

ent state of specific areas of spectroscopic research and of possibilities of further development. The reviews should be equally valuable to the spectroscopist who has become somewhat overspecialized, and is unaware of important developments in his own field.

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**Advances in Catalysis and Related Subjects.** Volume XI. Edited by D. D. ELEY, Nottingham, England, P. W. SELWOOD, Evanston, Illinois, and PAUL B. WEISZ, Paulsboro, N. J. Academic Press, Inc., 111 Fifth Avenue, New York 3, N. Y. 1959. x + 384 pp. 16 × 23.5 cm. Price, \$12.50.

The Editors of this Series again have made available an interesting and useful collection of critical reviews concerning several aspects of catalytic phenomena. Titles of individual contributions, and the authors are:

I. The Kinetics of the Stereospecific Polymerisation of  $\alpha$ -Olefins. By G. Natta and I. Pasquon (Milan).

II. Surface Potentials and Adsorption Process on Metals. By R. V. Culver (University of Adelaide) and F. C. Tompkins (London).

III. Gas Reactions of Carbon. By P. L. Walker, Jr., F. Rusinko, Jr., and L. G. Austin (The Pennsylvania State University).

IV. The Catalytic Exchange of Hydrocarbons with Deuterium. By C. Kamball (The Queen's University of Belfast).

V. Immersional Heats and the Nature of Solid Surfaces. By J. J. Chessick and A. C. Zettlemoyer (Lehigh University).

VI. The Catalytic Activation of Hydrogen in Homogeneous, Heterogeneous, and Biological Systems. By J. Halpern (University of British Columbia).

All 6 reviews will be of interest to students of catalysis. Especially to be commended to the general reader's attention are the first of these, which is primarily a comprehensive statement of results and conclusions emanating from the laboratories of a pioneer in the investigation of stereospecific polymerisation; and the last, which draws particular attention to the activation of hydrogen by ions in aqueous solution, and to the broad range of conditions under which hydrogen-deuterium exchange, *ortho-para* hydrogen conversion, and catalytic hydrogenation can be accomplished.

The Editors wisely avoid comprehensive coverage of the field in any one volume of the Series. Nevertheless, the eleven volumes now available come close to attaining this goal.

A general index in some future volume would add substantially to the usefulness of the Series as a whole.

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ROBERT N. PEASE

**Progress in the Chemistry of Organic Natural Products.** Volume XVII. Edited by L. ZECHMEISTER, California Institute of Technology, Pasadena. Springer-Verlag, Mölkerbastei 5, Wien I, Austria. 1959. x + 515 pp. 16.5 × 23.5 cm. Price, \$18.65; Ganzleinen, \$19.80.

In his latest offering, L. Zechmeister serves up a wide variety of courses, which—as is often the case with a potluck—include both warmed-over hash and more satisfying, substantial main dishes, as well as a few uncommon specialties. Volume XVII belongs in every chemistry library; it is recommended to individuals interested in broadening their knowledge of natural product chemistry, as well as to those with active interests in the topics listed below. The chapters "Flavones and Isoflavones," "Neuere Ergebnisse der Chemie pflanzlicher Bitterstoffe," "Alkaloide aus Calebassencurare und südamerikanischen Strychnosarten," and "The Chemical Structure of the Normal Human Hemoglobins" are authoritative, well-written, complete and up-

to-date. Although "Fortschritte der Chemie der Vitamine D und ihrer Abkömmlinge" is competently handled, the complete omission of Lythgoe's contribution in this area is glaring (this incident suggests the need for a refereeing system in this series). "Some Biochemical Aspects of Disease in Plants" and "Paleobiochemistry and Organic Geochemistry" are a bit thin chemically (in the former chapter, incorrect structures for lycorin and gibberellic acid are reproduced), but on the other hand they direct attention to rich areas of research for the organic or biochemist capable of operating in those fields. Although "Occurrence and Metabolism of Simple Indoles in Plants" is seemingly complete, the chapter is marred by occasional unhappy expressions: for example, "The compound isolation of this is not reported from any other plant" (p. 260) appears as a careless transposition, and "An inconclusive report from a fungus has also been made" (p. 252) unintentionally suggests intellectual prowess normally lacking at this lower life level. "The Electron Gas Theory of the Color of Natural and Artificial Dyes: Applications and Extensions," while original and provocative, has in fact little to do with natural product chemistry.

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E. E. VAN TAMELEN

**Progress in Microchemistry.** *Microchemical Journal*. Volume III. Issue 3. Edited by NICHOLAS D. CHERONIS. Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. August, 1959. pp. 271-475. 15 × 23 cm. Price, \$4.00; Annual Subscription Price, \$16.00.

This is the "Annual Progress Issue" of the *Microchemical Journal*. The subject of microchemistry has been divided into twelve subdivisions and work in each of these twelve areas has been reviewed by separate authors. Comprehensive and critical evaluations are supplemented by a listing of all of the papers which were considered in the compilation of this progress report. One cannot fail to be impressed by the vigorous growth of microchemistry and by the use of micro methods all along the frontiers as well as for the performance of the everyday tasks of chemistry.

The Table of Contents, which follows, is sufficiently descriptive to indicate the areas covered in this annual progress issue.

(1) J. H. Badley and F. H. Stross: Progress in Reduced Scale Determination of Physical Constants: 1958.

(2) John Krc, Jr.: Progress in Chemical Microscopy: 1958.

(3) A. G. Mistretta: Progress in Fractionation Procedures. I. Differential Migration Methods: 1958.

(4) Milton T. Bush: Progress in Fractionation Procedures. II. Distillation, Sublimation and Crystallization: 1958.

(5) A. A. Benedetti-Pichler: Progress in Qualitative Inorganic Analysis: 1958.

(6) Robert Maurmeyer: Progress in Quantitative Inorganic Analysis: 1958.

(7) Samuel Natelson: Progress in Biochemical Investigations: 1958.

(8) A. Steyermark: Progress in Elemental Quantitative Organic Analysis: 1958.

(9) T. S. Ma: Progress in Functional Group Quantitative Organic Analysis: 1958.

(10) Nicholas D. Cheronis: Progress in Qualitative Organic Analysis: 1958.

(11) A. R. Ronzio: Progress in Organic and Inorganic Microsynthesis: 1958.

(12) Howard J. Francis, Jr.: Progress in Equipment and Tools: 1958.

Chemists interested in microanalytical procedures or the manipulation of small amounts of material will find it profitable to examine this number of the "Microchemical Journal." The collection and classification of references is a distinct service.

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