

Haliday and Walker, paid some attention to Cynipidæ, others, such as Stephens and Smith, almost entirely neglected them; and it was not until Mr. P. Cameron published vols. iii. and iv. of his "Monograph of the British Phytophagous Hymenoptera" that we had a satisfactory account of our British species. On the continent, more had been done by Mayr, Adler and others, and now the Abbé Kieffer has furnished us with a full account of the European and Algerian species of these interesting but still somewhat neglected insects; and although every monograph or catalogue always helps to make itself incomplete by stimulating the activity of all observers who are sufficiently interested in the subject to take up or to continue the study, yet the book may reasonably be expected to hold its place as the leading authority on the subject for many years to come.

W. F. K.

OUR BOOK SHELF.

Chemisches Praktikum. 1 Teil. Analytische Übungen. By Dr. A. Wolfrum. Pp. xviii + 562. (Leipzig: W. Engelmann, 1902.) Price 10s. net.

THE object of the author is to present a course of practical instruction in analytical chemistry on a technical basis. It is intended that the student shall be confronted throughout his course of work with the technical application of the principles and methods which he makes use of in the laboratory. The author hopes by this means to improve the training of the student whose aims are directed towards chemical work in the arts and manufactures.

The subject-matter is divided into three sections, under the headings qualitative, quantitative and technical analysis. In the first section, the ordinary reactions of the metals and acids are given, ionic nomenclature being employed. The rare metals are dismissed by a consideration of thorium and cerium, these alone in the author's opinion being of sufficient technical importance to merit discussion. The qualitative analysis of organic substances is then treated, the reactions for the most important organic radicals being given. The section concludes with a long list of important organic compounds for which the special tests are given, as well as directions for ascertaining the presence of the most frequently occurring impurities.

In the section on quantitative analysis, the order of treatment is, gravimetric estimation of the metals and acids, elementary analysis of organic compounds, volumetric analysis and estimation of the most important atomic groups of organic compounds. Twenty pages are devoted to the methods of determining molecular weights of organic compounds and fifteen to gas analysis, but, singularly enough, not a single diagram is appended to illustrate the special apparatus used in operations with gases.

Under technical analysis, which forms the subject of the last 200 pages, is discussed the analysis of water, fuels, ores and metallurgical products, products of the chemical manufacturing industries, artificial mineral colouring matters, artificial manures, lime, cement, clay, raw materials and products of the sugar industry, ethereal oils, aniline colours and products used in the manufacture of these colours.

The book, as will be seen, contains a wealth of material. It is doubtful, however, whether such a work could be placed with good results in the hands of the average student of chemistry. The amount of material accumulated by the author within such a small compass is so great that the efficiency of the book as a working

guide for the student must necessarily suffer. All experienced teachers are aware that a book which the average student is to use in his daily work in the laboratory must contain full working details, and the "Chemisches Praktikum" does not.

As a reference book, however, it will without doubt be found very useful in the laboratory, and for such a purpose can be warmly recommended.

H. M. D.

The Coal-fields of Scotland. By Robert W. Dron. Pp. vi + 368. (London: Blackie and Son, Ltd.) Price 15s. net.

NUMEROUS descriptions have been published of the Scottish coal-fields from the time of Ball, Milne and Landale to our own day. Most of these, however, have been scattered through the volumes of scientific journals or published in official reports which, as a rule, have been badly printed, expensive, and insufficiently made known to the public. By far the most important contributions to the subject are those to be found in the maps and memoirs of the Geological Survey. These publications contain a storehouse of information; they were the first, and are still the most detailed and complete, review of the whole geological structure of the coal-fields. The maps present a graphic picture of the disposition of the coal-seams and the extent to which they have been dislocated and folded. The memoirs furnish a large amount of information which could not be embodied in the maps, and both taken together form the basis on which all subsequent descriptions must rest. The progress of development has led to the opening of some new fields and to the exhaustion of others, since the appearance of the Survey publications, but we understand that arrangements have been made for an official re-examination of the coal-fields and the preparation of new editions of the maps. The work of the Survey will thus be brought up to date, and will maintain the high position which it has always held.

Without these official maps and memoirs, Mr. Dron could not have produced the volume which he has just published. He acknowledges, in his preface, in a general way that he has freely utilised "all available sources of information, including the publications of the Geological Survey." It would have been well, however, had he made more specific acknowledgment of his obligations. No one who is not familiar with the subject would suspect from his chapters how deep his indebtedness is all through the book. The occasional allusions to the Survey work seem strangely inadequate in comparison with the fulness of his references to private individuals of whose assistance he has availed himself. The maps, for instance, with which he embellishes his book are reduced (not very satisfactorily) from those of the Geological Survey, but there is no reference to the source from which they are derived. The volume, though it has no originality, supplies a convenient summary of what is at present known regarding the coal-fields of Scotland, and may be useful as a popular handbook of the subject.

A Glossary of Popular, Local, and Old-Fashioned Names of British Birds. By C. H. Hett. Pp. vi + 114. (London: H. Sotheran and Co., 1902.) Price 1s.

TO the last edition of his "Bird Notes," the author appended a glossary of synonyms of the British species. The present little volume is an amplification of that glossary, and appears to be as nearly complete as possible. The work commences with a classified list of the British species (in which we notice that the author is a conservative in the matter of nomenclature), and then follows the glossary. It should enable amateur ornithologists residing in country districts to identify all the local birds without difficulty.

R. L.