BOOKS

Physicochemical Methods for Water and Wastewater Treatment. Edited by Lucjan Pawlowski. 327 pp. Pergamon Press, 1980. $50.00.

The book contains 32 selected papers from the Second International Conference on "Physicochemical Methods for Water and Wastewater Treatment", which was in Lublin (Poland), June 1979. It provides a broad view of the methods used in recovery of chemicals from wastewater and purification of wastewater. In many works contained in this book the studies concerning the application of chemical coagulation, filtration, ion exchange, flocculation, adsorption, electrolysis, membrane separation, oxidation and dialytic processes in wastewater treatment are discussed.

The major strength of this book lies in the great number of industrially important problems which are presented; for example: recovery of ammonium phosphate from urban sewages, recovery of vanadium compounds from wastewater, recovery of ammonium nitrate from fertilizer factory wastes, recovery of oil and organic compounds from industrial wastewater, etc.

This book is recommended for the industrially based engineers in wastewater treatment and research workers in environmental engineering. As a reference book both for course work and research on chemical engineering may be also valuable.

MIECZYSLAW JARONIEC
Institute of Chemistry
M. Curie-Sklodowska University
Lublin, Poland

Heat Conduction by M. Necati Ozisik, John Wiley, 1980; 687 pages, $28.00.

This latest text by Ozisik appears to be a rather comprehensive treatise on advanced conduction heat transfer. Some of the topics, e.g. fundamentals of heat conduction and separation of variables in rectangular, cylindrical and spherical coordinate systems, are covered at a level that can be understood by the undergraduate energy transport student. However, the author has targeted the text at "graduate students of engineering and science".

The advanced topics include: the use of Duhamel's theorem, Green's function and Laplace transforms and conductive heat transfer in one dimensional composite media in anisotropic medium and in systems undergoing phase change. A chapter has been included on the solution of nonlinear problems using linearization and transformation techniques.

The major objective of this text appears to be the development of a fundamental structure for obtaining analytical solutions to complex conductive heat transfer. The achievement of numerical answers and illustrations of specific practical examples are seldom attempted.

The author's writing style is quite clear and he has included additional details of derivations as notes at the end of each chapter to facilitate a better understanding of the material. Each chapter contains problems which have been worked in detail or may be assigned to students.

CHRISTOPHER L. CAENEPEEL
Staff Research Engineer,
Amoco Chemicals
Naperville, Illinois 60540

Porous Media Fluid Transport and Pore Structure by F. A. L. Dullien, Academic Press, 396 pages, $42.00 (1979).

Professor Dullien's book covers some of the aspects of flow in porous media associated with immiscible and miscible flow as well as some specific applications. The coverage is pointed at understanding pore structure and the interpretation of convective, diffusive, and interfacial effects from this point of view. The book is well written though certain parts are terse. The discussions of pore structure especially in Chapter 3 are outstanding. The discussions concerned with the fluid mechanical or calculational aspects are not as complete as the pore structure descriptions and as such the book has limitations as a text or a more general reference.

Chapter 1 is introductory. Chapter 2, concerned with capillarity, presents a good coverage of this topic. The pore structure discussion and its relation to capillarity is excellent. The pore structure descriptions in Chapter 3 and the pore structure discussions in Chapter 2 are the real strength of the book. Chapter 4 is concerned with single phase flow. The discussion of geometric models and of tortuosity is well done.

Chapter 5 is very short, containing some examples of transport of a single fluid in a porous medium. Chapter 6 on multiphase immiscible flow and Chapter 7 on miscible flow follow the traditional approach in this area and are weighted towards production research. Chapter 7 contains a good concise treatment of dispersion in a tube and the discussion of statistical models is very good.

In summary, the book is well written though limited in scope and contains outstanding discussions related to pore structure. Anyone doing research on porous media topics should have this book in their library.

ROBERT A. GREENKORN
School of Chemical Engineering
Purdue University
West Lafayette, Indiana 47907

ERRATA

In "Prediction of High Peclet Number Mass Transfer in Granular Beds Using The Constricted Tube Model" by Gabriel I. Tardos and Chaim Gutfinger [*AIChE J.*, **25**, 1073 (1979)], the expression for the correction factor $g(\epsilon)$ in Table 1, line 4 on page 1074 should read:

$$\left\{\frac{6[-4\beta^6-14\beta^5-30\beta^4-30\beta^3+\beta^4\alpha^2-}{-4\beta^6-24\beta^5-180\beta^4-180\beta^3+9\beta^5\alpha+45\beta^4\alpha-}\right.$$

$$\left.\frac{5\beta^3\alpha^3+10\beta^3\alpha^2+5\beta^2\alpha^3-\beta\alpha^5-\alpha^5]}{10\beta^3\alpha^3+180\beta^3\alpha-30\beta^2\alpha^3+9\beta\alpha^5-4\alpha^6+9\alpha^5}\right\}^{1/3}$$

Equation (9) on page 1076 should read:

$$Sh_s \cong \frac{6.5\epsilon}{1-\epsilon}\left(\frac{c_2^2}{8+4c_1+3c_2^2}\right)^{2/3} Pe_s^{1/3} \qquad (9)$$

(Continued on page 880)