

electrical resistance in some ten or twelve pages. We could, however, have wished for a more critical discussion as to the relative merits of different methods.

The experimental physicist has to carry out or superintend the construction of many kinds of apparatus, and it is necessary for him to be familiar with many mechanical processes and the properties of various materials. In the second section of this book he will find much useful information as to the characteristics of metals, solders, and cements, the working of glass and the deposition upon it of thin metallic layers. Hints are given on such widely different topics as the preparation of vacuum tubes and the choice and treatment of photographic plates. It is only by actual trial that such instructions can be tested, but so far as can be judged, they are just those which the experimenter is likely to require. The information seems well up-to-date, and where necessary, references are given to books in which further details of methods and processes are to be found.

*Crop and Stock Improvement.* By A. B. Bruce and Dr. H. Hunter. (*The Farmer and Stock-Breeder Manuals.*) Pp. 119. (London: Ernest Benn, Ltd., 1926.) 5s. net.

THE authors have succeeded in presenting, in the form of a readable story, an account of the methods used in the improvement of plants and animals, and the results achieved thereby. So far as possible the story is told in simple, non-technical language, but does not suffer in accuracy on this account. The historical method is followed, and throughout the book the attitude of the authors is refreshingly critical.

In the plant section Dr. Hunter deals first with improvement by selection, then with the work of the hybridisers, pre- and post-Mendelian. A long chapter is devoted to a description of the results which have been achieved, and there is an excellent final chapter on the distribution of improved strains of crops.

Mr. Bruce's treatment of the improvement of animals, on account of the much greater complexity of the subject, is necessarily more general. The first chapter describes the main principles of Mendelian segregation. In the second and third chapters are discussed the methods by which the present-day improved breeds of farm animals have been produced. The last chapter is devoted to an examination of the methods and use of inbreeding.

The book is commended to all those who are interested in agriculture, whether students or farmers or both. It will give them a measure of the results which have been achieved in the past, and a basis on which they may estimate what further improvements may be hoped for in the future.

*Chemistry of the Proteins and its Economic Applications.*

By Dr. Dorothy Jordan Lloyd. Pp. xii + 279. (London: J. and A. Churchill, 1926.) 10s. 6d. net.

THIS volume, bearing, as it does, an introduction by Sir Frederick Gowland Hopkins, is developed from a series of lectures by the author. The subject naturally falls into two main parts, the chemical constitution and the physical chemistry. The first part, after dealing in a general way with the composition of the protein molecule, proceeds to outline one or two of the more usual

methods of analysis. A full discussion of the use of the amino acids from the physiological point of view is followed by a chapter on the problems of food preservation. It cannot be claimed that this part of the work offers more than a compilation of material already available to the student or general reader. The second part is devoted to a systematic discussion of the physical behaviour of the proteins so far as research has been carried. The results of Loeb, Cohn, and others are dealt with side by side and compared in such a way that their study will be repaid by a grasp of the different aspects of the subject by any student already possessing fundamental knowledge of physical chemistry. The value and importance of the physical chemistry of the proteins are well illustrated by the chapter on the "Industrial Uses of the Proteins," which could with advantage have been extended. Each chapter bears a bibliography, which, while not quite complete, gives reference to most of the fundamental research on the subject.

*Adventures of Exploration.* Book 5: *Australia and New Zealand.* By Sir John Scott Keltie and Samuel Carter Gilmour. Pp. iv + 204. (London: George Philip and Son, Ltd.; Liverpool: Philip, Son and Nephew, Ltd., n.d.) 2s. 3d.

THE fifth volume in this series is even better than the earlier ones. The material has been chosen with so much care and the stories told with such admirable lucidity that no one reading the volume can fail to get a well-balanced general view of the stages by which Australia, New Guinea, New Zealand, and South Victoria Land became known and were explored. After some account of early voyages of discovery, there are chapters on the work of Cook, Bass, and Flinders, the overland journeys of Oxley, Stuart, Eyre, Grey, Burke, and others in Australia, followed by chapters on New Zealand and Papua. The book closes with two chapters on the Antarctic, giving accounts of the work of Scott, Amundsen, and Shackleton in the Ross Sea and Mawson in Wilkes Land. There are a number of well-chosen illustrations and portraits, and every chapter has its own map. The series should be a valuable aid in teaching school geography.

*Immunochemical Studies.* Edited by Prof. Carl H. Browning. Pp. xiii + 239. (London: Constable and Co., Ltd., 1925.) 12s. 6d. net.

IN this small volume the editor has gathered together a series of papers published by himself and his collaborators over more than a decade. The matter has been rearranged to make it suitable for book form. The work is entirely on the humoral aspects of immunity. The first chapter gives an excellent short account of antibody action in general: among the subjects dealt with in the succeeding chapters are the antigenic power of globin, the alterations which occur in hæmolytic immune bodies during the process of immunisation, heterophile antigen and antibody, and complement. The section on the latter contains a certain amount of matter which has not hitherto been published. The work will appeal to those interested as giving in handy form information which is scattered in a number of different volumes.