

instrument was the main contributor to the quite serious inaccuracies found, he and his co-workers have continued over the greater part of twenty years an advance which has brought them now, using "the most perfect direction-finder in the world", to the estimation of the natural (propagational) limits to the accuracy of practical direction-finding. The greatest individual landmark on this road was the rediscovery and extension of the Adcock system for the reduction of errors due to horizontal electric forces in the received wave front. The National Physical Laboratory may justly be proud of the fact that the principle embodied in every good direction-finding installation in the world to-day is due initially to one member of its staff, Adcock, and owes its great development to two others, Smith-Rose and Barfield.

DR. SMITH-ROSE, whose D.Sc. (London) was conferred for a thesis on direction-finding, was awarded a Student's and a Wireless Premium of the Institution of Electrical Engineers for contributions to its Journal. He is a member of the British National Committee for Scientific Radiotelegraphy, to which he was appointed by the council of the Royal Society, and has been a prominent participant in all the General Assemblies of the Union Radio Scientifique Internationale, save the first. He participated with the British delegation in the Bucharest meeting of the International Consultative Committee for Radiotelegraphy, is a member of the Wireless Section committee of the Institution of Electrical Engineers, and has rendered valued services as vice-chairman (chairman of the staff side) of the Departmental Whitley Council of the Department of Scientific and Industrial Research.

Geological Society: Medal and Other Awards

THE following awards of the Geological Society have recently been made: Wollaston Medal to Prof. F. D. Adams, emeritus professor of geology and palaeontology in McGill University, for his researches on the Pre-Cambrian rocks and on the influence of high temperatures and pressures on the properties of rocks at great depths in the earth's crust; Murchison Medal to Dr. H. Jeffreys, in recognition of the value of his researches on the constitution and physics of the earth's interior, and in particular of the deductions he had drawn from the analysis of records of distant earthquakes; Lyell Medal to Prof. W. N. Benson, professor of geology in the University of Otago, in recognition of the wide range and excellence of his geological researches, particularly in New Zealand; Prestwich Medal to S. Hazzledine Warren, in recognition of his researches on the geology and archæology of East Anglia, particularly of the Lea Valley; Bigsby Medal to Prof. A. E. Trueman, professor of geology in the University of Glasgow, in recognition of his outstanding contributions to the knowledge of palaeontology and stratigraphy, particularly of the Coal Measures and the Lias; Wollaston Donation Fund to I. S. Double, for his work on the petrology of sedimentary rocks, especially the Tertiary rocks of the east of England, the Glacial deposits, the Chalk and the Trias; Murchison Geological Fund to Dr.

A. L. Coulson, in recognition of his geological work in India, especially that concerned with earthquakes and meteorites and the survey of Rajputana; a moiety of the Lyell Geological Fund to Dr. W. Q. Kennedy, for his petrological work, especially in connexion with the Tertiary complexes of the Hebrides and the metamorphic rocks of the Western Highlands; a second moiety of the Lyell Geological Fund to Dr. A. Raistrick, for his researches on the minute structure and constitution of coal, and on the past floras of Britain as revealed by the study of peats.

Sir Isaac Newton's Prisms

IT is reported from Italy that three optical prisms formerly belonging to Sir Isaac Newton have now found a permanent resting place in the Museum of Treviso. The prisms in question were originally in the possession of Newton's step-niece, Mrs. Conduitt (1680-1739), who spent some fifteen years looking after Newton's house, until her marriage in 1717, to Mr. Conduitt, Newton's successor at the Mint. They were acquired from Mrs. Conduitt by Count Francesco Algarotti, a Venetian nobleman and a prominent figure in London society during the middle eighteenth century. After many changes of ownership the prisms were deposited some years ago in the Treviso Museum, to which institution they were recently bequeathed by the late Prof. Luigi Bailo. Although there seems little doubt that these prisms were at some time associated with Newton, it is not easy to assess what part they played in the fundamental discoveries and subsequent work of Newton on the dispersion of white light. Signor Algarotti was a great admirer of Newton and was the author of "Sir Isaac Newton's Philosophy explained for the Use of Ladies". In the English translation, published in 1739, we learn (vol. 2, p. 70) that Algarotti had found that the prisms available in Italy were unsuitable for repeating Newton's experiments, but that he had been fortunate enough to receive from England some which proved excellent. Later in the same volume (p. 129) we read "I have myself seen the first telescope [Newton's reflecting telescope] . . . preserved in a city of England . . . with this are treasured up those prisms which the first time differently refracted the rays of light in the hands of our great philosopher. . . ." There is no doubt that from about 1664 onwards Newton used many prisms in his experiments and fortunately one of these, at least, is preserved in Great Britain; it was presented in 1927 to the British Museum by the Rev. H. T. Inman, who in a private publication has very carefully traced its descent from Newton. It is made of flint glass, and confirmatory evidence of its date has been adduced from the nature of the glass.

