field intensity, defined directly from Coulomb's law, converges only conditionally at points of the dipole distribution; he thus implies that some formulas express theorems when in fact they express arbitrary conventions. He follows tradition by localizing the energy; the method leads to no wrong results, but it encourages wrong interpretations of the results. Confusion about these things has loaded the literature with futile controversy. These are regrettable defects in an otherwise masterly presentation, which shows much originality.

Durand uses Giorgi meter-kilogram-second units; he has even translated all his magnetization curves from the original electromagnetic.

There are few specific references; data and figures are often quoted with no, or only vague, mention of the sources But if the reader wishes to follow up particular topics, he can ultimately find what he needs by consulting the general references that are listed at the ends of the chapters.

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The Furans. A.C.S. Monograph Series. A. P. Dunlop and F. N. Peters. Reinhold, New York, 1953. xix + 867 pp. Illus. + plates. $18.

It may be said that furan chemistry has had its ups and downs. Older than benzenoid chemistry, the advancement of knowledge in furan chemistry declined gradually as coaltar chemistry gained importance; then it was revived about 1925 when the industrial production of furfural provided raw material and incentive for renewed investigation. The cycle of interest is understandable to furan chemists, some of whom say jocularly that "a 40-percent yield from furans is equivalent to 100 percent in benzene chemistry." Behind this platitude is the fact that the manipulative art is paramount in furan chemistry. In these circumstances a comprehensive monograph such as the one under review becomes a necessity. It is fitting that it should have been compiled by representatives of the company that pioneered in production of furfural.

In addition to a preface by the authors, in which they wisely exclude lactones and anhydrides comprising 5-membered oxygen heterocycles, there is a short foreword by Brownlee and Miner who early realized the value of a naturally-generated chemical raw material, furfural, and who pioneered in its production. There is also a general introduction by the editors of the A.C.S. monograph series in which the curious and somewhat questionable statement is made that, "most workers in the sciences were coming to see the artificiality of the separation (between so-called 'pure science' publications and technologic or applied science literature)." Fortunately, Dunlop and Peters have realized the distinction, and the monograph is divided into Part I (707 pages, The Chemistry of the Furans), and Part II (76 pages, Industrial Applications of Furfural and its Derivatives).

The first 14 chapters of Part I cover the functional group derivatives of furan. The last two chapters of this part involve the important reactions of furan ring cleavage and catalytic hydrogenation. These chapters are excellently written with complete literature reference, adequate graphic formulation, and convenient tabulation. I regret that a short chapter describing furan syntheses from noncyclic substances was not included. Undoubtedly such an effort would have included the important syntheses of Morel and Verkade [*Rec. trav. chim.* 67, 539 (1948)], as well as alkyl furans, which are not mentioned.

Part II includes three chapters describing furfural as a chemical intermediate, as a solvent and, together with furfuryl alcohol, as a resin component. Since the authors state in their preface that only well-recognized industrial processes are included, Part II must necessarily be incomplete. An appendix summarizes the furan resin patents.

The typography is good and free from errors. Unfortunately, there is no author index, and the classification in the subject index is not uniform; but these deficiencies are minor. The monograph is highly recommended.

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New Books

Proceedings of a Conference on the Utilization of Scientific and Professional Manpower. Held Oct. 7–11, 1953, Columbia University. National Manpower Council, Columbia Univ. Press, New York, 1954. xii + 197 pp. $3.50.

Elementary Fluid Mechanics. ed. 3. John K. Vennard. Wiley, New York; Chapman & Hall, London, 1954. xii + 401 pp. Illus. $5.50.

Living Crafts. G. Bernard Hughes. Philosophical Library, New York, 1954. 192 pp. Illus. + plates. $4.75.

Plant Breeding for Everyone. John Y. Beaty. Charles T. Branford, Boston, 1954. 102 pp. Illus. + plates. $2.75.

Problems of Consciousness. Trans. of the Fourth Conference, Mar. 29–31, 1953. Harold A. Abramson, Ed. Josiah Macy, Jr. Fdn., New York, 1954. 177 pp. Illus. $3.25.

Plague. R. Pollitzer. World Health Organization, Geneva, 1954. (U. S. distr.: Columbia Univ. Press, New York.) 698 pp. Illus. + plates. $10.

A Thousand Geese. Peter Scott and James Fisher. Houghton Mifflin, Boston, 1954. 240 pp. Illus. + plates. $4.

Matter Energy Mechanics. Jakob Mandelker. Philosophical Library, New York, 1954. ix + 73 pp. Illus. $3.75.

Applied Electronics. ed. 2. Truman S. Gray. Technology Press, Cambridge, Mass.; Wiley, New York; Chapman & Hall, London, 1954. xxviii + 881 pp. Illus. $9.

Polymer Degradation Mechanisms. Proc. of NBS symposium, Sept. 24–26, 1951. National Bureau of Standards, Washington, 1953. (Order from Supt. of Documents, GPO, Washington, D.C.) iv + 280 pp. Illus. $2.25.

Instrumental Analysis. John H. Harley and Stephen E. Wiberley. Wiley, New York; Chapman & Hall, London, 1954. vii + 440 pp. Illus. $6.50.

The Collected Papers of Peter J. W. Debye. Interscience, New York–London, 1954. xxi + 700 pp. Illus. $9.50.