

as pile fabrics; (c) fabrics constructed by cross-weaving, that is, when the warp threads pass wholly or partially round each other, and thereby causing distortion and, in most cases, producing textures that are of an open character. The first 120 pages give all the standard forms of interlacings that are used for weaving the common classes of fabrics. Designs and photographs well illustrate the characteristics of each texture. The chapters on fustian and terry fabrics are very good, and these are typical pile fabrics. Unfortunately, structures for the pile fabrics produced with the aid of wires are not included.

An excellent chapter of 100 pages explains the principles of cross-weaving. These gauze and leno fabrics are not made in large quantities for the home trade; the cellular shirting is a simple type of this kind of cloth. The following chapters deal with specialised structures; for example, tissue, lappet and swivel, single and extra warp and weft figured brocades, damasks single and compound. Very good explanations are given in other chapters of the principal types of quilting fabrics, piqués, and matelasses, and the loom equipment required.

In another chapter descriptions are given of the tapestry styles; some of these structures are complicated, but they are developments of the simpler types. The last part of the book deals with the decorative value of artificial silk, and its reactions with dyes, and also comparisons with real silk. Practically every kind of structure is explained in this book, and it can be recommended to all those who desire to obtain a thorough understanding of fabric construction. J. M. E.

*Defects in Glass.* By Dr. C. J. Peddle. Pp. x + 205 + xiv + 17. (London: Glass Publications, Ltd., 1927). 8s. 6d.

In the old days the manufacturers of glass ranked among the most secretive in the whole range of industry. Recipes and processes were jealously guarded, and there was no attempt at interchange of views with regard to the common difficulties experienced more or less by all in the course of the manufacture. The exigencies of the War period brought about a salutary change in the outlook. The value of scientific investigation found recognition, and the inception of the Department of Glass Technology at the University of Sheffield resulted in the establishment of a permanent centre for research work on glass, whilst the formation of the Society of Glass Technology provided for the publication of valuable reports on original work.

The author of this book on defects in glass took a prominent part in glass research, both in the laboratory and in the factory, and his wide experience gives him exceptional qualifications for preparing such a work. The various defects are discussed in detail—more especially devitrification, but also bubbles, seeds, stones, etc.—and not only are the causes clearly explained, and suitable remedies suggested, but how to avoid the troubles is also pointed out.

The glass industry is fortunate in having at its disposal such reliable practical information supplied

by an acknowledged authority. All connected with the manufacture of glass should find something of value and interest in the volume, and even users of glass would learn from it many important facts.

*Cotton Spinning.* By Thomas Thornley. (Intermediate or Grade II.) Fourth edition, revised and very greatly enlarged. Pp. ix + 502. (London: Ernest Benn, Ltd., 1926.) 25s. net.

THE publication of this, the fourth edition of a work which has for twenty-five years received recognition as a standard treatise on cotton spinning, reveals a further revision and enlargement; the subject matter having been brought up-to-date in conformity with "Cotton Spinning: Elementary" and advanced "Cotton Spinning," which form parts of the same series.

The preparation of this treatise has been effected with the view of assisting all persons who, actively or otherwise, are engaged in the many branches of the spinning industry, and in this object the author must derive no small measure of success. The twelve chapters comprising the book contain some very interesting and practical information on all spinning processes, although a more definite sequence and manner of presentation in dealing with any one particular stage of treatment could be adopted with benefit to the general reader and student. Some of the subject matter, especially in Chapters ii., xi., and xii., could advantageously be omitted in favour of a more extensive treatment of other sections, notably those embodied in Chapters iii. and iv. The illustration of the text is well effected, whilst the miscellaneous calculations and data must prove of guidance to the student. In its present form, the volume is an excellent source of information in the field of cotton spinning, and should be found of valuable assistance. H. S.

*Ceramic Tests and Calculations.* By Prof. A. I. Andrews. Pp. viii + 172. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1928.)

THIS book contains carefully drawn up instructions for preparing test pieces, and for making the various tests, besides showing clearly how to proceed with the necessary calculations. Tests are given for raw materials, fired ceramic products, glazes, frits, enamels, and glasses. Apart from a very few rather loose statements—fortunately of minor importance—the explanations are clear, though generally brief; and the diligent student who makes good use of the examples given for exercise should find himself adequately equipped for dealing readily with most ceramic industrial problems involving calculations.

An appendix, comprising a number of useful tables to facilitate calculations, is followed by a good index. The book is well got up, and misprints are few and of little importance. American standards and tests are used exclusively. Some of these differ from those in general use in England, but anyone who understands either should find no difficulty in applying the other.