searching for such an incentive ever since the pressure from unemployment has been relaxed.

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TOTAL SOLAR ECLIPSE OF JUNE 30, 1954

A TOTAL eclipse of the sun will occur on June 30, 1954, the belt of totality stretching from near Minneapolis, where eclipse comes at sunrise, through north-eastern Canada and Greenland, across the Faroes, Norway, Sweden, the Baltic and south Russia, finally ending at sunset not far from Peshawar. Many European astronomers are proposing to go to southern Sweden to make observations, since this is an easily accessible portion of the eclipse track and the chances of a clear sky are reasonably good (about 50 per cent). Mid-eclipse comes near noon in the Faroes and in the early afternoon in Scandinavia. The belt of totality is about ninety miles wide, and near the centre line the duration of totality is $2\frac{1}{2}$ minutes. The corona may be expected to be of the type associated with minimum sunspot activity. Preparations are known to be under way for parties of observers from Great Britain, Eire, France, Switzerland, Holland, West and East Germany, Italy and Canada. Swedish astronomers, who are naturally taking a very active interest, are organizing groups of observers to work at three or more separate places.

The Royal Greenwich Observatory is to send a small group to measure the gravitational deflexion of light by the sun. This is a fairly favourable eclipse for this purpose, as the star field is a good one, although the duration of totality is not specially long. Another group from Greenwich will be engaged in measuring accurate positions of the cusps for geodetic purposes. The Cambridge Observatories are planning several types of observation: (1) measurement of chromospheric line profiles with a large spectrograph giving a dispersion of about 1 Å./mm.; (2) measurement of the electron temperature of the chromosphere by Zanstra's method; (3) observation of the corona in the light of the green line 5303 Å., using an interference filter and a Fabry-Perot interferometer of low resolving power, to examine the distribution of line width, and of line of sight motion. This last experiment is being carried out in co-operation with the St. Andrews Observatory. St. Andrews is also sharing a project with the Potsdam Observatory, to measure the deflexion of light by the sun with an elaborate apparatus developed from that used by Potsdam observers some twenty-five years ago in Sumatra. The University of London Observatory is to carry out photographic photometry of the corona, with a new arrangement which should reduce trouble from scattered light and also should extend the range of surface brightness measurable.

The Dunsink Observatory is to measure line-widths in the spectrum of the low chromosphere, using a Fabry-Perot interferometer.

All the foregoing parties will observe in various places in south Sweden. In addition, the Cambridge Observatories, with the help of the R.A.F., are photographing the outer corona in polarized light from an aircraft at about 30,000 ft. altitude, using a multi-lens camera designed for freedom from scattered light. Observers from the University of Edinburgh are also utilizing aircraft, in an attempt to detect a daylight aurora during totality. Both these flights will probably take place north of the Shetlands.

The plans of astronomers from other countries are not yet generally known; but a few details can be given here. French observers (MM. Dollfus and Michard) will use a spectrograph devised by the late Dr. B. Lyot, permitting photography of the coronal spectrum simultaneously around almost the whole sun. Dutch astronomers (Prof. M. G. J. Minnaert and Dr. J. Houtgast) will examine the Fraunhofer spectrum of the corona, and the distribution with respect to height of material in the chromosphere. Two Canadian parties intend to observe the chromospheric spectrum, one from the Dominion Astrophysical Observatory, Victoria, B.C., with a slitless instrument, the other from the Dominion Observatory, Ottawa, with a high-dispersion slit spectrograph.

OBITUARY

Dr. Karl B. McEachron

DR. KARL B. MCEACHRON, consultant to the General Electric Company at Pittsfield, New York, died in hospital on January 24, aged sixty-four years.

Dr. McEachron's name will always be associated with high-voltage research work and with the study of lightning. He was an instructor for some years in the Ohio Northern University and at Purdue, and in 1922 took charge of the research and development section of the Lightning Arrester Engineering Department of the Pittsfield factory of the General Electric Company. Here he developed techniques for producing and recording electrical transients of very short duration, and was one of the first engineers to apply surges from an impulse generator directly to overhead transmission lines in order to study the attenuation of high travelling-wave voltages and their effect on terminal apparatus. He was largely responsible for the successful production of the 'Thyrite' lightning arrester, embodying material composed of carborundum and graphite having a fourth-power voltage/current characteristic. His published work on this development is to be found in the *Transactions of the American Institute of Electrical Engineers* in the years 1928-33, and for this he received the Charles A. Coffin Award of the Edison Electric Institute in 1931 and the Longstreth Medal of the Franklin Institute in 1936.

