

currents by Cornu, on the decimal division of the quadrant by Guyon, and on the Mont Blanc observatory by Janssen. The tables of electrochemical equivalents are well done, and there are many tables on heat, sound, light, and electricity, which might be occasionally referred to, and which are in the main reliable. The first half of the book is devoted to the annual discussion of calendars and astronomical data. J. W. RICHARDS.

THE DYEING OF COTTON FABRICS. A Practical Handbook for the Dyer and Student. BY FRANKLIN BEECH. 44 illustrations. Price, \$3.00.

This is a practical handbook, very well adapted for the use of the dyer and the student. Two hundred and sixty-eight pages devoted to a description of this important industry cannot, of course, exhaust the subject, and Mr. Beech tells us in the preface that such was not his intention. Though brief, the book is sufficiently detailed for the so-called "practical man". The purely chemical side of the subject has received scant attention, as might be expected.

The processes described are modern but the addition of descriptions of some of the newer methods of bleaching is necessary in order to bring the subject down to date. In the chapters on the principles and the practices of dyeing, the author gives a large number of receipts for obtaining various shades. Probably many useful hints may be culled from these, though their value would have been considerably enhanced by the addition of information as to the makers of the various colors used. The chapters on dyeing, however, treat the subject very satisfactorily.

The book is lucidly written, well printed, well illustrated and well bound, and it has a good index. C. W. PARMELEE.

MODERN CHEMISTRY. PART FIRST, THEORETICAL CHEMISTRY. 126 pp. PART SECOND, SYSTEMATIC CHEMISTRY. 203 pp. BY WILLIAM RAMSAY, D.S.C. The Temple Cyclopaedic Primers. London: J. M. Dent & Co. 1900. Price, 1s each.

It is difficult to decide for what class of readers these books are intended. Persons unacquainted with chemistry would certainly have great difficulty in understanding them, while chemists would not naturally turn to a primer for information.

In these little volumes, an examination discloses, however, an adequate, though condensed, presentation of theoretical and systematic chemistry. Their size alone, justifies the use of the title

primer. While the compounds of carbon and the compounds of some of the less important elements receive but little attention, no theory, no formula, no fact has been omitted out of consideration for the youthful mind, that is supposed to be most in need of elementary instruction. The theory of ionization is freely used, adding to the freshness, which characterizes the systematic portion of the text. Descriptions of experiments, and illustrations, are seldom given, and are not needed by the class of readers to which these books are suited. Students who have already gained an acquaintance with the elements of chemistry, will find them helpful, but for beginners their fitness is questionable.

L. B. HALL.

INDUCTION COILS. BY H. S. NORRIE (Norman H. Schneider). Second edition. New York : Spon and Chamberlain. 1901. xvi+270 pp. 13×17 cm. Cloth. Price, \$1.00.

This book, which is a revised and enlarged edition, contains fairly detailed, practical directions for making and operating the various types of induction coils in common use. The important subject of contact breakers is treated in a special chapter. The volume contains additional chapters on spectrum analysis, currents *in vacuo*, batteries for running coils, Tesla and Hertz effects, Roentgen rays, and wireless telegraphy. The chapter on spectrum analysis is introduced into the book in a very artificial manner. It is very inadequate and not free from error. Thus on page 135 we read, for instance, "The spectrum of hydrogen gives two very bright lines of red and orange." The book gives evidence throughout, that it has been written for the amateur. Rules for doing certain things are laid down without indicating the underlying principles; and when a feeble attempt at scientific explanation is made, the author frequently clearly demonstrates that he does not himself possess a firm grasp of the principle involved. Thus, for example, on page 180 in explaining the polarization of a Leclanche cell is this statement, "a film of hydrogen, which is a poor conductor, forms over the negative plate, increasing the internal resistance of the cell and setting up local action." It is impossible to go into further details here; but it naturally follows, that because the author is not always clear in his own mind as to the underlying principles, his directions for doing things are not always the best.

The induction coil is an important piece of apparatus in the