

(Continued from page 2D)

ences are abundant; they are one of its valuable features. Mention is made of complete bibliographies which are made available by the IUPAC Commission on High Temperatures and Refractories.

The book gives a broad survey in considerable depth of the modern high temperature field. It will be of most interest to those wishing to keep abreast of the progress and direction in this field.

John R. Bartlit

**Principles of Unit Operations**, A. S. Foust, L. A. Wenzel, C. W. Clump, L. Maus, and L. B. Andersen. John Wiley and Sons, Inc., New York (1960). 578 pages. \$15.00.

In this text the unit operations of chemical engineering are presented in unified groups related by identical basic principles. The general approach employed emphasizes the scientific laws upon which the operations are based; the arrangement certainly appears to give the student a much greater opportunity to understand this basis than did the previous classical approach to unit operations.

Topics are divided into three major sections: Part I dealing with those operations which are equilibrium controlled processes, Part II dealing with rate dependent processes, and Part III which applies the principles of equilibrium and rate processes to the design of equipment for various unit operations.

It would seem that the text represents, to a certain extent, a compromise between

the classical concept of unit operations and the more recently developed transport process considerations. In effect the latter two sections of the book serve as texts in both areas; Part II could serve as a text for the study of transport processes alone, while Part III is an extensive consideration of unit operations and design calculations along more or less traditional lines.

The subject matter included in this unified approach is extensive. Of particular interest is the treatment of unsteady state molecular transport and the consideration of boundary layer theory. On the other hand, it is felt that a more extensive discussion of the recent developments in film theories, such as that of surface renewal, would have been a desirable complement to the section on turbulent—molecular transport.

The text is well illustrated throughout; diagrams and nomenclature are clearly presented and easily followed. There are a large number of illustrations of process equipment included, although this may be a doubtful qualification considering the availability of descriptive literature for equipment and the cost to the student for the duplication of this information in the text.

It is evident that this volume represents quite a departure from the traditional presentation of unit operations, and the reviewer feels the authors are quite justified in saying "... the unification presented here is the next logical step in the evolution of the concept of unit operations."

John B. Butt

# Computer Program Abstracts

Readers of the *A.I.Ch.E. Journal* who are interested in programming for machine computation of chemical engineering problems will find in each issue of *Chemical Engineering Progress* abstracts of programs submitted by companies in the chemical process industries. Collected by the Machine Computation Committee of the A.I.Ch.E., these programs will be published as manuals where sufficient interest is indicated. The following abstracts have appeared this year:

CEP (September, 1960), p. 78

Double-Pipe Heat Exchanger Calculations (059)  
Solution of Simultaneous Linear Equations (060)  
WL DST1 (061)