

archæological notes. Miss E. A. Ormerod was the youngest of a family of ten children, and was born on May 11, 1828, and she died after a long illness on July 19, 1901, after a busy and useful life, as happy, we may well believe, as that of Miss North or Miss Cobbe.

Natural history runs in families, and besides the two sisters, Eleanor and Georgiana, one of the brothers, Dr. E. L. Ormerod, has also left a worthy entomological record behind him in his valuable work on "British Social Wasps."

Among Miss Ormerod's accomplishments was a knowledge of Russian. It would have been interesting if we had been told how she came to study a language still so little known in England.

Miss Ormerod does not appear to have specially interested herself in entomology until 1852, and it was not until 1877 that she commenced the great series of reports of observations on injurious insects, the twenty-fourth and last of which was only issued in 1900, the year before her death, so that she may be said to have died in harness, though towards the end she found herself compelled by failing health gradually to decrease her entomological activities in other directions also. The most pleasing portrait of her in the book (taken from the oil painting in the University Court Room, Edinburgh) represents her in her University costume as the first woman hon. graduate of the University of Edinburgh, an honour as much to the University as to herself, and more gratifying to her than any other acknowledgment of her entomological work could have been. The title was conferred upon her on April 14, 1900. Her sister Georgiana predeceased her in 1896.

At the time when Miss Ormerod commenced her work in agricultural entomology much had been done by Westwood and Curtis to pave the way; but the few books on the subject were either costly or little known, and no popular interest was felt in the matter.

Miss Ormerod, however, by her reports, books and lectures, revolutionised all this, and effected a work equivalent to that of Riley in America; and the importance of agricultural entomology is now universally recognised, from the Government to the School Board. She was also a good practical meteorologist, and a fellow of the Royal Meteorological Society.

But it is much to be regretted that Miss Ormerod did not live to complete her autobiography on her own lines, and we cannot congratulate the editor on the manner in which he has performed his task. As he states in the preface, "Had the book been produced on the original plan, it was proposed to name it, 'Recollections of Changing Times.' It would have dealt with a number of subjects of general interest, such as the history of the Post Office, early records of floods and earthquakes, as well as newspapers of early date. The introduction of Miss Ormerod's letters to a few of her leading correspondents was made necessary by the lack of other suitable material. The present volume is still mainly the product of Miss Ormerod's pen, but with few exceptions general subjects have been eliminated, and it forms much more a record of her works and ways than it would have done had she been spared to complete it."

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Surely at the present day specialism is so great, though so unavoidable, an evil, that the wilful elimination of everything but entomology from the chapters not actually written and edited by Miss Ormerod herself is equally unfair to herself and to her admirers. Had her correspondence been utilised with her reports to compile an abstract of entomological observations supplementary to those contained in her more permanent manuals the work might have been made a more worthy memorial of her; but instead of this two-thirds, at least, of the volume is composed of letters to various entomological correspondents without any sort of order or classification except by correspondents' names, and consists of disjointed observations on insects, and references to matters like the exchange of publications, of no real permanent interest or consequence, even to entomologists. Half-a-dozen letters selected to show Miss Ormerod's epistolary style would have been amply sufficient. The only interesting portions of this section of the work (except the few letters addressed, chiefly to the editor, on personal matters like the Edinburgh degree) are the numerous illustrations of insects reproduced from Miss Ormerod's reports, &c.

The early part of the work and the illustrations render the book useful and interesting; of the latter part we can only say that it is one of the most glaring instances we have ever seen (and we have seen sufficiently bad ones before) of how *not* to edit a biography.

SOCIAL CONDITION OF ANTHRACITE MINERS.

Anthracite Coal Communities. By Peter Roberts, Ph.D. Pp. xiii + 387. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1904.) Price 15s. net.

THE great strike of 1902, which cost 20,000,000*l.* and led to the intervention of the President of the United States, induced Dr. Roberts to make an exhaustive study of the 630,000 persons deriving subsistence from the production of the anthracite collieries of Pennsylvania, and his book should be studied by all interested in the evolution of industrial society. The coalfields are situated in the north-eastern portion of Pennsylvania, and consist of scattered deposits of anthracite covering an area of 480 square miles. The mining population represents some twenty-six different races, one-half being Slavs. Anthracite mining is about eighty years old.

In the first fifty years of the development of the industry the United Kingdom and Germany furnished the labour required. During the past twenty-five years the Slav nations have done so. Immigration into the coalfields has now virtually ceased. The present population is amply sufficient to furnish the necessary labour for the maximum tonnage that the collieries can produce. Conditions in the industry are not such as to attract labour of a high grade, and the high birth-rate of the Slav population will more than supply the labour needed in an industry that will necessarily soon be declining.

