

and interesting manner, should be useful in introducing students of medicine, dentistry, and allied professions to the current clinical use of drugs, and in summarizing for physicians many of the newer developments.

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Filter Design Data for Communications Engineers.

J. H. Mole. New York: Wiley, 1952. 252 pp. Illus. \$7.50.

In Dr. Mole's words, "Existing textbooks on filters concentrate on theoretical principles and give comparatively little attention to the needs of the practical designer; the present work is an attempt to supplement them by providing in a convenient form charts, tables and formulae which have been selected or constructed so as to lighten the labour of calculation as much as possible." In brief, this is a designer's handbook covering calculations of low-pass, high-pass, band-pass, and band-stop filters. The calculations are for the most part based on the approximations of Campbell and Zobel. An approximation based on the assumption that the frequency response follows "Techebycheff behavior," is also included. The following functions are tabulated: (1) reciprocals and squares of $\omega = 2\pi f$, (2) hyperbolic and exponential functions, (3) functions $\sqrt{1-x^2}$, $\frac{1}{x} - x$ and their reciprocals.

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Thermochemical Methods in Silicate Investigation.

Wilhelm Eitel. New Brunswick, N. J.: Rutgers Univ. Press, 1952. 132 pp. Illus. \$4.75.

In this book—small in the sense that there are few pages—the author has attempted to combine descriptions of the instruments used in this country and abroad, for calorimetric measurement of the heat effects accompanying transformations involving silicates and related materials, with a discussion of the use of the data obtained with these instruments for the calculation of useful thermodynamic functions.

After brief introductory statements, the first section deals in a clear, almost elementary way with the determination of heats of formation and reaction by the use of Kopp's law, with due emphasis on the caution with which such methods must be used.

Next is a section which describes a selection of the various calorimeters that have been used to determine heats of reaction. The descriptions are necessarily brief, but some important details of construction are given, as well as minimal discussion of the errors. There is also a brief treatment of some of the attempts by various authors to calculate heats of reaction from structural data and fundamental physical constants.

The remainder of the book is concerned, for the most part, with the problem of reaction affinities. The general principles which relate the driving forces that bring about silicate reactions to entropy and free energy are considered.

Calorimeters for the measurement of both low and high temperature heat capacities are described. The use of low temperature heat-capacity data and the third law to calculate numerical values for the entropy and free energy changes is described and illustrated in a clear and practical manner. Instances of the successful application of these methods to stability problems involving minerals are cited, and hope is expressed that they will prove to be of use in the study of problems related to rock formation and mineral paragenesis as the volume and quality of thermochemical data are increased.

Appendix I deals with practical evaluation of the results of calorimetric determination. Two examples with data and complete calculations, including temperature corrections, are given. Appendix II consists of tables of data from the literature.

There are a few errors not detected in the proof-reading, but these are minor.

The author has used the terms "crystalline solution" and "structure energy" throughout the book. Although no objection can be offered to these terms, it may be that most readers in this country feel more at home with "solid solution" and "lattice energy," and in consequence these will continue to be used by the majority of workers.

The international reputation of the author and his long and varied experience in silicate chemistry eminently fit him to write such a book. The German influence is apparent in the style of the presentation. Nevertheless, this is a clear and readable book which will be valuable to those interested in the practical problems of experimental work on the thermochemistry of silicate and allied materials.

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Scientific Book Register

Archeology of Eastern United States. James B. Griffin, Ed. Chicago: Univ. of Chicago Press; London: Cambridge Univ. Press, 1952. 392 pp. and plates. \$10.00.

Electromagnetics. John D. Kraus. New York-London: McGraw-Hill, 1953. 604 pp. Illus. \$9.00.

Two Roads to Truth: A Basis for Unity under the Great Tradition. Edmund W. Sinnott. New York: Viking Press, 1953. 241 pp. \$3.50.

Understanding the Weather. Revision of *Knowing the Weather*. T. Morris Longstreth. New York: Macmillan, 1953. 118 pp. and plates. \$2.50.

The Riddle of Cancer. Rev. ed. Charles Oberling; trans. by William H. Woglom. New Haven: Yale Univ. Press; London: Geoffrey Cumberlege, Oxford Univ. Press, 1952. 238 pp. \$5.00.

The Radiant Universe. George W. Hill. New York: Philosophical Library, 1952. 489 pp. Illus. \$4.75.