

examination precedes the systematic account, which is provided with the usual keys and with illustrations to facilitate identification and to show structural features. The illustrations are for the most part satisfactory, but the author's photograph of a much distorted transverse section of *Parascaris equorum* could have been omitted. The memoir will be helpful to those who are interested in the helminths of Indian domestic animals. It is marred by a considerable number of misprints which necessitated the addition of a slip correcting more than fifty errata. One of these is "for Linneas read Linnaeus" and on reference to the page cited we find "Linneas 1858" which should, of course, be "Linnaeus, 1758"; more care in reading the proof would have been well repaid in the result.

#### Fungi of South Australia

THE South Australian Branch of the British Science Guild is making a determined effort to interpret the flora and fauna of the southern parts of Australia to students of biology in that region. It has on one hand the sympathy and active financial support of the South Australian Government, and on the other hand the authors of a series of handbooks, who prepare their manuscripts gratuitously. The latest volume to be added to this list is the second part of "Toadstools and Mushrooms and other Larger Fungi of South Australia" (Adelaide: Govt. Printer. 5s. net. Pp. 177-362. June 1935). Prof. J. B. Cleland, who is also chairman of the Committee responsible for the handbooks, has written the volume, which deals with polyporous and coral fungi, with puff-balls, jelly-like fungi, and the larger Ascomycetes and Myxomycetes. The volume forms, with Part 1 (published in June 1934), a complete guide to the grosser fungi of the area mentioned in the title, and it is no fault of the author that the Hymenomycetes are in great preponderance. Ascomycetes receive somewhat scant treatment upon five pages, whilst Myxomycetes receive slightly less, but the treatment of the Basidiomycetes should make the volume into a mycological classic. The classification adopted is a combination of the systems propounded by Carleton Rea and P. Claussen. It is easy to follow, though a purely English reader might have preferred to see either the modern thoroughness and authoritative dignity of Rea, or the comprehensive well-trying simplicity of Claussen, adopted throughout.

#### Aims and Methods of Medical Science

THIS was the title of the inaugural lecture delivered on November 26 by Prof. John Ryle, the new regius professor of physic at Cambridge, and now available in attractive book-form (Cambridge University Press, 1935, 2s. net). Prof. Ryle reviews the scope and present shortcomings of medical science, and concludes that among the great body of practitioners and laboratory workers there is too large a proportion whose standards of accuracy are defective, and whose judgment is crippled. These shortcomings are ascribed to three primary errors: (1) faulty selection of men, or misdirection of their energies after quali-

fication; (2) complicated and unwieldy systems of education and examination; and (3) the spread of the cult of specialism. Prof. Ryle does not condemn specialism as such, "for good specialism is essential to all scientific progress"; but condemns only excessive, premature and misdirected specialisms for the subversive influences which they have had upon medical thought, action and education. In seeking a remedy, Prof. Ryle reviews some of the recent achievements in medicine, and finds that the clinician has himself experimented, or that there has been intimate collaboration between experimenter and clinician. Observation and experiment are both essential, but they must go hand in hand. Prof. Ryle envisages that in the future the younger men will turn more frequently to the study of problems at the bedside, and that a happier partition of problems and a closer collaboration between the wards and the laboratory, between students of normal and students of morbid physiology, than obtains at present, will play their part.

#### Report of the Rockefeller Foundation

ACCORDING to the annual report which has recently been published, the Rockefeller Foundation expended 12,679,775 dollars during the year 1934. In public health, field researches were undertaken on yellow fever, malaria, hookworm disease, tuberculosis and several other diseases, and the organisation and maintenance of essential State and national health services in various parts of the world were promoted. In the medical sciences, many university departments and others received aid for psychiatry, and the Lister Institute funds for the purchase of an ultracentrifuge. In the natural sciences, grants were made for promoting experimental biology and genetics, physiology and endocrinology. In the social sciences, the largest grant went to the Welfare Council of New York City, and several universities, including Oxford, and other bodies, received support. In the humanities, grants supplementing former assistance were made to the Bodleian Library and the Bibliothèque Nationale in Paris, and the Foundation appropriated funds for the "Dictionary of American Biography", the "Historical Dictionary of American English", and the "Virginia Historical Index"—works now in course of preparation.

#### Reports of the Smithsonian Institution, Washington

THE annual reports for 1933 and 1934 of the Smithsonian Institution of Washington, both of which have recently been received, give details of the operations and expenditures during the sessions in question (Superintendent of Documents, Washington, D.C. 1 dollar). In both volumes, reports are given summarising the year's activities, finances, grants, publications, library, etc. These are followed by detailed reports which include those of the Bureau of American Ethnology, National Zoological Park, Astrophysical Observatory, Division of Radiation and Organisms, International Catalogue of Scientific Literature and the International Exchange Service. The greater part of each volume is, however, used

for the publication of articles and addresses by well-known men of science, most of which have already appeared in previous publications such as *Philosophy*, *Technology Review*, *Geographical Journal*, *Scientific Monthly*, Report of the British Association, *Science Progress*, NATURE, etc. This general appendix of well-chosen lectures, addresses and papers adds greatly to the value of these annual reports.

