

Aqueous Wastes from Petroleum and Petrochemical Plants, Milton R. Beychok, John Wiley & Sons, Inc., New York (1967). 370 pages, \$12.75.

The author very clearly states his purpose in the first sentence of his preface: "This book was written for engineers actively engaged in the process design of new petroleum refineries or related petrochemical plants." The book meets this goal in an entirely satisfactory manner, and it is strongly recommended to those engineers for whom it was written.

After the introductory chapter, the book requires of the reader an intimate knowledge of refineries and petrochemical plants. It is of little value to other industrial waste engineers, except that it demonstrates how a thorough acquaintance with an industry can lead to significant conclusions on waste handling procedures in that industry. The book may be useful to the practical wastes engineer, and even to the student, as an example of this point, but the technical details included in the book will be over the heads of all but refinery experts.

The introductory chapter, in this reviewer's opinion, should have been written by someone with a broader experience in all types of industrial wastes. It is, however, suitable for the readers for whom it is intended. In fact, the writer is to be commended for setting forth his objective so definitely, and for adhering to it as he has. This is a good book, and should be in the libraries of all engineers and administrators in the industry covered, as well as in all broad-base technical libraries.

C. FRED GURNHAM
CYRUS WM. RICE AND CO.

Standard Handbook for Mechanical Engineers, Seventh Edition, Theodore Baumeister, Editor, McGraw-Hill Book Company, New York (1967). 2360 pages. \$29.50. (Formerly, "Mark's Mechanical Engineers' Handbook," first published in 1916.)

This new edition of the old and familiar Mark's "Handbook" is a convenient summary of topics embraced by the discipline of mechanical engineering. It contains 921 topics to refresh the practicing engineer as well as the student; the 2,100 illustrations and 900 tables provide quick and handy data

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for the design room. New material has been added throughout, particularly in the areas of astronautics, air pollution, computers, direct-energy devices, and cryogenics. Comparison with Perry's "Chemical Engineers' Handbook" reveals nicely the scope of the work of the mechanical engineer vs. that of the chemical engineer. [College freshmen (and student advisers) might note that the various handbooks can serve as excellent vocational guides to the various engineering divisions.] Material common to both Baumeister's and Perry's handbooks include mathematics, weights and measures, heat and mass transfer, thermodynamics, instrumentation, and electrical and industrial engineering subjects. Beyond this common core, the mechanical engineering handbook surveys mechanics, kinematics, and the dynamics of solids; elasticity, stress analysis; vibration and measurement; mechanisms, machine elements (gears, etc); friction, bearings, and lubrication; combustion engines, rockets; steam, gas, and hydraulic turbines; nuclear power, solar energy; transportation vehicles; aeronautics and astronautics; structural design, heating systems, illumination, sound, noise; cutting and working of metals and plastics, welding; and air pollution (but only three or four sentences on the role of the automobile in pollution). The differences in content arise from the emphasis of the chemical engineer on unit processes and the emphasis of the mechanical engineer on power and production. The emphasis carries over even to the common core of topics; for example, the sections on thermodynamics in the two handbooks complement each other rather than overlap (although, regrettably, with differences in symbols and terminology). Thus both handbooks have a place in the same design room.

If a handbook is viewed as a handy reference for the undergraduate student or for the engineer without a large library, the "Standard Handbook" fulfills the purpose. As a precise source of data, however, many of the references are old or secondary or textbooks. Slight differences in physical constants are ignored. (For example, it is implied that the IT calorie is the standard.) In these respects (and in its larger page size) Perry's "Handbook" is superior.

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ERRATUM

In "Convective Diffusion in Stagnation Flow with an Imperfect Semi-

permeable Interface" by Dale W. Zeh and William N. Gill [Vol. 13, No. 5, pp. 1014-1016 (1967)], Equation (5) should read

$$\begin{aligned} -v_w &= \frac{A}{1-w_{sp}} \left[\Delta P - \pi_o \frac{(w_{sw} - w_{sp})}{w_{se}} \right] \\ &= \frac{A\Delta P}{1-w_{sp}} \left[1 - B \frac{(w_{sw} - w_{se})}{w_{se}} \right] \end{aligned} \quad (5)$$

and Equation (20) should read

$$\begin{aligned} -v_w &= \sqrt{\frac{U_e v}{x}} \\ F(0) &= \frac{A\pi_o}{1-w_{sp}} \left[\frac{1}{B} - \frac{R}{\phi_e} \right] \end{aligned} \quad (20)$$

Also, Figure 1 should indicate that the positive direction for the normal velocity v is outward from the plate rather than toward the plate.