

## OBITUARY.

## SIR ALEXANDER PEDLER.

BORN MAY 21, 1849.—DIED MAY 14, 1918.

It was with great regret that Sir Alexander Pedler's friends heard of his sudden death while sitting at a Committee meeting of the Ministry of Munitions. Although nearly 69 years of age, he was active and alert, and his sudden death was quite unexpected.

Sir Alex. Pedler was educated at the City of London School. In 1866, at the early age of 17, he won the Bell Scholarship of the Pharmaceutical Society, and at that time intended becoming a pharmaceutical chemist. He apparently, however, preferred the entirely chemical side and went to study at the Royal School of Mines, at that time in Jermyn Street. After this he went for a short period to the original aniline colour factory of Perkin and Sons at Greenford Green, where he was one of the chemists who helped my father in his work on the manufacture of alizarine. On leaving the works he returned to the Royal School of Mines, where he acted as lecture demonstrator to Sir Edward Frankland and carried out research work on gaseous spectra in conjunction with Sir Edward Frankland and Sir Norman Lockyer. This evidently influenced his train of thought, because in 1868 he took part in the Solar Eclipse Expedition, and again in 1875 and 1898.

In 1873 he was appointed Professor of Chemistry in the Presidency College at Calcutta, and later on became Director of Public Instruction for Bengal and Vice-Chancellor of the University of Calcutta, besides being additional Member of Legislative Council of the Governor-General of India. While in India his work was mainly administrative, but he found time to carry out some useful work on snake poison, and in 1878 contributed a paper to the Royal Society on the subject of cobra poisoning. This research must have required considerable courage and nerve, and I well remember, when a boy of about 11 or 12, listening entranced to Pedler, who was visiting my father, when on leave, explaining how they held the cobra and irritated it and then held a spoon in front of it over which a leaf was tied. The cobra in its rage bit into the spoon and a drop of the poison fell into the bowl through the pierced leaf.

Sir Alexander had a great dislike of having nothing to do. When he returned from India he said to me, "I hope I shall get something to do; I do not feel like being relegated to sitting in the Park and feeding sparrows." Well, he found plenty to do. The British Science Guild had recently been formed by Sir Norman Lockyer and the Hon. Secretaryship was vacant. Sir Norman asked Pedler to take the post and he accepted. The valuable work which the Guild has accomplished was largely due to Pedler's interest and painstaking labour. The Guild, however, was only one of Pedler's interests; he was director of several companies, and used to spend most of his mornings in the City, frequently devoting the rest of the day to committee meetings of scientific societies.

It was on the administrative side that Pedler excelled, and he was largely responsible for the great success of the Science Section at the Franco-British Exhibition.

He died in harness—a fitting end to an active career. Sir Alexander was married twice, but had no family.

F. MOLLWO PERKIN.

Prof. C. Blarer, professor of chemistry in the University of Bordeaux, died on March 3 last. He was the author of a large number of papers on pure and applied chemistry.

## REVIEWS.

TREATISE ON APPLIED ANALYTICAL CHEMISTRY. By PROFESSOR VITTORIA VILLAVECCHIA, Director of the Chemical Laboratories of the Italian Customs. Translated by T. H. Pope: First Edition. Pp. xvi + 475. (London: J. and A. Churchill, 1918.) Price 21s. net.

As the author states in the preface, the book is the first volume of a collection of methods and standards for industrial and commercial analyses, which have been either officially prescribed or repeatedly tested, and therefore may be confidently adopted. It deals with the analyses of potable waters, chemical products, fertilisers, cement materials, metals and alloys, fuels, tar and its derivatives, mineral oils and fatty substances and the industrial products derived therefrom, all of which have been separately dealt with by specialists.

A glance at the book shows at once that the object has been very creditably attained, and it is very doubtful if the information given could have been more concisely and yet so clearly made available.

The methods given under the different products are few and to the point, lists of alternatives being avoided so as to remove uncertainty in selecting and adopting them.

The chapter on the analysis of alloys occupies about one-third of the book, and, beginning with iron, goes through the analysis of the various forms of steels and ferro-metallic alloys. These are followed by the alloys of other materials which are treated under the metal which forms their main constituent.

The next important chapter of the book is that dealing with fatty substances, the authors of which have taken great trouble to collect all the usual chemical and physical constants together with such usually unknown constants as "Lactone" determination and "Inner" Iodine number. The special part of the chapter deals with vegetable oils, vegetable fats, animal fats, and, last of all, marine animal oils.

The last portion deals with the industrial products obtained from fatty substances—a branch of chemistry usually absent from the more ordinary books on applied chemical analysis. Some of the commoner tests, as the Bechli silver nitrate test for cottonseed oil, is given as Millau's reaction, although in England it is known under the Italian name.

Other chapters of the book, though giving the information usually sought for, are not so exhaustive.

The book itself is essentially a practical book for laboratory use, and as only selected methods are described, should be of service to chemists wishing to obtain a practical experience of commercial analysis.

The book gives fairly the limits of adulteration and impurities in ordinary chemical products, and the more reliable methods of estimating them.

S. RIDEAL.

A COURSE IN FOOD ANALYSIS. By ANDREW I. WINTON. Pp. ix + 252. (New York: John Wiley and Sons, Inc. London: Chapman and Hall, Ltd., 1917.) Price: \$1.50 net.

Educational works have but indirect interest in chemical industry to the extent that they assist in the training of technical chemists, and this book attempts to provide such training by the substitution of 40 periods of 4 hours each devoted to food analysis for a course of qualitative and quantitative analysis. It is claimed that food analysis methods, being varied, give versatility, and that after those selected have been thoroughly mastered

the analyst should be able to undertake at once the bulk of the work of most food laboratories.

