

The volume encompasses an impressively wide spectrum of catalytic systems. The contributions are divided roughly in half between homogeneous and heterogeneous catalysis. Most discuss catalysis of specific reactions, such as oxidation of olefins to glycols or epoxides and sulfides to sulfoxides, hydroformylation of alkenes, hydrogenation of phenols, and aminomethylation of diene polymers. A smaller number deal with synthesis of novel catalysts such as stereospecific catalysts and molecularly-dispersed bimetallic catalysts. Also included are contributions about bacterial oxidation of hydrocarbons and the use of single crystals as model catalysts.

Catalysis of Organic Reactions is primarily a collection of research reports and not a review of this important area of catalysis. A small number of the papers do review current work; notable among these are Jack Lundsford's contribution titled "Methanol Synthesis over Supported Palladium Catalysts" and D.W. Goodman's paper on the use of single crystals as model catalysts. However, the majority of the contributions detail the recent work of the individual authors. Most of the papers are quite up to date, discussing developments through 1984.

As one might expect, organization of such a variety of topics into a logical order is quite difficult. Unfortunately, the editor has broken the book into five subheadings that overlap each other significantly. As a result, several of the papers appear out of place. For example, two reports about supported catalysts are found in the section about homogeneous catalysis, while a number of reports about homogeneously-catalyzed reactions are found in later sections of the book. It might have been more useful to divide the papers into broader subheadings such as

organic oxidations, organic reductions, and catalyst design and analysis.

The cover notes that accompany *Catalysis of Organic Reactions* hail it as "comprehensive and definitive" and a "remarkable advance in the field." These accolades appear to be a bit optimistic. The book does indeed cover a great deal of ground in catalysis, but the topics discussed are quite specific, and little attempt is made to summarize or generalize. The topics presented are fascinating, but the presentations are often a bit esoteric for nonexperts in each specific field of catalysis. Overall, this volume offers a small view of a wide variety of topics in organic catalysis. Unfortunately, its impact and importance are diminished by the narrowness of each of the individual contributions and its overall lack of continuity.

James N. Michaels
Dept. of Chemical Engineering
University of California
Berkeley, CA 94720

Measurement Techniques in Heat and Mass Transfer

By R. I. Soloukhin, and N. H. Afgan, Hemisphere Pub. Corp., 1985, \$84.50.

As Proceedings of the International Center for Heat and Mass Transfer, the contents of this book have already been through a review process. One can assume that the papers in the book were selected from among many submitted prior to the XV ICHMT Symposium. Therefore, the content and quality of the papers should be among the best available to the review personnel at the time of the initial selection.

The new measuring methods presented

quite apparently are state-of-the-art methods using computers for data acquisition and numerical methods for analysis. Many could be adapted for use in industrial process control systems. At this point in time such a capability is an important quality for any measurement procedure.

A wide variety of measurement techniques is presented. Most of the papers describe fairly specific and sophisticated measurement techniques. These definitely are designed primarily for experimental research purposes, but some of these procedures could be adapted readily for industrial development or production applications. The survey paper on "High Temperature Measurement" (Maglic) is of general interest, and most of the papers in the section on "Power Engineering Measurement" are of direct value to pertinent industries. With regard to the level of sophistication required of potential readers, with their background in the unit operations and transport theory and their broad educational training in engineering and the sciences, chemical engineering students in the sixth semester of their eight-semester curriculum should be able to understand and apply the principles and theory involved in most of the papers.

The organization of the text material is appropriate for a book of this nature. The translations of articles from foreign sources are generally good. However, there are errors in spelling and in grammar which should have been caught in their final proofreading. Some of these are obvious, but they do not detract significantly from the overall high quality of the book.

Robert E. Slonaker, Jr.
Chemical Engineering Department
Bucknell University
Lewisburg, PA 17837