

as a guide to the selection of those which are suitable." If students of art and painters are here meant, we fear that a large part of the information offered for their instruction will be thrown away, for none of them are likely to learn much from such statements as this (p. 258): "The basic colour auramine is imido-tetramethyl-diparadiamido-diphenylmethane." Perhaps, however, Messrs. Parry and Coste intended to address themselves to those who are to "examine pigments" rather than to those using them. If so, the work before us certainly presents, with the limitations of omission and inclusion previously indicated, a convenient compendium of figures and facts. A reasonable critic is averse to making much ado about misprints and mistakes that are akin to misprints, for he knows how provokingly these blots on his work elude the notice even of the really instructed author. But the pages before us seem to be in unusual need of correction. Take these examples: Fraunhofer (pp. 3 and 8) should not have an "e" before the "n," while the "o" ought to be without *umlaut*. It is surely a mistake to attribute to linseed oil a tendency to crack (p. 64). Viridian is the proper form, not vividian and veridian (p. 114). Hydrolysed (p. 115) is incorrect. For arsenate (p. 157, line 31) read arsenite. The formula for gambogic acid,  $C_{30}H_{35}O_6$  (p. 271), and that for euxanthic acid,  $C_{19}H_{18}OH$  (p. 273), are alike impossible. The table of analyses of Indian yellow (p. 274) is incorrectly reproduced from Thorpe's Dictionary. On p. 231 globorus occurs as a specific name.

Quotations from Church's "Chemistry of Paints and Painting" are numerous, but are handsomely acknowledged.

#### OUR BOOK SHELF.

*Handbook of Sanitation.* By George M. Price, M.D. Pp. xi + 317. New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1901. Price 6s. 6d. net.

THE circle of those whose duties compel them to make a special study of sanitary questions is a rapidly widening one in the United States of America, as indeed it is in this country; and one gathers from the author's preface that in spite of the growing number of sanitary inspectors, the still greater number of candidates for inspectorships and the general interest in sanitary questions, there are in America no text-books in which the necessary knowledge is set forth in a concise and suitable form. Of course the sanitary laws and sanitary practice are different in the United States of America, or otherwise we could supply the deficiency from the somewhat extensive literature which exists upon the subject in this country. The general principles of sanitation apply to all countries, but the extent and nature of their application are often determined by legislation of varying character and scope. It is for that reason that many of the English text-books on sanitation are of limited use in America, and that the present volume will only appeal to a few English students.

In part i. of the work a *résumé* is given of sanitary science. The matter is often far too condensed; the important subject of water and water supply is, for instance, dismissed in about seven pages, and in this part, and this part only, there are one or two matters to which exception may be taken:—"Cretinism, as well as goitre, has been traced directly to a certain chemical composition of the soil" (p. 7); and the contents of sewers

are the breeding-places for various virulent bacteria . . . and constitute a favourable culture-medium for all other disease-causing organisms"; and in Fig. 22 a "washdown" W.C. is described as a "washout" form.

It is curious for us in this country, where iron house-drains are so rare, to read that the house-drain "should be hung on the cellar-wall or ceiling, unless this is impracticable, as when fixtures in the cellar discharge into it."

Part ii. is on sanitary practice. In this part are given the methods of application of sanitary science in various municipal departments, with extracts from the law, rules and regulations of New York and other municipalities. This constitutes the best part of the book, although here again certain matters (food, disinfection, &c.) are far too sketchily dealt with.

Part iii. of the book relates to the inspector, his duties and qualifications; and part iv. contains, besides useful chapters on sanitary law and sanitary organisation in the United States, extracts from model laws on various branches of sanitation.

*Advanced Exercises in Practical Physics.* By Prof. Arthur Schuster and Dr. C. H. Lees. Pp. x + 368. (Cambridge: University Press, 1901.) Price 8s.

In this book the authors describe some seventy exercises in practical physics suitable for students preparing for a B.Sc. degree. The exercises, therefore, deal with elementary subjects, which are described at considerable length; for the authors attach "greater importance to neat and accurate work, properly recorded, than to the number of experiments which a student performs." The title "Advanced" is here used to mean that the work is to be done in a manner befitting an advanced student rather than that the subjects are illustrative of the higher parts of physics.

The contents of the work are divided into six books. The first book contains preliminary matters, amongst which appears the calibration of the spirit-level, which is generally omitted from text-books, although the instrument is one of frequent use. The second book is devoted to mechanics and general physics, and here we are glad to see twenty-four pages on the balance, for the experience of teachers is that students know, as a rule, very little about this important instrument. In the third book heat is the subject, and special stress is put on the proper study of the cooling corrections in calorimetric experiments. If the methods indicated here are carefully carried out, the student should obtain very satisfactory results in his heat measurements. The fourth book contains sound, and the fifth light. In the latter we have a very full discussion of the spectrometer. Polarisation is introduced in two exercises. The sixth book deals with magnetism and electricity.

It is refreshing to read this text-book, for it is not a mere compilation from others, and the teachers and students who use it will feel that they have a guide written by authors who have thoroughly and exhaustively considered the principles and methods of the experiments they are describing. One of the aims of a text-book must be to add to the convenience of the teacher and student in getting at the groundwork of a subject, and this is eminently done in the one before us. The clearness and logical order of the descriptions will greatly facilitate the student's work, and by its use, supplemented with experimental lectures, we think a wide knowledge of physics from the point of view of the facts will be obtained. The diagrams and illustrations are new and exceptionally well done, and the type and get-up of the book are excellent.

The work can be strongly recommended to teachers in schools as a reference book on practical physics, and to university students for general use in the laboratory.

S. S.