

## NEWS and VIEWS

**Award of Bruce Medal to Prof. E. A. Milne**

THE Bruce Gold Medal, founded in 1897, is unique among astronomical awards in that the responsibility for the nomination of candidates rests with the directors of the Harvard, Lick and Yerkes Observatories in, and the Greenwich and Cordoba Observatories outside, the United States. The consequence has been that the directors of the Astronomical Society of the Pacific, who are the trustees of the Bruce Medal Fund, have always had before them the names of the outstanding astronomers of the time, and so wise has their final choice always been that the Medal is generally recognized as the highest award for astronomical achievement. It is only fitting that the name of Edward Arthur Milne should be added to those of the great mathematical astronomers—Newcomb, Hill, Poincaré, E. W. Brown, Eddington, de Sitter and Charlier—who have achieved this distinction. Milne's contributions have covered a wide field in astrophysics and cosmogony. His studies of radiative equilibrium in stellar atmospheres greatly extended and deepened the classical results of Schwarzschild in this field, while the collaboration of Milne and Fowler in the application of ionization theory led to the generally accepted scale of temperatures and pressures in the stellar sequence. By-products of these two main lines of investigation were a theory of the equilibrium of the solar chromosphere as a result of monochromatic radiation pressure, and the concept of 'run-away atoms' as the carriers of those disturbances in the sun which lead to terrestrial magnetic storms and radio fade-outs.

Milne's recent work has traversed more controversial ground. On one hand, he has dealt with the consequences which flow from the role of photospheric opacity on the internal structure of the stars; and on the other hand with the kinematic aspect of the apparent recession of the extra-galactic nebulae, treated in the first instance as actual motions in a flat Euclidean space. The attempt to introduce dynamics and gravitation into this concept of world structure has led to the distinction between the finite  $t$ -time by which the observer on a 'fundamental particle' describes events, and the  $\tau$ -time with an infinite past with which events may be described in a public hyperbolic space. No matter what the ultimate success of these later ventures, there can be no doubt of the clarification in our ideas which has already resulted from his work, or of the courage which this single-handed attack upon these great problems must have demanded. The award of the Bruce Medal is therefore but a fitting recognition of Prof. Milne's great contributions to our knowledge of the stars, and of that larger system of which the stars form a part.

**Guthrie Lecture of the Physical Society:****Prof. Arturo Duperier**

THE Guthrie Lecture of the Physical Society will this year be given by Prof. Arturo Duperier on July 6 at the Royal Institution, his subject being "The Geophysical Aspect of Cosmic Rays". As research professor in the Instituto Nacional de Física y Química (Rockefeller Foundation), Madrid, Dr. Duperier made experimental studies in magnetism in association with his former teacher, Prof. Cabrera. Later, in 1932, he was appointed professor of geo-

physics at the University of Madrid. His geophysical researches included studies on meteorology, atmospheric electricity and cosmic radiation; papers on these subjects were published during the Civil War, in the course of which he paid two visits to Great Britain; the victory of Franco occurred during his second visit, and he has since lived and worked here. In association with Prof. P. M. S. Blackett he continued observational work on cosmic rays at Manchester, with the aid of a research grant from the Royal Society; later he transferred his apparatus to the Physics Department of the Imperial College, London, where he has worked for several years. His observational discoveries include remarkable occasional changes of cosmic-ray intensity associated with geomagnetic storms.

**British Coal Utilisation Research Association:****Prof. D. T. A. Townend**

PROF. D. T. A. TOWNEND, Livesey professor of coal, gas and fuel industries at the University of Leeds, has been appointed director of the British Coal Utilisation Research Association. Educated at Banerof's School, Prof. Townend held an exhibition at the East London (now Queen Mary) College, where, after war service, he graduated in 1920. Following post-graduate study in fuel and chemical engineering at the Imperial College of Science and Technology, he was associated there for many years with the late Prof. W. A. Bone and Prof. D. M. Newitt in investigations into combustion and high-pressure problems; and held successively a Salters research fellowship and a Rockefeller international research fellowship. He is a leading author in the field of combustion, and in 1933 discovered the two-stage ignition phenomenon of higher hydrocarbons, etc. The Livesey chair which Prof. Townend has occupied for seven years was endowed by the gas industry in 1910, since when the Department has collaborated closely in research with this industry. Prof. Townend has served on the Council of the Gas Research Board since its inception in 1939 and is an honorary member of the Institution of Gas Engineers; he is also chairman of the Yorkshire Section of the Institute of Fuel. During the War he has served on a number of Government committees and his Department has made notable contributions to the war effort.

**Visit of Prof. A. V. Hill to Denmark and Norway**

PROF. A. V. HILL, senior secretary of the Royal Society, is visiting Copenhagen to convey the greetings of the Royal Society, as representing the men of science of Great Britain, to their colleagues in Denmark; and through the Academy of Sciences in that country to discuss with them what aid British science can give to the rehabilitation of science and scientific education in their country. After three days in Copenhagen, Prof. Hill will proceed to Oslo for the same purpose. An extraordinary meeting of the Norwegian Academy of Sciences has been called to meet him. It is hoped that these visits will do much to enable both the Danes and Norwegians to re-establish the firm scientific contacts which, until the occupation of their countries by the Nazis, they have always maintained with men of science throughout the world.