A study of the book fails to substantiate these claims: the methods selected are empirical, the underlying principles are not explained, and the directions are often at fault—e.g. the Reichert-Meißel-Polensky method of determining fatty acids (pp. 157-159); in but one case (p. 206) is the student taught to make a second weighing after driving off moisture, &c., to ensure constancy; important details are omitted, e.g. the test for phosphates (p. 80) contains no indication of the necessity for adding excess of molybdate solution, and some of the short references, e.g. to the Roesse-Gottlieb method of determining fat in sweetened milk (p. 30), are positively misleading.

In the microscopical section the student is not taught to observe on such test objects as pleurosigma, nor to recognise and ignore air bubbles and dust particles out of focus; but is plunged in *medias res* with plates excellent in themselves but containing, as a guide, elaborate details that only the experienced microscopist can see. Many of the other illustrations are explanatory of apparatus, but the pictures of common laboratory apparatus such as pipettes, cork borers, flasks, desiccators, &c., seem rather unnecessary.

A redeeming feature of the book is the author's excellent, reasoned description of his method of the determination of water by drying in hydrogen, which might be more generally adopted.

H. DROOP RICHMOND.

**WHAT INDUSTRY OWES TO CHEMICAL SCIENCE.** By RICHARD B. PILCHER and FRANK BUTLER-JONES, with an Introduction by SIR GEORGE BEILBY. Pp. 150. (London: Constable and Co., Ltd.) Price 3s. net.

The scheme of this book is good and is indicated in the introduction by Sir George Beilby, who says rightly that there is no desire to present "a pleasing and literary work which would greatly stimulate the imagination of the reader, but to set forth in their bare simplicity the broad facts of achievement, leaving each case to make its own appeal."

This admirable aim has been thoroughly attained. The joint authors recognise it fully, and in their preface put forward the claim that the work may be of use to many classes of the educated public. It may be said that the claim is too modest. Every man claiming to be educated should understand the whole of this book, and if he does not then he may be dismissed as one uneducated and possibly too old to suffer that process.

To come to particulars. There is shown great industry in both collecting and collating all the essential facts of chemical industry. To take the first chapter: after a short but good description of the history and modern conditions of steelmaking, follows one on the most up-to-date modes of obtaining non-ferrous metals. The rarer metals are not neglected, and, as an instance of the care exercised, citation of the note on p. 21 may be made; this gives as simple and clear an explanation of the nature of an eutectic as could be wished.

Descriptions of the methods of manufacture of heavy chemicals follow, and are as interesting from the historical as from the technical point of view. There is here, as throughout the book, a large amount of historical matter which has caused the reviewer to search his memory and sometimes to be glad that such data are at his service. But when the next edition of this book appears—and that may be soon—he suggests a larger proportion of things in being to those of former days, naturally with an enlargement of the book, as the historical matter could not be spared. As an example, the chapter on rubber might well be much expanded, and the same applies to the two succeeding chapters on cement and on refractory materials. The chapters on

refractory materials, glass, enamels, pottery, and porcelain would be improved by the alteration of the ratio of historical to modern practice which has been suggested above.

The chapter on gases is one of the best. Here chemists and physicists meet on common ground, and, as the study of gases was the very beginning of chemico-physical science, a full and interesting historical account is entirely in place. It is accurately balanced by a description of modern developments in the preparation and utilisation of gases in industry.

The book is a good one and much wanted. It contains information accurate in itself and clearly stated. The authors are to be congratulated.

BERTRAM BLOUNT.

## PUBLICATIONS RECEIVED.

- THE ALKALI INDUSTRY. By J. R. PARTINGTON. Pp. 304, 63 illustrations. (London: Baillière, Tindall, and Cox.) Price 7s. 6d.
- PLANT PRODUCTS AND CHEMICAL FERTILISERS. By S. HOARE COLLINS. Pp. 236. (London: Baillière, Tindall, and Cox.) Price 7s. 6d.
- TEXTBOOK OF INORGANIC CHEMISTRY. By R. M. CAVEN. Pp. 468. (London: Charles Griffin and Co., Ltd.) Price 15s.
- BULLETIN OF THE IMPERIAL INSTITUTE. Edited by the Director and Prepared by the Scientific and Technical Staff of the Imperial Institute, and Others. Vol. xv. No. 4. Oct.-Dec. 1917. Pp. 620. (London: John Murray.) Price 2s. 6d.
- SIR WILLIAM RAMSAY. By SIR W. A. TILDEN, F.R.S. Pp. 311. (London: Macmillan and Co., Ltd.) Price 10s.
- DYEING AND CLEANING. By FRANK J. FARRELL, M.Sc. Pp. 253. (London: Charles Griffin and Co., Ltd.) Price 6s.
- RUBBER: ITS PRODUCTION, CHEMISTRY, AND SYNTHESIS. By A. DUBOSC and DR. A. LUTTINGER. Pp. 383. (London: Charles Griffin and Co., Ltd.) Price 21s.

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Publishers are kindly requested to address books, &c., intended for review, also catalogues and announcements of forthcoming publications, to the Review Editor.

The Editor would be pleased to consider original articles from Members of the Society and others, with a view to their insertion in the Review. They should be clearly written (preferably type-written) on one side of the paper only, and if a reply is wanted, a stamped and addressed envelope must be enclosed. The Editor would also be pleased to accept relevant news or notes, but the sources of information must always be stated. Contributions of either kind will be paid for, but in the event of duplication only the earliest received and published will be recognised.

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