#### The Pacific Science Congress

THE Report for the year 1933-34 of the National Research Council of Japan contains the resolutions passed at the Fifth Pacific Science Congress held in Victoria, B.C. and Vancouver in June 1933. Steps were taken to secure more accurate information as to the depth, salinity and temperature of the ocean, the life conditions of halibut, salmon and whales in it and to prevent the discharge of oil from vessels on it. Plant diseases and parasites of the cereal crops and timber grown on the coasts and mountain ranges bordering them are to be studied more thoroughly, atmospheric circulation is to be investigated by pilot balloons, and the necessity of continuing magnetic, electric and oceanographic work by means of a new non-magnetic ship to replace the lost *Carnegie* was emphasised. Seismological information is to be spread by wireless as soon as it is available.

#### Principles of Field Experimentation

THE Empire Cotton Growing Corporation has recently issued a volume of one hundred pages entitled "Principles and Practice of Field Experimentation", by J. Wishart and H. G. Sanders of the School of Agriculture, Cambridge. This is really the third edition of the volume, the first two, written by Engledow and Yule, having appeared in 1926 and 1930 respectively. Perhaps the most important improvements in method in the last ten years are the recognition of the usefulness of the factorial type of design, the confounding of main effects and high order interactions, the analysis of covariance and the fruits of many studies on sampling technique with cereals and root crops. Except for confounding, which is considered by the authors to be beyond the scope of the book, these topics are dealt with in this volume in a very readable manner. The section on practice contains much good advice on the planning and carrying-out of a field experiment, and is particularly welcome in that it answers many of the objections which have been raised by the so-called 'practical' man to modern methods of field experimentation.

#### Statistical Abstract for the British Empire

PROBABLY the most generally useful statistical publications issued by H.M. Stationery Office are the various Statistical Abstracts, such as the Statistical Abstract for the United Kingdom, the Abstract of Labour Statistics and the Statistical Abstract for the British Empire. The sixty-fourth number of the last named has recently been published (H.M. Stationery Office, 3s. 6d.) and contains a great wealth

of statistical information relating to the exports and imports of the various Dominions, Colonies and Dependencies for each of the ten years 1925-34. It is, however, less complete than previous issues, which also included information relating to finance, production, prices, etc., but it is intended to publish the Abstract in complete form in alternate years. Those who have frequent occasion to refer to statistical data will find this and the other Statistical Abstracts invaluable as a means of obtaining convenient summaries of official statistics drawn from very varied sources.

#### Science Abstracts

THE issue of the index parts completes vols. 38 of *Science Abstracts* for 1935. The physics volume extends to 1,569 pages, 315 of which are occupied by a detailed subject index and key, and a name index. The electrical engineering volume has only 899 pages, 157 of which are index. Both are about the same size as the corresponding volumes last year. The average length of an abstract continues to be a little less than a quarter of a page, which experience seems to show is sufficient to allow an expert to give the gist of a paper, and allow a reader to keep abreast of research work in his own and kindred fields.

#### Memorial to X-Ray Workers

A STONE memorial to a hundred and sixty medical men, physicists, chemists, laboratory workers and nurses whose deaths were due to working with X-rays, was unveiled on April 4 at St. George's Hospital, Hamburg. The countries represented on the memorial are Germany, France, Great Britain, the United States, Italy, Hungary, Switzerland, Austria, Denmark, Czechoslovakia, Spain, Belgium, Finland, Russia and Holland. The British names inscribed are R. G. Blackall, C. R. C. Lister, Melville H. Walsham, C. Williams, E. E. Wilson, W. H. Fowler, J. S. Hall-Edwards, J. W. L. Spence, J. R. Riddell and W. I. Bruce Pirie.

#### Announcements

HIS MAJESTY THE KING has been graciously pleased to grant his patronage to the Iron and Steel Institute. The Institute was similarly honoured by the late King George and by King Edward VII before him, both of whom had previously shown their interest in the Institute's activities by consenting to accept honorary membership. His Majesty King Edward VIII was also an honorary member until his accession to the throne.

THE Faraday Medal of the Institution of Electrical Engineers will be presented to Sir William Bragg at the ordinary meeting of the Institution to be held on Thursday, April 23, at 6 p.m. The presentation will precede the twenty-seventh Kelvin Lecture, which will be delivered by Dr. J. D. Cockcroft, on "The Transmutations of Matter by High-Energy Particles and Radiations".