

News and Views

Sir Ambrose Fleming, F.R.S.

At the meeting of the Physical Society held at the Imperial College on January 13, Sir Ambrose Fleming delivered an address on "Physics and Physicists of the Eighteen-Seventies", the substance of which appears elsewhere in this issue (p. 99). At the time of the jubilee of the Society in 1924, five of the ninety-nine original fellows were living; now, in his ninetieth year, and enjoying remarkably good health, Sir Ambrose is the sole survivor. Mr. O. J. (now Sir Oliver) Lodge became a fellow in 1875, the year after the foundation of the Society, and was its president from 1889 until 1901. At the inaugural meeting of the Society, the first paper "On the New Contact Theory of the Galvanic Cell" was read by Mr. J. A. Fleming at the invitation of the founder, Prof. Frederick Guthrie. That paper will be reprinted in the Society's *Proceedings*, together with the address he has now delivered after an interval of nearly sixty-five years. This is an event that must surely be unique in the history of learned societies. In addition to his many other honours, Sir Ambrose received the Duddell Medal of the Physical Society in 1930.

M. Bernard Lyot

THE Gold Medal of the Royal Astronomical Society has been awarded to M. Bernard Lyot, of the Meudon Observatory, France, for his observations and photography of the solar corona in the absence of a total eclipse. In 1868, Lockyer and Janssen showed that prominences could be observed when the sun was not eclipsed. In 1882, Huggins attempted the more difficult problem of observing the corona without an eclipse, and both Hale and Deslandres in 1893 designed apparatus for the chromatic isolation of the green line. These efforts were entirely unsuccessful. M. Lyot went much more thoroughly into the optical conditions necessary to eliminate the diffused sunlight. The light of the sun is a million times that of the corona, and at Meudon the scattered sunlight at 1' from the sun's limb cannot be reduced to less than twenty or thirty times that of the corona, but on the Pic du Midi, after a fall of snow, the stray light on occasions is not of greater intensity than the light of the corona at 1' from the limb. But a very large amount of stray light is incidental in the optical systems usually employed, which M. Lyot has analysed into diffraction round the edge of the objective lens, scratches and bubbles on the lens, and reflected light from the back of the lens. By arranging screens to cut off the light from these several sources, he has succeeded in photographing the inner corona, obtaining a spectroheliogram in light 5303 Å., and measuring the polarization all around the limb; in addition, he has obtained accurate wave-lengths of a number of the emission lines of the corona, as well as the width of the lines.

Prof. H. H. Read

PROF. H. H. READ, who has just succeeded Prof. P. G. H. Boswell in the chair of geology at the Imperial College of Science and Technology, London, received his early training in the Royal College of Science under Prof. W. W. Watts. He was appointed to the Scottish branch of H.M. Geological Survey in 1914, but his career was almost immediately interrupted by the outbreak of the Great War. During 1914-17, he was absent on military service in Egypt, Gallipoli and France. In 1917 he was invalided out of the army and resumed work in Scotland, where he remained until 1931. During this period, Dr. Read spent much time in surveying in the central and northern Highlands, and in Shetland, and as a result developed a special interest in igneous and metamorphic geology. In 1929-30, he served as president of the Edinburgh Geological Society. In 1931, he resigned from the Geological Survey on appointment as George Herdman professor of geology in the University of Liverpool. During the last twenty years, Prof. Read has published a number of important papers, mainly on problems connected with the igneous and metamorphic geology of the north of Scotland and Shetland; and in 1935 he was awarded the Bigsby Medal of the Geological Society of London for these researches. He has been chosen as president of Section C (Geology) for the meeting of the British Association in Dundee this year, an appointment which is peculiarly appropriate, in view of his interest in Scottish geology.

Dr. R. L. Smith-Rose

THE Radio Department of the National Physical Laboratory is, as were the two organizations by the fusion of which it was formed in 1933, occupied almost wholly on work within the programme of the Radio Research Board, and Dr. R. L. Smith-Rose, whose appointment as superintendent of the Department was announced in these columns last week, has been associated with the work of the Board from its formation. Dr. Smith-Rose, who was born in 1894, studied at the Imperial College of Science and has, alone and in collaboration with departmental colleagues, published an impressive array of important papers, some seventy in number, on radio direction-finding, the propagation and attenuation of radio waves, the properties of ultra-short waves, the screening of radio circuits and the measurement of radio field-intensity. His principal work has been in the laying of the scientific foundations of radio direction-finding, alike as an aid to navigation by sea and air and as an essential element in studying the properties and propagation of radio waves in general. From the first adequate survey of the accuracy of closed-coil direction-finding, when the

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