

construction of apparatus for evaporating, condensing and cooling are intimately connected with the laws of transfer of heat. Although, generally speaking, these laws are known, *yet reliable knowledge of the practical coefficient applicable in each of the many different cases is often wanting.*" The italics are ours. A great truth is here expressed and many who have had to struggle with the familiar difficulties, will thoroughly appreciate it and will heartily welcome the assistance this book will certainly afford. It is fortunate that one who has the knowledge and experience has also had the time and the will to make such splendidly systematic record of it. Every point in the practice seems to have been covered, and equations and tables are generously provided to enable one to work out his needs in each particular case. We heartily commend the book to the favorable attention of all working chemists, as well as to engineers who may be called upon to treat the problems it covers.

WM. McMURTRIE.

**THERMODYNAMICS AND CHEMISTRY.** A non-mathematical treatise for chemists and students of chemistry. BY P. DUHEM. Translated from the French by G. K. BURGESS. New York: John Wiley & Sons. 1903. 8vo. 433 pp. Price, \$4.00.

Professor Duhem's works on thermodynamics and chemical dynamics easily place him at the head of the French school in these subjects, and it is fortunate that English readers now have access to one of the most useful works of this author. A characteristic of this volume is the high appreciation which the author expresses for the work of J. Willard Gibbs; in fact, he goes to the extent of saying that this book is largely an exposition of ideas coming originally from America.

The work is admirably translated, and beautifully printed, with plenty of light and shade in the type used, so as to set out the headings and important paragraphs. The linotype machine is probably responsible for the frequent dropping out altogether of a letter, a freak which occurs so often as to become annoying to the reader.

To the student of chemistry who wishes to learn thermodynamics in the easiest manner possible, this work is recommended as probably meeting the requirements better than any English book heretofore published.

J. W. RICHARDS.