Science and National Defence

THE Association of Scientific Workers, 28 Hogarth Road, London, S.W.5, has had under consideration the position of science in Great Britain in relation to problems of national defence, and has issued a statement defining its attitude. While the Association regards war as the supreme perversion of science, it

is nevertheless prepared to assist in measures for defence against anti-democratic movements. To this end, it stresses the importance of the immediate formation of an organization to see that the most efficient use is made of scientific knowledge; the following points are put forward for consideration:

"(1) It is in the best interests of the country that scientists should be utilized in scientific work, and that the organization and control of scientific work should be in the hands of scientists.

"(2) The professional organization of scientists should play an important part in drawing up and operating any scheme of organization and also be represented on scientific advisory committees to the defence departments.

"(3) In any scheme of registration, scientists should be grouped on a laboratory basis, no matter whether university, special research or industrial. It is particularly important that scientific workers in industry should be included in any such scheme and not left at the disposal of individual employers. Further, scientists should be consulted *now* with regard to such organization, firstly on the grounds of efficiency and secondly to secure its democratic working.

"(4) Some machinery should be provided whereby scientists, including those in service departments, may exercise a right of criticism on purely scientific and technical matters.

"(5) It is important that scientific and technical as well as medical education should be maintained in time of war."

New Chancellor at the University of Leeds

On January 17, with appropriate ceremony, the University of Leeds installed the Duke of Devonshire as chancellor in succession to his father, who had occupied that post for nearly thirty years, having succeeded the first chancellor of the University, the Marquess of Ripon, in 1909. The proceedings commenced with a lunch to the honorary graduands and to the representatives of other universities and of local education authorities, given by the Court of the University, in the fine new Civic Hall rendered available through the courtesy of the Lord Mayor of Leeds. The ceremony of installation took place in the Town Hall, in the presence of representatives of all sections of the University, and other universities, of local authorities in Yorkshire, together with other dignitaries. His Grace was received by the vice-chancellor, Mr. B. Mouat Jones, who presented him with the scroll recording his admission to the honorary degree of doctor of laws of the University, and then installed him as chancellor, delivering a brief address of welcome. After the chancellor's response, a number of honorary degrees were conferred. Earl Baldwin of Bewdley and the Right Hon. W. S. Morison, Minister of Agriculture and Fisheries, were presented for the degree of LL.D. The degree of D.Sc. was conferred upon Sir Arthur Eddington, Plumian professor of astronomy and director of the Observatory, Cambridge, upon Sir John Ledingham, director of the Lister Institute, and upon Dr. J. S. B. Stopford, formerly professor of anatomy and now vice-chancellor of the University of Manchester. In the evening, the Chancellor and the Duchess of Devonshire received the guests at a reception in the University, when

many scientific and technological departments were thrown open, special demonstrations being on view. These exhibits remained open for inspection by the general public throughout the following day.

Botanic Gardens of the World

WE have received the second edition of the list of botanic gardens of the world compiled under the direction of Dr. Stuart Gager, director of the Brooklyn Botanic Garden ("Botanic Gardens of the World: Materials for a History". *Brooklyn Bot. Rec.*, 27, No. 3, July 1938. Price 2 dollars 50 cents). Apart from its intrinsic value to botanists, the list will prove helpful to research botanists and teachers of botany who may require information or material from definite localities. In this way, the list forms a sure guide. But there are inconsistencies in the information given concerning each individual garden. This is due to the fact that the compiler has been at great pains to make the information authoritative by obtaining it from the source, namely, the gardens themselves. In this, Dr. Gager experienced certain difficulties, since, though most garden officials supplied all the necessary information, some made no or scant reply to the questionnaires sent. Where the information can be considered complete, it is of great utility. For example, under the Royal Botanic Gardens, Kew, are listed date of establishment, area, list of directors, organization, source of income, library, herbarium, arboretum and fruticetum, plantations, publications, museums, etc. The list is not intended to be simply a guide to existing botanic gardens, but as material for a history of botanic gardens, existing or defunct, and "thus as a contribution to one of the most important phases of the history of the organization and administration of botanical science, from the time of Aristotle to the present". Such a history would receive a warm welcome from all botanists, since we believe no such comprehensive history exists at present. We would suggest one slight improvement in the next edition of this list, which would undoubtedly render reference more easy. The gardens are arranged alphabetically under each country, and the latter in turn are arranged alphabetically. There are, however, no page headings (except page number). It would be a distinct advantage if the name of the country were placed at the top of each page.

Folk-lore and Medicine

At a meeting of the West London Medico-Chirurgical Society on January 13, Dr. J. D. Rolleston read a paper on "Folk-lore and Medicine". He said that since the publication in 1927 of the late Dr. Dan McKenzie's work entitled "The Infancy of Medicine: an Enquiry into the influence of Folk-lore upon the Evolution of Scientific Medicine", the subject of folk-lore in connexion with medicine has attracted little attention in Great Britain, in marked contrast with the enthusiasm which it has provoked on the Continent. The various prophylactic and therapeutic measures in folk-lore medicine, in which the curative methods far outnumber the preventive, can be ranged under one or more of the following headings: (1) trans-