a greater ability to utilize plasma proteins, and that, as yet, it has not been possible to demonstrate synthesis of proteins in cell-free systems. Differences of a qualitative nature have been emphasized by Zilber in his chapter on immunology. This chapter includes references to interesting Russian studies, reports of which may not be generally available. He reports on aspects of the antigenic differences between cancer and normal cells and the difficulties in demonstrating those differences. He considers that in carcinogenesis there is a simplification of the antigen composition through the loss of some of their antigens, at least in a few of the tumors studied.

The editors have continued their practice of obtaining authorities to write timely and informative chapters on important topics in cancer research. It may be of interest to note the reflection of the international character of the problem of cancer by the selection of the authors of the eight chapters from seven countries around the world. The book is well constructed although it was the reviewer's impression that there was a larger than usual number of typographical errors, which in no case noted, however, were such as to cause confusion. If one were to find fault with this volume, it might be in the unevenness in the summaries for the chapters. Some were concise and complete at the end of each chapter; some of the summaries were by sections within a chapter; and the first chapter of the book seemed to give a succession of summaries of various degrees that appeared unduly repetitious.

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## BOOKS RECEIVED

March 10, 1959-April 10, 1959

- C. F. H. ALLEN, ARNOLD WEISSBERGER, Consulting Editor. "The Chemistry of Heterocyclic Compounds." Volume XII. "Six-Membered Heterocyclic Nitrogen Compounds with Three Condensed Rings." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1958. 624 pp. \$26.00. Subscription price, \$24.00.
- P. DE MAYO. K. W. BENTLEY, Editor. "The Chemistry of Natural Products." Volume II. "Mono- and Sesquiterpenoids." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1959. 320 pp. \$7.50.
- P. DE MAYO. K. W. BENTLEY, Editor. "The Chemistry of Natural Products." Volume III. "The Higher Terpenoids." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1959. 239 pp. \$6.00.
- H. J. EMELÉUS AND A. G. SHARPE, Editors. "Advances in Inorganic Chemistry and Radiochemistry." Volume 1. Academic Press, Inc., 111 Fifth Avenue, New York 3, N. Y. 1959. 449 pp. \$12.00.
- I. EMIN, Editor. "Russian-English Glossary of Optics and Spectroscopy." Consultants Bureau, Inc., 227 West 17th Street, New York 11, N. Y. 1959. 78 pp. \$10.00.
- U. FANO AND L. FANO. "Basic Physics of Atoms and Molecules." John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1959. 414 pp. \$10.00.
- N. B. HANNAY, Edited by. "Semiconductors." American Chemical Society Monograph No. 140. Reinhold Publishing Corporation, 430 Park Avenue, New York 22, N. Y. 1959. 767 pp. \$15.00.
- M. JAVILLIER, M. POLONOVSKI, M. FLORKIN, P. BOULANGER, M. LEMOIGNE, J. ROCHE, AND R. WURMSER. "Traité de Biochimie Générale." Volume I. "Composition Chimique des Organismes." (In two parts.) Masson et Cie., 120, Boulevard Saint-Germain, Paris VI, France. 1959. 1475 pp. Brochés: 22,000 fr.; Cartonnés toile: 24,500 fr.
- PAUL PASCAL, Editor. "Nouveau Traité de Chimie Minérale." Tome XI. "Arsenic—Antimoine—Bismuth." Masson et Cie., 120, Boulevard Saint-Germain, Paris VI, France. 1958. 850 pp. Broché, 7,750 fr.; Cartonné toile, 8,950 fr.
- PAUL PASCAL, Editor. "Nouveau Traité de Chimie Minérale." Tome XIV. "Chrome—Complexes du Chrome—Molybdène—Tungstène—Hétéropolyacides." Masson et Cie., 120, Boulevard Saint-Germain, Paris VI, France. 1959. 1014 pp. Broché, 9,500 fr.; Cartonné toile, 10,700 fr.
- FOSTER DEE SNELL, CORNELIA T. SNELL AND CHESTER ARTHUR SNELL. "Colorimetric Methods of Analysis Including Photometric Methods." Volume IIA. D. Van Nostrand Company, Inc., 120 Alexander Street, Princeton, New Jersey. 1959. 793 pp. \$15.00.
- JEAN TIMMERMANS. "The Physico-chemical Constants of Binary Systems in Concentrated Solutions." Volume 1. "Two Organic Compounds (without Hydroxyl Derivatives)." Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1959. 1259 pp. \$29.00.
- R. W. G. WYCKOFF. "Crystal Structures." Supplement IV. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1959. 664 pp. \$22.00.