sources of $CO_2$ and $H_2O$ and the role of oxygen in respiratory reactions.

This particular model was constructed from a conic projection obtained from war surplus. Other cages could readily be constructed from the wire baskets obtainable at nurseries.

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[1] The author wishes to acknowledge the aid of John Kemp in the construction of the model.

## Sensitivity of Male dba Mice to the Toxicity of Chloroform as a Laboratory Hazard

FIFTY mice were sacrificed in this laboratory in a closed vessel containing some gauze soaked in chloroform. In the room in which the mice were killed 55 male dba mice were housed; within 6 days all but 5 of these mice were dead or dying. Autopsy disclosed large, pale, swollen kidneys, which were seen microscopically to have gross tubular necrosis. A considerable number of mice of strains A, C, C3H, and CAF1 hybrid, of both sexes, and 55 female dba mice remained quite healthy, although kept on the same rack and under the same conditions as the male dba mice.

The renal changes observed were similar to those reported by Eschenbrenner and Miller (*1*), who also noted that in strain A mice the males were more susceptible than the females to chloroform poisoning.

To confirm that the death of the male dba mice was indeed due to chloroform poisoning, 6 dba mice of each sex were placed near a beaker containing 5 ml of chloroform for 30 min. After 8 days 3 of 6 males were dead, and all had lesions resembling those seen in the original group. The female mice showed slight fatty degeneration of the liver but were otherwise well.

It would appear, therefore, that the male dba mouse is sensitive to the toxic effects of chloroform to such a degree as to constitute an unusual laboratory hazard.

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### Reference

1. ESCHENBRENNER, A. B., and MILLER, E. *Science*, **102**, 302 (1945).

# *Book Reviews*

***Pharmacology in Clinical Practice.*** Harry Beckman. Philadelphia–London: Saunders, 1952. 839 pp. Illus. $12.50.

This book supersedes the author's *Treatment in General Practice*—a text which has seen six editions over a period of 22 years, the last edition appearing in 1948. Like the older one, the new book is oriented not about various classifications of drugs, but about diseases and other clinical situations that call for the use of drugs, as encountered in internal medicine and in the other medical and surgical specialties, as well as in dentistry.

In many instances, the disease or clinical situation is introduced by a concise paragraph highlighting the clinical problem. The drugs employed in treatment are then recorded, and their administration, clinical effects, absorption, excretion, and toxicity are described. Emphasis is on the practical use of these agents, rather than on their chemical and physical properties, which have been relegated to a separate section that includes some representative commercially available preparations. To conserve space, consideration of the historical development of drugs and of the relationship between chemical structure and biologic activity has been omitted, and consideration of the mechanism of drug action has been abbreviated.

Many of the more recent developments in therapy are presented, including the use of synthetic curare substitutes, newer antibiotics, isonicotinic acid hydrazides, stilbamidine (for some mycotic diseases), autonomic blocking agents, ion exchange resins and N-allyl-normorphine. The author demonstrates a good sense of proportion in his consideration of new drugs, as well as in his evaluation of the usefulness of ACTH and cortisone, and of anticoagulants. Drugs which are unproved or subject to conflicting claims are so described. Where any one of several agents may be utilized, the author frequently indicates which, in his opinion, is superior.

Although these opinions are, in the main, reasoned and sound in the light of current practice, it is unfortunate that the author has not provided better documentation and more references than are listed in the "suggested excursions into the literature." This would put in proper perspective a few of the author's comments that are open to question—for example, that "coronary disease is not a contraindication to dihydroergocornine's use" (in hypertension), that "tolerance to hexamethonium has not been demonstrated," that "many experienced men strongly oppose intravenous administration of any fluid in cases of massive hemorrhage" (from peptic ulcer), and that "atropine should always be at hand . . . but should never be injected with the prostigmin" (in the diagnostic test for myasthenia gravis). Statements such as these are few, however. The great majority of recommendations concerning therapy are in accord with sound current practice, so that this book, which is written in a clear

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 "Tchebycheff 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 proofreading, 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.