Our Bookshelf.

Analytical Chemistry. Based on the Text of Prof. F. P. Treadwell. Translated, enlarged and revised by Prof. William T. Hall. Vol. 2: *Quantitative Analysis.* Seventh edition. Pp. xiii + 848. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1928.) 30*s.* net.

THE seventh edition of this work embodies quite a number of alterations and extensions of the methods in the earlier editions, as, for example, the determination of titanium in steel and in ferro titanium, Moser and Niessner's separation of beryllium from aluminium, the determination of vanadium, the use of potassium phthalate in standardisation. It would have been useful to have an account in this work of some of the more recent methods of determination of metals by means of pyridine-thiocyanate, or the useful pyridine method of separating iron from manganese, and the utilisation of thorium salts for determining fluorine.

The outline of the course of instruction beginning at p. 757 is intended primarily for students of the Massachusetts Institute of Technology, and as regards the problems given it has a wider utility; but much of the course is rather too parochial for general use. Many of the exercises set in this section, especially those dealing with potentiometric titrations, cannot be dealt with from the information supplied in the text, and require reference to other works. It is much to be desired that the use of the form of burette illustrated in Fig. 103 with the rubber tubing and bead should be discouraged as being obsolete and inaccurate.

There are few printing errors, but Problem 1 on p. 789 does not appear to have a meaning. On p. 753 the factor for titanium does not appear to be corrected for the revised atomic weight. British readers need to remember that the tables connecting specific gravity and weight per gallon refer to the U.S. gallon of 8·34 lb. Despite these minor criticisms, this work maintains its reputation as one of the most trustworthy text-books of quantitative analysis available to the chemist, and it is indispensable. J. J. F.

The Profession of Engineering: Essays. Edited by Dugald C. Jackson, jr., and Prof. W. Paul Jones. Pp. ix + 124. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1929.) 7*s.* 6*d.* net.

THE object of this book is to give a broad "and yet detailed conception of the profession of engineering". We are told in the preface that "It may be used as a text for freshman orientation". It contains nine short articles on engineering by very eminent Americans, including the President of the United States. But if it is intended to recruit the engineering profession by its means, we are afraid it will not be successful, at least in Great Britain. It lacks in many places the human touch required to rouse the enthusiasm of youthful students.

One of the best of the essays is by John Hays Hammond on "The Chemical Engineer". He points out that however wonderful a process found out in a laboratory may be, it can have little usefulness in industry until it is put into practice economically enough to make it worth while both to the buyer and the person who puts it on the market. It is the function of the chemical engineer to do this. The essay concludes as follows: "The chemical engineer stands to-day on the threshold of a vast virgin realm; in it lie the secrets of life and prosperity for mankind in the future of the world".

The final article on the engineer's contribution to modern life is an address given by Herbert Clark Hoover to the American Institute of Mining and Metallurgical Engineers. He tells of his first engineering job in South Africa: of how the hard-fisted mine managers refused the offers of the young graduates for posts as assistant managers. Ultimately, some of them, including Hoover, took the job of pushing a car and pounding a drill on the wettest level of the mine at a wage of two dollars a day. In after years Hoover was grateful for this apprenticeship. He concludes by saying that we have no right to think in terms of our own generation alone: "A greater America for our children will in large degree depend on the engineering profession".

Die Rohstoffe des Tierreichs. Herausgegeben von Ferdinand Pax und Walther Arndt. Lieferung 1. Pp. 160. (Berlin: Gebrüder Borntraeger, 1928.) 15 gold marks.

THE account of the raw materials of animal origin, of which this part is the first to be received, is to form two octavo volumes. About thirty contributors will deal with the following, among other subjects—fats and oils, wax, skins and pelts, feathers, the hard parts of vertebrates, calcareous material, excrement, sponges, ornamental material, substances used in polishing and grinding, insect galls, pigments, scents, substances used in medicine, poisons, food, and luxuries.

The present part forms the first chapter of the second volume, and gives details of the ornamental use of invertebrates or of parts thereof—the rope of spicules of the glass-rope sponge, the skeletons of Venus's flower-basket, the sertularians, Stylasteridæ, the precious coral, black coral and the stony corals, 'crabs' eyes' (gastroliths), mother-of-pearl and pearls. For most of the materials a brief definition is first given, the history of its use is outlined, the mode of origin of the material, the capture of the animal which formed it, and the preparation and further treatment of the product are described. Methods of testing the quality of the commercial article, and warning as to substitutes and imitations, are given, and finally reference is made to the commercial centres concerned in trading in the material in question; trade names and prices are stated and references to published memoirs are appended. Under 'pearls' is also given an account of the culture pearls of Mikimoto and the methods used for distinguishing these.

The work promises to be of considerable interest and use to naturalists and to business men.

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