The characteristics of the Slav population are depicted by the author in lurid colours. The Slavs are, he asserts, clumsy, ignorant, drunken, superstitious, unclean and brutal. At the same time the Slav nature is good material to work upon. As the Slav comes in contact with Anglo-Saxons and learns their ways, his wants are increased and his tastes refined. The unsavoury details of squalor and vice among the Slav miners are certainly not understated by the author, who has naturally no sympathy with the ideas and aspirations of a people who, by adhering to their language and customs, remain unassimilated after years of residence in the United States. Similar statements are often made regarding the Slav immigrants in the coal-fields of Scotland and of Westphalia. Probably the Slav colliers of Pennsylvania are not more debased than the mining populations of many of the European coal-fields. If they are, the responsibility must rest largely with the coalowners, who provide habitations where self-respect and decency are unattainable luxuries.

The author's gloomy views regarding the social condition of the anthracite communities cannot be accepted without reserve. They are certainly not in accord with the views of the Anthracite Coal Strike Commission, who found that the social conditions obtaining in the communities made up largely of coalworkers were good, and that the number and character of the schools accessible in all these communities were fully up to the American standard. The number of churches in proportion to the population was rather above the average, and the opportunities generally for instruction appeared to be adequate.

The work is illustrated by twenty-eight half-tone plates, most of which are excellent, and there is a long bibliography of works consulted. The quotations in French, being printed without accents, are difficult for the ordinary reader to understand, and in one quotation, "Ellis il font diaque nuit," it is not apparent what language is used.

B. H. B.

OUR BOOK SHELF.

Elements of Water Bacteriology. By Samuel Cate Prescott and Charles-Edward Amory Winslow. Pp. x+162. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd.) Price 5s. 6d. net.

This little volume is practical in its conception, and is concise in treatment. It, of course, presupposes a sound knowledge of general bacteriological methods, but the authors have undoubtedly produced a manual for laboratory use which will be of value to all intelligently engaged in the examination of water. It is up to date in the various methods described, and thirty pages are devoted to a careful index of the contents, a list of memoirs referred to in the text, and the names of authors. Perhaps the most interesting feature in the book is the "change in front," so to speak, which it indicates some water-bacteriologists are making in regard to the relative importance of the presence of typhoid and colon bacilli respectively in water. A third of the letterpress is devoted to the *Bacillus coli communis*, its detection and its significance in water, whilst the typhoid bacillus, so long the *bête noire* of sanitarians, is disposed of in a few pages. The attitude of, at any rate, American authorities is effectively summed up in the following paragraph:—

"On the whole it seems that since a positive result is

always open to serious doubt, and a negative result signifies nothing, the search for the typhoid bacillus itself, however desirable theoretically, cannot be regarded at present as generally profitable."

So, because the typhoid bacillus is difficult to find and the detection of specific organisms is being clamoured for in the estimation of the bacterial quality of a water, refuge is taken in the more easily discoverable and well-nigh ubiquitous colon bacillus, or its allied forms.

It will be interesting to watch the progress of opinion on this colon-standard of water-purity in the light which it is hoped further researches may be able to throw on the detection and significance of specific bacteria in water.

The Chemistry of Coke. By W. Carrick Anderson, M.A., D.Sc. Second edition. (Glasgow and Edinburgh: Hodge and Co., 1904.) Price 5s. net.

THIS little volume, which has reached its second edition, contains much practical information about the chemistry and chemical analysis of coal and coke which should be useful to scientific makers of coke.

But apart from its practical side, the book would justify its publication if it served the single purpose of showing how scientific method may be applied to the problems of a relatively simple industry. That different coals of the same composition, or *isomeric coals*, as the author calls them, behave quite differently on coking is well known. This must, of course, arise from the presence of different chemical constituents. Perhaps it would have been wiser to remain content with the statement (p. 64) that "so long as the composition of coal is unknown the peculiar internal reactions of coking will assuredly remain shrouded in obscurity" than to hazard the suggestion (p. 60) that "in coking, side-chains as well as the central part or radicle reacts."

The absence of any reference to the relation of composition to by-products seems a curious omission when, as the author himself says, "the manufacture of coke without recovery of by-products is to-day frequently regarded as scarcely any longer a payable industry."

The writer would like to offer the suggestion that a careful microscopic examination of coal, which has been found so useful in other directions, might lead to interesting information both as to coking qualities as well as the nature of the by-products of different varieties of coal. Perhaps this method of investigation has already been tried and found wanting.

J. B. C.

Praktischer Leitfaden der Gewichtsanalyse. Zweite Auflage. By Paul Jannasch. Pp. xvi+450. (Leipzig: Veit and Co.) Price 8 marks.

A SECOND edition of Prof. Jannasch's well known book treating of gravimetric analysis has now appeared, and contains considerable additions of new matter. It is obvious, even from the most cursory examination, that the book differs from most of its class in that it is in no sense a compilation of old and often obsolete methods.

Prof. Jannasch is well known as the author of many new methods in analytical chemistry, and the results of his own work and that of his pupils have been made great use of in preparing the present volume.

The contents of the book are divided into nine sections, each of which deals with analyses of a particular type; thus, starting from the determination of the constituents of simple salts in the first, the second treats of the analysis of simple alloys, whilst the third, fourth, and fifth sections deal with the quantitative separation of the various metals one from another. By far the greater number of the processes recommended for these separations are those with which the author's name is connected, involving the use of hydrogen peroxide, hydroxylamine, and hydrazine.