OUR BOOK SHELF.

Pharmacopedia, a Commentary on the British Pharmacopoeia, 1898. By Edmund White, B.Sc. (London), F.I.C., Pharmaceutist to St. Thomas's Hospital, London, and John Humphrey. Pp. xv+696; 46 plates. (London: Henry Kimpton, 1901.)

THE subject of materia medica is already somewhat unnecessarily complicated in its terminology; the student has to learn the meaning of a formidable array of words before he can even define the subject-matter of his studies. *Inter alia* we may mention pharmacology, pharmacognosy, pharmaco-dynamics, pharmacy, pharmaceutical chemistry, &c. Into this sea of shibboleths the authors of this work have flung yet another which doubtless they hope will float, viz. Pharmacopedia; this in its turn will probably produce Pharmacopedies; by it the authors understand "information about drugs." We venture to think that one of the few mistakes of the book is its title.

The book consists of a full description, either botanical or chemical or both, of all the officinal drugs in the pharmacopœia of 1898, and their preparations. The drugs are treated in alphabetical order, and in this order also the different kinds of preparations are considered generically. The authors have rightly devoted space liberally to the chemical problems involved in the preparation of medicines. They have also discussed at length most of what is known concerning the chemistry of the alkaloids, enlarging this in many cases to a detailed account of the organic chemistry, not only of the substances immediately under consideration, but also those through which their molecular constitution has been ascertained. We may, however, remark parenthetically that we think coniine and digitalis have been treated in this respect a little scantily.

The new synthetic remedies, *e.g.* antipyrin, phenacetine, saccharine, are, so far as their chemistry is concerned, treated very fully, and this will add very greatly to the value of the book. The general remarks upon the oils, methods of standardisation, &c., are also very good and will prove useful to the student.

The book concludes with notes on the Indian and Colonial addendum of 1900 and with numerous well-executed plates of medicinal plants.

The book is well got up, and, as a book of reference like this ought to be, is actually bound, not, as is so often the case, merely enclosed in cloth covers. The authors are distinctly to be congratulated upon the result of their labours and may certainly consider that they have produced the most complete commentary upon the pharmacopœia, from the point of view of the student of pharmaceutical chemistry, in the language. The reviewer would suggest to them that in the next edition they should include once under each drug a brief account of its action and uses, and also its dose. This could be done without appreciably increasing the bulk of the volume and would add immensely to its practical value. F. W. T.

Practical Exercises on Sound, Light and Heat. By J. S. Dexter, B.Sc. Pp. xv + 284. (Longmans, Green and Co., 1901.) Price 2*s.* 6*d.*

THIS book contains elementary exercises, and is of a standard suitable for the work of science and continuation schools and for junior university students. It contains 218 sections dealing with the three subjects, so that the field is covered very completely.

The experiments on heat commence with some to illustrate the sensation of touch used as a thermoscope, and an account, which the student is recommended to take as a guide, is given of the observations. The account begins: "From this lesson I learn that my sensation of touch must not be relied upon to tell me the true heat state of the body I am examining. The thermometer given me to use made no indications of change when placed on different articles, such as wood, iron, or duster, and yet I have different sensations on touching them. . . ." The present writer feels that it would be better for the students, however young, to learn at once the normal English method of recording results and conclusions. He would put the observations first and the conclusion afterwards and avoid the personal pronoun, so that the example for the student would read thus: "A thermometer made no indication of change when placed on the following articles wood, iron or duster, but the sensation to touch was different in each case. . . . From these observations it appears that the sensation of touch cannot be trusted to indicate the heat state of a body."

The methods described by the author for many of the experiments are very simple and satisfactory. We may mention the method of measuring the coefficient of expansion of a rod, and the numerical results show that a good degree of accuracy can be attained. We should, however, have liked to have seen a chapter on the discussion of the value of the errors in the methods. It is not well that students should learn to measure one quantity to five significant figures, another to three and to multiply the two, obtaining a result with eight as we see on p. 47. S. S.

Die heterogenen Gleichgewichte vom Standpunkt der Phasenlehre. Von H. W. Bakhuis Roozeboom. Erstes Heft: Die Phasenlehre—Systeme aus einer Komponente. Pp. xiii + 221. (Braunschweig: Vieweg und Sohn, 1901.)

THIS book will receive a warm welcome from all interested in the phase-rule. Prof. Bakhuis Roozeboom has made the experimental portion of the subject peculiarly his own, and now lays chemists under an obligation of gratitude for a clear and systematic account of Gibbs's rule and its applications. The work is divided into sections according to the number of components in the systems considered, and then further subdivided according to the number of phases in the systems. This method of classification is very advantageous for detailed treatment, especially when many illustrative instances are given, as is here the case. The present section of the book, after a brief general sketch of the nature of the phase-rule, deals with systems containing only one component, the remarkable amount of interesting material collected and classified under this heading showing very strikingly the value of the rule for systematic purposes. Amongst the subjects treated we find the ordinary equilibria of solids, liquids and gases, isomerism, rate of crystallisation, critical points, triple points, transformation points and curves, liquid crystals, enantiotropy—all fully illustrated by examples and with indications of the experimental methods employed. Graphic methods are freely used in the exposition, and only the most elementary acquaintance with mathematics is required for the perusal of the systematic portion of the work. Two other sections are promised, dealing with the equilibrium of systems containing respectively two and three components. J. W.

Knowledge Diary and Scientific Handbook for 1902. Pp. 112+408. (London: *Knowledge* Office.) Price 3*s.* net.

AMATEUR astronomers and other observers of natural phenomena will find it a convenience to possess this diary and handbook. There are, in addition to the 408 blank pages of the diary, several descriptive articles on aspects of astronomy, botany, microscopy and meteorology; star maps; diagrams of paths of the chief planets in 1902; collections of tables of service to students of science; a monthly astronomical ephemeris; and other information of interest.