Synthetic Methods of Organic Chemistry. An Annual Survey. Volume 8. By W. THEILHEIMER. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1954. xv + 508 pp. 16.5 × 23.5 cm. Price, $18.90.

The eighth annual survey by Theilheimer includes a review of synthetic methods published from 1951 to 1953 and a cumulative index for volumes 6 to 8. A new feature, "Trends in Synthetic Organic Chemistry," has been added to this volume. It is an all-too-short chapter which scarcely more than mentions a few of the subjects receiving current emphasis, such as: metal hydrides as reducing and condensing agents, ion exchange resins as catalysts and for isolation and purification of compounds, perfluoro compounds, halogen–metal interconversions, and the like. An expansion of this section in future volumes would be commendable.

The current volume is otherwise much like its predecessors. It will be useful to those who wish a quick and rather comprehensive survey of new synthetic methods and improvements in old methods in organic chemistry developed within the past several years. The symbolism employed to abbreviate the reaction types is cumbersome and must be reviewed by the average reader each time the book is used unless this is done frequently. The comprehensive, 100 page index is an outstanding feature which adds to the usefullness of this series.

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Biochemistry of Cancer. Second Edition, Revised and Enlarged. By JESSE P. GREENSTEIN, Chief, Laboratory of Biochemistry, National Cancer Institute, National Institutes of Health, United States Public Health Service, Bethesda, Md. Academic Press, Inc., Publishers, 125 East 23 St., New York 10, N. Y. 1954. xiii + 653 pp. 16 × 23.5 cm. Price, $12.00.

At the present time, when the scientific public is overburdened with a plethora of texts and reference books on all subjects, it is unusual for a single book to occupy a position unique and preëminent in its field. However, "Biochemistry of Cancer" by Greenstein is such a rarity. This is a book that is almost encyclopedic in its coverage of the literature, yet it is written in an interesting and lucid style by one who has a clear grasp of the subject matter and the discernment to present it in terms of a critical evaluation and in perspective. A clear testimony of the author's accuracy and conscientiousness is his statement (p. vii) that he has never referred to an author's work without having the original before him at the moment.

In the seven years that elapsed between the appearance of the first and second editions of this book, research on cancer, particularly from the biochemical approach, has expanded enormously. One important stimulus for this expansion has been the generous financial support afforded by an enlightened public. This situation has been reflected in the book by an increase of from 389 to 653 pages and from 941 to 2209 literature references from the first to the second editions. The book is remarkably up-to-date and free from errors, for which the author and publishers should be commended.

The revised edition follows the same organization as the first, with considerable expansion of all the chapters. The chapter headings are: General Introduction (Chapter 1); General Phenomena and Taxonomy of Cancer (Chapter 2); Extrinsic Factors in Tumor Induction (Chapter 3, chemicals and radiation); Intrinsic Factors in Tumor Induction (Chapter 4, hormones and viruses); Attempts at Control of Tumor Induction and Tumor Growth by Nutrition (Chapter 5), Endocrinology (Chapter 6), and Chemotherapy (Chapter 7); The Chemistry of Tumors (Chapter 8), The Chemistry of the Tumor-Bearing Host (Chapter 9), and the Present Status of the Problem (Chapter 10).

The two most important conclusions emphasized in the discussion of the present status of the problem are that tumors as a class exhibit a rather uniform pattern of metabolism and that tumors produce a characteristic toxin. Although few will disagree with the former conclusion, some might question the generality of the latter, which has been clearly demonstrated only in the case of the reduction of the level of liver catalase in tumor-bearing animals and which is inferred from the phenomenon of terminal cachexia. Many, including this reviewer, will not agree with the statement (p. 597), "How the normal cell changes in the first instance into the malignant is relatively unimportant, except as obvious means of prophylaxis in industry and in certain social habits may affect this problem."

In a book of this sort there are bound to be some omissions, and these occur primarily in the European literature. The contributions to carcinogenesis of Graffi, Druckrey, Ahlström, Iverson and Norden, if mentioned, would have added additional perspective to a discussion of that area of research. However, these criticisms are minor, and the book is to be enthusiastically recommended to all interested in Oncology, and those of us who are actively working in the field owe Dr. Greenstein a great debt of gratitude for his invaluable compendium and his critical evaluation of the literature on this subject.

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Les Applications de la Mecanique Ondulatoire, a L'Etude de la Structure des Molecules. By LOUIS DE BROGLIE, Secretaire Perpetuel de l'Academie des Sciences, Professeur á la Sorbonne, RAYMOND DAUDEL, Secretaire General du Centre de Chimie Theorique de France, Charge du Cours de Mecanique Ondulatoire Appliquee a la Sorbonne, JEAN LECOMTE, Directeur de Recherches au Centre National de la Recherche Scientifique, JEAN WYART, Laboratoire de Mineralogie de la Faculte des Sciences de Paris, ODILON CHALVET ET CLAUDE VROELANT, Membres du Centre de Chimie Theorique de France, PAULINE RAMART-LUCAS, Professeur á la Sorbonne, CAMILLE SANDORFY, Membre du Centre de Chimie Theorique de France, NGUYEN-QUANG TRINH et HENRI LUMBROSO, Laboratoire de Chimie Generale, Sorbonne, ALEXANDRE LAFORGUE, Centre de Chimie Theorique de France, ADOLPHE PACAULT, NICOLE LUMBROSO et JEAN HOARAU, Laboratoire de Chimie Generale, Sorbonne, and PAUL CHANSON, Maitre de Conferences a l'Ecole Polytechnique. Revue D'Opitique, 165, Rue de Sevres 3 et 5, B^{D} Pasteur, Paris (XV^{e}), France. 223 pp. 1953. 1600 francs.

This volume of 220 pages reports eleven lectures given in Paris during the months of April, May and June, 1951, by representative French scientists in the field of molecular structure. The lectures were delivered on five meetings, called "Reunions d'Etudes et de Mises au Point."

The first session (April 24) comprises three papers: an introduction by Louis de Broglie; a short, elementary statement of the meaning of electronic wave functions in atoms and molecules by Raymond Daudel; and a review of the technical advances of infrared spectroscopy over the last ten years by Jean Lecomte. The last paper discusses in particular such topics as infrared detectors, prism and grating spectrometers, and infrared accessories, *e.g.*, reflecting microscopes, rapid scanning methods and polarization of infrared radiation.

On the second meeting (May 8) two papers were given on the problem of interatomic distances in molecules. Jean Wyart surveys the theoretical problems connected with the interpretation of X-ray diffraction and electron diffraction patterns, the determination of interatomic distances in gases and solids, and the determination of crystal structures. Odilon Chalvet and Claude Vroelant discuss quantum mechanical theories which serve to explain the observed interatomic distances in diatomic molecules and in conjugated systems. The molecular-orbital theory is given considerably less attention than the valence-bond approach.

The third session (May 22) deals with electronic spectra of conjugated systems. Camille Sandorfy gives a short but clear representation of the elementary notions generally applied in the explanation of π-electronic spectra. Mrs. Pauline Ramart-Lucas, in a longer article, gives the result of detailed studies of the near-ultraviolet spectra of a number of aromatic rings with attached functional groups; in particular concerning spectral changes due to changes in conjugation caused by steric hindrance, separation by alkyl groups, and cyclization. Cyclization involving various