

thing at school. Most of the work in the courses for students in their first year, and some of that in the second, in all the engineering schools with which I am acquainted, is of a kind that a boy might well be expected to do at school. There is no reason why a boy of eighteen, of the mental calibre which would justify his becoming an engineer, should not have a good working knowledge of the calculus and the elementary parts of differential equations, and have read a considerable portion of dynamics. This could, I am convinced, be done without undue specialisation, and without depriving the boy of the literary training which is essential, if he is to keep his sympathies wide and his mind receptive."

W. C. U.

Health and the Teacher.

A Text-book of Hygiene for Training Colleges.
By Margaret Avery. Pp. xv+324. (London: Methuen and Co., Ltd., 1919.) Price 7s. 6d. net.

THIS book is intended to cover the subject-matter of the Board of Education Certificate Examination for Training Colleges in England. It includes the usual anatomico-physiological "properties" long familiar in books of this order since the days of Huxley's "Physiology": elementary ideas about structure of tissues, the skeleton, the muscular system, the circulatory system, the digestive system, etc. But the exposition is kept well within the technicalities suited to the students concerned. There are chapters on food, clothing, cleanliness, mental dullness and deficiency, fatigue, infectious diseases, temperance, school building, medical inspection and treatment, special schools, welfare of infants and young children, legislation affecting school children, and eugenics.

This is a very large programme for so small a book, but the expositions, which, incidentally, retain a good deal of the somewhat loose notes-for-lecture style, are, on the whole, relevant and practical. The author has kept close touch with official memoranda, reports, and standard books. The result is that the volume, all through, contains good informational material which has obviously stood the test of experience in the classroom.

It is difficult to say how much medical information proper should be included in a book like this, but to untrained lay persons it is of no value to state that, in anæmia, "a little iron often has excellent results" (p. 42). Again, as to the cause of rickets, something more is wanted than that "the cause is wrong food, chiefly lack of fat, a lack existing in all patent foods" (p. 88). This kind of information may fulfil the terms of a

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syllabus, but it is of no value whatever to the student, though, usually, in a practical curriculum, there are many opportunities of supplementing these generalities by demonstrations of cases.

The chapter on "First Aid" relies on accepted instructions, but Schäfer's method for recovery from drowning should have a place. The chapters on legislation affecting children and on eugenics are judiciously proportioned, but the remarks on the causes of pauperism as implying "a want of grit and independence" (p. 305), and on feeble-mindedness and heredity, show that the author has accepted somewhat too uncritically the theoretical deductions of "experts." The book will, however, serve as a good text-book for the practical teacher.

Our Bookshelf.

The Mineralogy of the Rarer Metals: A Handbook for Prospectors. By Edward Cahen and William Ord Wootton. With a foreword by F. W. Harbord. Second edition, revised by Edward Cahen. Pp. xxxii+246. (London: Charles Griffin and Co., Ltd., 1920.) Price 10s. 6d.

THIS book is neatly bound, and is of handy size for the pocket. The mineral descriptions are conveniently treated in a general way in the alphabetical order of the metals. The alkali metals come first; then follow beryllium, cerium, and so on to zirconium. Under each metal the properties, preparation, industrial application, and ores are first considered; following this an account of the chemical methods for its detection, and a list of the minerals containing the metal, are given. Much care appears to have been taken in describing the chemical and physical character of the minerals and the tests available for purposes of identification. Separate sections at the end of the book deal with the geographical distribution of rare metals and methods of analysis.

To the critical reader of the book many of its features suggest questions and scope for improvement. Is it permissible to regard titanium as a rare metal? Ilmenite is certainly not a rare mineral, and it is incorrect to refer to this mineral as "a chief constituent of monazite from Travancore and Ceylon" (p. 130). It would be more correct to say that the chief producer of rutile is Virginia, U.S.A., than to imply, as the author does, that the chief producer is Norway (p. 131). Under tungsten no mention is made of the wolframite deposits in China, which has recently been the leading producer (p. 141). Zircon is mentioned as occurring in "Scotland and Ireland," but no mention is made of its universal distribution in sands and gravels such as those of Hampstead Heath (pp. 182, 189).

The section dealing with geographical distribution has been revised, but it might with advantage be amplified to include such countries as Spain,