

LITERATURE CITED

- Collins, G. L., M. Motarjemi, and G. J. Jameson, "A Method for measuring the charge on small gas bubbles," *J. Colloid Interface Sci.*, **63**, 69 (1978).
- Komagata, S., "On the measurement of cataphoretic velocity," *Res. of Electrotech. Lab. (Japan)*, No. 384, 5 (1933).
- Mori, S., H. Okamoto, T. Hara, and K. Aso, "An improved method of de-

termining the zeta-potential of mineral particles by micro-electrophoresis," *Proceedings of the Inter. Symp. on Fine Particles Processing*, 632 (1980).

Smoluchowski, M. V., "Elektrische Endosmose und Stromungstroem," *Handbuch der Elektrizitaet und des Magnetismus*, L. Grotz, ed., Johann Ambrosius Barth, Leipzig (1921).

Manuscript received May 21, 1981; revision received August 26, and accepted September 3, 1981

BOOKS

Physical Chemistry of High Temperature Technology.
E. T. Turkdogan, Academic Press, April 1980, 447 pages, \$49.50.

The author of this work is the elder statesman of industrial process metallurgy. The volume therefore contains a wealth of factual information that he has acquired over the years. Because most of these years have covered a period when physical chemistry, rather than process engineering, was dominant in process metallurgy, the book is canted in the direction of the former topic, as the title implies. The work is divided into two parts: "Fundamentals" and "Applications." The division is arbitrary since there is much in the second part, for example, the chapter on rate phenomena, that this reviewer would regard as fundamental. It is in the first part that the reader will find the most valuable material, a critical review of physicochemical data together with predictive and correlative techniques for physical properties.

The book is not likely to find use as a text since its approach is encyclopedic, rather than heuristic. Turkdogan's lack of exposure to an audience of uncomprehending students is evident from his frequent failure to provide full explanations or derivations. An example would be the author's mention, in a section on diffusion in metals and alloys, of a "backscatter effect" without further elaboration concerning the nature of this effect. A second example, in connection with the work of Chatterjee and Bradshaw on the impact of a gas jet impinging on a liquid surface, is Turkdogan's presentation of the relationship between the depth of the depression formed at the liquid surface and the onset splashing, without providing the relationship (present in the original work) between the depression depth and jet momentum.

It is regrettable that the opportunity to present physical property data in SI units was not seized. Equally regrettable is the failure to provide a list of symbols, particularly since some symbols are not even defined when they are first used! The index is rather scant for a work of this nature; for instance "Fick's law," "flames," "refractory" and "thermocouple" do not appear therein.

Most of the work will be comprehensible to those with a bachelor's degree in chemistry or metallurgy. The subject matter is treated with sufficient depth in the first part, but the second part is occasionally superficial, for example, in its treatment of heat transfer by radiation. There is little presentation of experimental technique despite the author's substantial reputation as an experimentalist.

The fundamentals part of the book will be of great interest to those working in any field of high temperature technology. The second half is mainly concerned with iron and steel, and those oriented towards such technologies as nuclear energy, aluminum smelting, geothermal energy and the incineration of wastes must look elsewhere for their applications.

J. W. EVANS
University of California
Berkeley, CA 94720

Chemical Engineering Communications (an International Journal for Communications of Research), Edited by: Standard and Ulbrecht, Published by: Gordon and Breach, Price: Individual \$43.00 Library \$83.00.

Chemical Communications actually started publication in 1973. The original intent was to publish full length research papers, short letters and review papers à la the now defunct, but well remembered *Industrial and Engineering Chemistry* reviews. The then editors—Pings and Seinfeld published twice in 1973, four times in 1974, once in 1975, twice in 1976. Three reviews appeared and four letters along with numerous research articles in a broad spectrum of topics (approximately 20% of the papers were in the area of fluids, 20% in control and optimization, 20% in kinetics and catalysis, 20% in transport and the remaining 20% were in areas such as diffusion, numerical analysis, thermodynamics and heat transfer). With the January, 1978 edition, the current editors, Standard and Ulbrecht, began publication. The most recent edition was the May, 1978 volume which is somewhat disappointing with two major articles and one letter. One

of the major articles is a review and the other a research publication.

Problems with this journal might be the fact that the audience was not well defined and its objectives too broad for a non society publication. The purpose of the journal is "an international journal devoted to the publication of full length research articles covering significant completed research, short letters giving preliminary announcements of results and occasional papers in chemical engineering, applied chemistry and related fields." The editors are hoping for rapid publication of papers enabling prompt and a lively exchange of ideas.

In the past, the quality of the research articles has been good and we can hope with new leadership that this journal can be an interesting forum for the serious chemical engineering researcher.

W. FRED RAMIREZ
Department of Chemical Engineering
University of Colorado
Boulder, CO 80309

Liquids and Their Properties: A molecular and macroscopic treatise with applications, by H. N. V. Temperley and D. H. Trevena, Published by John Wiley & Sons, Inc., 274 pages, \$37.50 (1978).

This book is a useful survey of liquids that combines molecular and macroscopic approaches. It is designed to be of use to students in the pure and applied sciences, and also to research workers in other fields who require a basic knowledge of the liquid phase. As is the case with other recent books on liquid state, this one seems to emphasize new insights into the structure and properties of liquids at the molecular level that have resulted from computer simulations, beginning about 1957, and the parallel developments in theory and experimental methods. It differs from other recent books in that it covers a wider variety of topics, including hydrodynamics, acoustics, liquids under tension, and other specialized or applied topics that are specialties of one or both authors.