Our Bookshelf.

The Engines of the Human Body: Being the Substance of Christmas Lectures Given at the Royal Institution of Great Britain, Christmas, 1916–1917. By Prof. Arthur Keith. Pp. xii+284+ii plates. (London: Williams and Norgate, 1919.) Price 12*s.* 6*d.* net.

WORKS on physiology commonly appeal either to the usual types of student, or else to those engaged in teaching or research work. The work before us claims to appeal in the first place to the general reader "who desires to know what modern medical teachers think of the marvellous contrivances of the human machine." The title of the book, with the foregoing quotation, indicates the spirit in which the author has approached the subject. Prof. Keith's fertile imagination has sought analogies between the various functions of the organs on one hand, and divers mechanisms of human design on the other, and he certainly never seems at a loss for them. In so far as the general reader has no previous knowledge of the subject, the method of treatment by analogy alone seems calculated to give rise to an abundant harvest of grotesque misconceptions, as all those who have taught elementary physiology are well aware; but the book should be truly welcome to a teacher who, while having some acquaintance with the subject, is yet lacking in the knowledge or imagination necessary to evolve instructive analogies to help to fasten in the pupil's mind what he wishes to impart.

Many of the mechanical analogies are quite new and should be worth adopting, but others seem superfluous or misleading; for example, the comparison of muscular tissue with an internal-combustion engine is a sound and generally recognised conception, up to a certain point; but to refer to tendons as "piston cords," or to arteries and veins as supply and exhaust pipes, is pushing a good analogy to the point of whimsicality. For the first thirteen chapters, however, in spite of this, the reader should go along smoothly enough, but after this point, when analogies fall thick as autumn leaves, the general reader is likely to lose sight of the track. There are some inexactitudes in the book which do not fall in the category of bad analogies; for example, the statement that the velocity of the nerve impulse is four miles a second, that nerves are "living and pulsating," and that nerves are subject to fatigue (p. 263). The historical fragments which are frequently introduced are of considerable merit, partly on account of the relief experienced by the reader in meeting plain, unveiled fact, but chiefly because they are exceedingly well chosen.

C. L. E.

A Class-book of Organic Chemistry. By Prof. J. B. Cohen. Vol. ii.: For Second-Year Medical Students and Others. Pp. vii+156. (London: Macmillan and Co., Ltd., 1919.) Price 4*s.* 6*d.*

THE average medical student is inclined to regard chemistry as a subject which has to be studied in order to pass certain examinations, and having passed these, he dismisses the subject from his mind. This is in large measure due to the fact that the text-book he has come across has failed to stimulate his interest, and the probability is that he will get rid of the book at the earliest opportunity.

The little volume under review, however, is one that we venture to think the student will not be likely to part with, as it gives a very clear, concise, and readable account of the subject, which may stand him in good stead in his future studies; it is divided into ten chapters, as follows: Synthesis, The Oils and Fats, The Carbohydrates, Some Natural Organic Bases, The Pyrimidine and Purine Groups, The Proteins, Fermentation and Enzyme Action, The Essential Oils, The Alkaloids, and Synthetic Drugs. Each of the sections is thoroughly up-to-date, and we know of no book which, within so small a compass, deals with such varied subjects as, for example, the Grignard reaction, the synthesis of disaccharides, the origin of uric acid in the animal organism, and the theory of alcoholic fermentation, besides giving the constitutional formulæ, so far as they are known, of yeast-nucleic acid, hæmin, ætiophyllin, and the more important alkaloids, such as strychnine and morphine. The last chapter, in addition to giving the constitution of many of the better-known synthetic drugs, contains a short account of the more recent antiseptics, such as chloramine-T, and the dyestuffs malachite green, acriflavine, etc., as well as a brief sketch of the trypanocidal action of the organic arsenic compounds.

The first volume, published in 1917, was meant to serve as an introduction to organic chemistry, and the two volumes together can be thoroughly recommended as a most excellent and handy little compendium, which should find great favour among students and teachers alike.

Examples in Electrical Engineering. By J. F. Gill and F. J. Teago. Pp. 173. (London: Edward Arnold, 1920.) Price 7*s.* 6*d.* net.

A BOOK of this kind, which consists of a collection of model examination papers, followed by model replies, should be not without its uses to those who are obliged to study the art of passing examinations, as well as the principles of electrical engineering, as a careful perusal of its contents will enable the student not only to practise his knowledge of the various parts of the subject, but also to form good habits in the way of presentation of the solution of the problems in a clean form and logical sequence. The drawing of good diagrams and the frequent use of graphical methods are very rightly insisted on, and admirable conciseness is observed. The papers cover both "intermediate" and "advanced" standards, and relate on the whole to practical applications rather than to theory.