The discussion seems well designed to speak to the two established disciplines that must be combined to attack this rapidly developing field. The inorganic chemist can find many carefully worked out examples to show the mechanistic information that can (and also that cannot!) be obtained from careful kinetic studies. The mechanistically inclined organic chemist may have to make his own table in order to keep track of abbreviations like bipy, phen, cptdin and EDTA, but he will be introduced to an unexpected wealth of information that gives every indication of yielding to the type of attack he is familiar with. The discussions abound with examples of "unfinished business," but the authors would not be disappointed if this book created an interest that rapidly rendered it obsolete.

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**Estimation of Thermodynamic Properties of Organic Compounds.** By GEORGE J. JANZ, Department of Chemistry, Rensselaer Polytechnic Institute, Troy, New York. Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y. 1958. ix + 211 pp. 15.5 × 23.5 cm. Price, $6.00.

Through the years a number of quite successful methods for the estimation of thermodynamic quantities have been developed and published in the periodical literature. Professor Janz has performed a valuable service in drawing these together in a convenient volume. This approach is particularly important for organic substances in view of the vast number of compounds and the similarity of their component bonds or atomic groupings. In addition to 133 pages of descriptive text, there are 64 pages of tables which will be of particular value to those using the book.

The reviewer noticed remarkably few errors. The signs should be reversed for the last column of Table 4.2 and the term ($R$ ln 2) should be omitted from equation 6.3 and from the accompanying discussion. The explanations of various methods are brief but clear and the author gives the reader guidance about the accuracy to be expected in each case. Teachers of chemical thermodynamics will find interesting applications, particularly in chapter 8, which can be used as a valuable supplement in their courses. Good examples illustrate the distinction between equilibrium and rates of reactions and their interrelationships. Thus this volume will be useful in several respects and is to be welcomed to the literature.

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**Research in Photosynthesis.** Papers and discussions presented at the Gatlinburg Conference October 25–29, 1955, sponsored by the Committee on Photobiology of the National Academy of Science—National Research Council and supported by the National Science Foundation. Edited by H. GAFFRON, A. H. BROWN, C. S. FRENCH, R. LIVINGSTON, E. I. RABINOWITCH, B. L. STREHLER and N. E. TOLBERT. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1957. xiv + 524 pp. 16 × 23.5 cm. Price, $12.00.

The main purpose of the Gatlinburg conferences on photosynthesis is to stimulate discussion of current problems among the workers in the field. We are now fortunate in having, in "Research in Photosynthesis," the record of the second of these conferences which was held in 1955 and dealt primarily with the photochemical aspects of the process.

The 67 individual contributions have been divided into six chapters entitled: I "Absorption, Fluorescence, Luminescence and Photochemistry of the Pigments *in Vitro*"; II "Absorption, Scattering, Fluorescence, Luminescence and Primary Photochemical Process *in Vivo*"; III "The Possible Role of Cytochromes"; IV "Dark Reactions"; V "Kinetics, Transients and Induction Phenomena" and VI "Formation and Condition of Chlorophyll in the Living Cell." The rather considerable task of editing and grouping these contributions has been done very well for only in the last chapter is there any noticeable lack of continuity in the subject matter. The papers are uniformly well written and informative, though in several cases they appear to have been extensively revised since the time of the conference. The editors' decision to include the major portions of the spontaneous discussion that followed the papers is especially commendatory for this represents one of the most rewarding aspects of the meetings.

There is, however, another aspect of this book which is not so favorable. Because of the very nature of the conference, the papers are all short, concise presentations of research results which were current at the time. For this reason, a strong case could be made for the point that papers of this kind more properly belong in the scientific journals than in a special volume. Also, the purpose of the Gatlinburg conferences is to stimulate discussion and the very act of recording the proceedings seems out of sympathy with this purpose. Finally, it is unfortunate but often true that the ever increasing number of symposia and other special volumes duplicate rather than expand the presentation of scientific information, though this last objection does not apply to the book under consideration.

Despite these objections "Research in Photosynthesis" will be a valuable record for the specialists in the field and for those whose interests are closely allied to photosynthesis.

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ROCHESTER, NEW YORK

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## BOOKS RECEIVED

December 10, 1958—January 10, 1959

J. F. DANIELLI, K. G. A. PANKHURST AND A. C. RIDDIFORD, Edited by. "Surface Phenomena in Chemistry and Biology." Pergamon Press, Inc., 122 East 55th Street, New York 22, N. Y. 1958. 330 pp. $10.00.

I. PRIGOGINE, Edited by. "Advances in Chemical Physics." Volume I. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1958. 414 pp. $11.50.

JOHN C. SHEEHAN, Editor-in-Chief. "Organic Syntheses." Volume 38. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1958. 120 pp. $4.00.

MELVILLE L. WOLFROM, Editor, R. STUART TIPSON, Associate Editor. "Advances in Carbohydrate Chemistry." Volume 13. Academic Press Inc., 111 Fifth Avenue, New York 3, N. Y. 1958. 387 pp. $11.00.