The editor's preface admits the existence of problems of overlap and repetition in coöperative treatises of the nature of this volume. However, the overlap in many chapters of the present volume is so extensive as to hardly appear justifiable under any conditions: An author who would undertake to rewrite the entire volume could probably achieve this in no more than half the space used. While it is completely unrealistic to suggest that the editor should have done this, one must wonder if he should not have used his "good offices" and his scientific stature to effectively dissuade redundancy and to revise or eliminate the obviously inferior contributions.

In conclusion, several chapters of this book represent outstanding contributions of permanent, scientific value in the general area of rheology. Several others represent extremely useful contributions to a given area of industry. It is perhaps unfortunate that the interested reader will have to pay a nearly prohibitive price simply because the editor also chose to include an equal amount of material which is either redundant or of minor scientific value.

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Aliphatic Fluorine Compounds. ACS Monograph No. 138. By A. M. LOVELACE, DOUGLAS A. RAUSCH and WILLIAM POSTELNEK, Organic Materials Branch, Materials Laboratory, Wright Air Development Center. Reinhold Publishing Corporation, 430 Park Avenue, New York 22, N. Y. 1958. ix + 370 pp. 16 × 23.5 cm. Price, $12.50.

The Monograph on "Aliphatic Fluorine Compounds" by A. M. Lovelace, Douglas A. Rausch and William Postelnek is an excellent reference book for this broad class of compounds. The approach to the subject is primarily from the point of view of preparative organic chemistry. In general, the arrangement of the subject matter is similar to that of the classical treatises on organic chemistry. Although the first chapter is devoted to fluorinating agents and methods, the remaining chapters are concerned with the preparation of specific classes of fluorine-containing aliphatic compounds, such as, for example, alcohols and alkanes.

Although the Bibliography at the end of each chapter is not complete, it is very extensive as well as valuable to the investigator faced with preparations and a need to know the art. Furthermore, the Tables at the end of the chapters which list physical properties of most of the known compounds of each class are invaluable.

The book is highly recommended for the person interested in the preparation and physical properties of aliphatic compounds. Little space is devoted to theory and the interpretation of unique properties of many fluorine-containing compounds. A total of 1333 preparative methods is an indication of the comprehensive nature and importance of the subject of fluorine-containing compounds. This area of knowledge continues to grow at an ever-increasing rate and I feel sure this book will be a stimulus to this growth.

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Advances in Catalysis and Related Subjects. Volume X. Edited by D. D. ELEY, Nottingham, England; W. G. FRANKENBURG, Lancaster, Pennsylvania; and V. I. KOMAREWSKY, Chicago, Illinois. Associate Editor, PAUL B. WEISZ, Paulsboro, New Jersey. Academic Press, Inc., 111 Fifth Avenue, New York 3, N. Y. 1958. xvi + 326 pp. 15.5 × 23.5 cm. Price, $11.00.

Even after the lamented death of two members of the original editorial staff who organized the compilation of Advances in Catalysis, the tenth volume shows that the original aims are still being faithfully followed, namely, to integrate and to report upon catalytic knowledge from all lands and from all disciplines. The popularity and usefulness of this series emphasize the wisdom of those aims. This new volume appropriately contains a short biography of the late editor, Walter G. Frankenburg, by R. Brill and F. F. Nord, and of the other late editor, Vasili Ilyich Komarewsky, by Charles Riesz.

The seven chapters of the volume are written by outstanding leaders and contributors in the areas of their contributions: 1. "The Infrared Spectra of Adsorbed Molecules," by R. P. Eischens and W. A. Pliskin, 53 pp., contains a timely description of the recently introduced and rapidly developing techniques for determining the spectra of adsorbate molecules including ethylene, ethane and acetylene on nickel; carbon monoxide on palladium, platinum, iron, copper, and rhodium; and ammonia on silica alumina and γ-alumina. 2. "The Influence of Crystal Face in Catalysis," by Allan T. Gwathmey and Robert E. Cunningham, 38 pp., reviews the experimental work on the relation of crystal habit to catalytic activity. Three major types of reactions are represented by (a) oxidation of copper, (b) deposition of carbon from carbon monoxide on iron, cobalt and nickel, and (c) the reaction of hydrogen and ethylene on nickel. Eleven excellent halftones illustrate this chapter. 3. "The Nature of Active Centers and the Kinetics of Catalytic Dehydrogenation," by A. A. Balandin, 34 pp., is a very welcome English summary of the status of Balandin's famous "multiplet" theory in his own words. Balandin has, in the past, been associated with the strictly geometric interpretation of catalysis. The present treatment, however, also considers the effect of the nature of the bond. A four-page table presents a unified treatment of reaction parameters for some seventy-five catalytic reactions. 4. "The Structure of the Active Surface of Cholinesterases and the Mechanism of Their Catalytic Action in Ester Hydrolysis," by F. Bergmann, 34 pp., is an evaluation of the experimental and theoretical studies of cholinesterases, and the postulation from this analysis of a preliminary model of their structure and the manner of their action. 5. "Commercial Alkylation of Paraffins and Aromatics," by Edwin K. Jones, 30 pp., summarizes modern industrial practice in alkylation. Feedstocks, types of catalysts, process variables, commercial alkylates, and various alkylation processes are treated in adequate detail. 6. "The Reactivity of Oxide Surfaces," by E. R. S. Winter, 45 pp., reviews the experimental evidence showing how lattice oxygen itself takes part in the chemisorption step and catalytic reactions involving oxygen-containing gases, such as O_2, CO, CO_2 and N_2O. The catalysts discussed are oxides of zinc, copper, iron, nickel, chromium, manganese, lithium, silver and tungsten. 7. "The Structure and Activity of Metal-on-Silica Catalysts," by G. C. A. Schuit and L. L. van Reijen, 75 pp., summarizes the status of our knowledge of the fundamental physical properties of the nickel, platinum, palladium, copper, iron and ruthenium in metal–silica catalysts obtained by mixture, co-precipitation and impregnation. Physical characterization is by means of chemisorption, electrical conductivity, magnetic properties and crystalline phase analysis.

The seven pages of author and subject indexes are a little scant if the reader wishes to use this volume as a reference book. On the other hand, the generous bibliographies accompanying most of the chapters are a distinct asset.

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The Chemical Kinetics of Enzyme Action. By KEITH J. LAIDLER, Professor of Chemistry, The University of Ottawa. Oxford University Press, 417 Fifth Avenue, New York 16, N. Y. 1958. vi + 419 pp. 16.5 × 24 cm. Price, $9.60.

Professor Laidler has prepared this book with the idea that it might be helpful to collect together some of the main results and concepts that have been developed in the more physical chemical studies of enzymes. Considerable emphasis is placed on general principles and less on the details of individual enzyme systems. The treatment of each subject starts at an elementary level suitable for students.

The first part of the book is concerned with the more fundamental aspects of enzyme kinetics and includes chapters on General Kinetic Principles, Rate Laws in Enzyme Kinetics, The Time Course of Enzyme Reactions and The Influence of Hydrogen Ion Concentration. In the last part of the book various chapters deal with individual enzyme systems (proteolytic enzymes, other hydrolytic enzymes, oxidative enzymes, catalase and peroxidase), but there is