OUR BOOK SHELF.

Short Studies in Physical Science. By Vaughan Cornish, M.Sc. Pp. 230. (London: Sampson Low, Marston, and Co., Ltd., 1897.)

New Thoughts on Current Subjects. By the Rev. J. A. Dewe. Pp. 230. (London: Elliot Stock, 1897.)

IT may be doubted whether the republication, without additions, of articles and reviews contributed to ephemeral literature serves any useful purpose. Many, if not most, of the articles in Mr. Vaughan Cornish's book are reprints of contributions to *Knowledge* and *The Speaker*; but though they are good examples of what popular scientific articles should be, the fact that they deal to a large extent with current topics, necessarily from the point of view of information available at the time when they were written, and have not been brought up to date, makes their republication undesirable. An article on argon, for instance, written in February 1895 (February 1894, on p. 75, is evidently a misprint), does not contain a satisfactory account of argon as we now know it; and a similar objection may be raised to the articles on helium (written June 1895), on the Röntgen rays (written March 1896), and on Moissan's synthesis of diamonds (written in March 1894). The reprinting of a popular review of a popular book on astronomy is still more open to objection.

The papers included in Mr. Cornish's book deal with subjects in the fields of mineralogy, chemistry and physics. They contain a certain amount of interesting information, and possess the merit of accuracy; so that they may be read with pleasure and profit by the general reader who does not mind being a little behind the scientific times.

The Rev. J. A. Dewe's volume is wider in scope than that of Mr. Cornish; its subjects are social and philosophical as well as scientific. The five essays in the scientific section deal with sea salts and carbonates, the nature of heat, the nature of electricity, stellar and absolute space, and the science and harmony of smell; while among the subjects of the philosophical chapters are free will *versus* heredity and environment, and the dogmatic and scientific accounts of the creation of man. The book has a leaning to metaphysics, but many common experiments are clearly described, and sound conclusions are arrived at from simple arguments. We commend the book especially to men of the author's profession, believing that many of them would acquire breadth of thought by the perusal of it. For ourselves, we are glad to live in the days when a clergyman can calmly discuss facts as to similarity that exist between the physical structure of the human body and that of the monkey, and can say "they lead irresistibly to the conclusion that, as far as the physical part of man is concerned, no exception was made in the laws of the material universe, but that the body of the one slowly developed into the body of the other."

Vorlesungen über Bildung und Spaltung von Doppelsalzen. By Prof. J. H. van 't Hoff. German, by Dr. Theodor Paul. Pp. iv + 95. (Leipzig: Wilhelm Engelmann, 1897.)

THE present work is a reproduction of the substance of courses of lectures delivered in Amsterdam and Berlin in the years 1894 to 1896. It will be very welcome to the larger public to which these lectures are thus made accessible. They deal almost exclusively with the researches of the author and his pupils on the formation and decomposition of double salts. The original form of the lectures has not been retained, the subject-matter being treated under three heads. Under the first, the behaviour of a sparingly soluble double salt formed by the union of two binary salts, with or without water of crystallisation, is investigated from the standpoint of the author's theory of dilute solutions and the theory o electrolytic dissociation. The temperatures and pressures at which a double salt can exist, its decomposition by a solvent, and the influence of the presence of one or other of its components on its stability are theoretically investigated.

The second part contains a description of the experimental methods used in the study of the decomposition of double salts, in determining transition temperatures, vapour pressures of the salts and their solutions, solubilities, and other quantities of importance in investigations of this kind. The methods are all original, and this section should be of great service to workers in this field of research. In the third part, the behaviour of bipotassium copper chloride, hexahydrated magnesium potassium sulphate, sodium ammonium and sodium potassium racemates, and the right and left-handed Rochelle salts are minutely described, and shown to be entirely concordant with that theoretically predicted.

These lectures, thus, carry the investigation of the double salts, described in the "Studies in Chemical Dynamics," a step further. In the latter book the temperature at which the complete change of a double salt into its components occurs was fully studied; here the other conditions which affect the existence of double salts are taken into account, and the whole of the region in which such a salt is capable of existence investigated. The book is one with which all who are interested in inorganic and physical chemistry should be acquainted.

Practical Electrical Measurements. By Ellis H. Crapper, A.I.E.E. Pp. xii + 125. (London: Whittaker and Co., 1897.)

THE experiments described in this book should be very serviceable in imparting a real knowledge of the fundamental principles of magnetism and electricity. Only by numerous measurements can a student obtain familiarity with measuring instruments and the principles underlying their construction and use. Such work recorded in a systematic and intelligent manner is the best training a student can have to qualify him for the testing-room of electric light and cable stations. The experiments described are almost entirely quantitative, and they include all the usual magnetic and electrical measurements made in physical laboratories. The book thus not only furnishes a course in electrical testing, but may also be profitably used by advanced students in Organised Science Schools and Technical Schools.

Notes of Lessons on Elementary Botany. Prepared to meet the requirements of the Code of the Committee of Council on Education; together with an Appendix, intended as an introduction to a British Flora. By W. Bland. (London and Derby: Bemrose and Sons, Ltd., 1897.)

THIS little book is not altogether devoid of use; but the author has often sacrificed clearness at the shrine of ambition, in endeavouring to compress about three times too much matter into his pages. As it stands at present, it is fitted to take a place amongst the cram-books, and, like them, is often obscure, or even worse, from the point of view of accuracy. We should pity the child who endeavoured to get on without a large addition of oral help. Many of the figures might well be improved.

Dr. Nansen: the Man and his Work. By Frederick Dolman. Pp. 108. (London: Society for Promoting Christian Knowledge, 1897.)

THIS is a very simple story of some of Dr. Nansen's characteristics, schemes, and successes. It contains little, if any, new information.