

## BOOK REVIEWS

less comprehensive than Pitzer and Brewer's revision of Lewis and Randall, for example, this treatment by Klotz is a book which will continue to recommend itself warmly to students by the clarity, rigor of its development, the logic and systematization of its presentation, and its consideration for the average learner. It should prove especially useful to supplement physico-chemical texts as this subject and chemical thermodynamics as well gets introduced into the curriculum at an earlier level.

The paperback "Introduction" involves simply the first twelve chapters of the hard cover volume and consequently covers only the exposition of the three basic principles and the application thereof to simple systems of constant composition. Unfortunately, treatment of systems variable composition and accompanying standard states for which the original volume was especially used restricts severely its utility as a textbook in this abbreviated version.

Although the printing and composition are relatively free of embarrassing errors, it is amusing to see the revised edition referred to as "Basic Chemical Thermodynamics" in the preface of the paperback version.

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### Thermodynamics of Irreversible Processes

*Pierre Van Rysselberghe*, Stanford University, Stanford, California. Blaisdell Publishing Co. (a division of Ginn and Co.), New York, 1964. 165 pp. Figs. and tables.  $17.5 \times 23.5$  cm. \$7.50.

Irreversible thermodynamics concerns systems which are not in equilibrium. This short monograph introduces the subject and clearly shows how conventional thermodynamics is extended to the nonequilibrium region. There are clear discussions on the First and Second Laws and entropy production, the fundamental concept, followed by examples. Consistent with the author's main field of interest these examples deal largely with chemical reactions, but a variety of material such as diffusion, thermal diffusion and thermoelectricity is treated in a simple and novel manner. There are some omissions: The concept of local equilibrium and the Onsager relations might have been discussed more fully, even allowing for the fact that repetition with existing books has been deliberately avoided. The lack of an index is also somewhat irritating.

This book is recommended as an introductory text for those with a knowledge of basic classical thermodynamics, and is especially useful as a prerequisite to the sophisticated studies by Prigogine and De Groot. The presentation and explanations in the book will be very helpful as well to workers already using

the methods of irreversible thermodynamics.

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### New German-English Dictionary for Chemists

*H. H. Neville*, Building Research Station, N. C. Johnston, Bankhead Academy, Bucksburn, and *G. V. Boyd*, Northern Polytechnic, London, England. D. Van Nostrand Co., Inc., Princeton, New Jersey, 1964. xviii + 330 pp.  $13.5 \times 19.5$  cm. \$8.95.

The more than 40,000 entries in this dictionary were selected for chemists who know only a little German. Therefore many non-technical terms are included, as well as numerous explanations which would be superfluous to one fluent in German. Separable verbs, for example, puzzle beginners who have made a quarter hour journey through a sentence and suddenly collide with the verb prefix at the end. They will find useful guidance here.

The compilation is entirely fresh, from a wide range of literature (including patents) in theoretical and applied chemistry. Some allowance is made for differences in British and American usage, but evidently with mental reservations; there is no trace of concession to *sulf-* as an alternate to *sulph-*, and *u* is not omitted from words ending in *-o(u)r*.

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