In 1933 Dr. McEachron was appointed engineer-in-charge of the High Voltage Engineering Laboratory at Pittsfield and there began the study of lightning flashes striking transmission lines and—later—striking to the top of the Empire State Building, New York. He installed oscillographs on the top floor connected to the radio antenna system of the National Broadcasting Company twelve hundred and fifty feet above street-level and placed a variety of types of Boys's cameras on the fifty-sixth floor of

500 Fifth Avenue, from which a good view of the top of the Empire State Building was obtained. Schonland had by this time established the existence of the downward directed 'leader' stroke to the lightning flash, but McEachron's paper to the Franklin Institute in 1939 showed that in fact nearly all lightning flashes to the Empire State Building begin by discharges extending in step-by-step formation from the top of the building to cloud. The oscillograms of the same lightning strokes disclosed that although the luminosity often falls to zero between the successive strokes of a lightning flash, the current through the oscillograph did not. There were long 'continuing strokes' lasting many milliseconds between the high luminosity large current strokes. McEachron showed that these continuing currents in fact carried larger charges to ground than the

charge associated with the bright main strokes, and it was suggested that these 'continuing strokes' might be responsible for many strange failures of lightning arresters and may explain the cause of fires initiated by lightning. For his outstanding work in gaining quantitative data on lightning discharges McEachron was awarded the Edison Medal of the American Institute of Electrical Engineers, being the thirty-ninth holder of that Medal.

He was one of the most sought-after speakers in the General Electric Company and lectured extensively in the United States and Canada. He accumulated an immense collection of photographs of lightning, and gave visitors from overseas a most cordial welcome and a fascinating review of lightning studies. He leaves a widow, three sons and two daughters.

T. E. ALLIBONE

NEWS and VIEWS

The Ancestry of Sir Isaac Newton

At an ordinary meeting of the Scottish Genealogy Society, held in Edinburgh on February 16, the honorary secretary of the Society, Rolland J. B. Munro, read a paper entitled "Notes on the Ancestry of Sir Isaac Newton", in which he claimed that there is a strong possibility of Newton being of Scottish descent. Newton occupied himself very much with genealogy, there being evidence of his interest in this in 1659, at the age of seventeen; and after 1705 he made a painstaking search to uncover his ancestry, leading to a great mass of papers sold at the Rodd Sale in three portions, the smallest portion of which was bound in seventeen volumes. Mr. Munro's main argument was that it was Newton himself who, as a result of these investigations, claimed Scottish ancestry. Sir Isaac's grandfather, Robert Newton, undoubtedly bought the manor of Wools-thorpe, and Mr. Munro maintains that Robert had left Scotland with the court of King James VI of Scotland, afterwards to become James I of England. Sir Adam Newton, Bart., of Charlton in Kent, the son of an Edinburgh baxter and burgess, a scholar of high repute and favourite of Andrew Melville, was tutor and secretary to Henry, Prince of Wales, the elder son of James, who died early. Sir Adam also had a brother Robert, and it is suggested that he became Robert Newton of Wools-thorpe and lord of that manor; for, if he were an Englishman, his ancestry seems to be enigmatic. The Charlton Newtons are clearly a cadet of the Newtons of that ilk in East Lothian, from whom, so Sir Isaac is said to have stated, his grandfather claimed kinship and descent. Evidence was shown by Mr. Munro that the Lairds of Long Newton in East Lothian had suffered by adherence to the cause of Mary Queen of Scots, that one of them went to England, and that for these financial and material hardships they were rewarded by James VI. Robert and James Newton followed with Sir Adam, but were not so lucky as the latter, and each, it may be significant, eventually went to the University of Padua, where Galileo had taught the doctrines to which Sir Isaac added his intellectual seal. Attention was also directed by Mr. Munro to the fact that one of Newton's relatives owned Gordon Mill, near Kelso, during Sir Isaac's life-time, and that this cousin lived with him for a period.

Continued Employment of Older People

REPLYING in an adjournment debate on the employment of older men and women in the House of Commons on February 5, the Parliamentary Secretary to the Ministry of Labour and National Service, Mr. H. Watkinson, pointed out that the National Advisory Committee on the Employment of Older Men and Women is a standing committee which has only just started its work. The research sub-committee also set up meets frequently, and other sub-committees will be established if necessary. Mr. Watkinson urged that the whole problem should be examined in the light of two principles: capacity, not age, should be the first consideration in recruiting staff or engaging people, and all who can continue to give effective service in their occupation should have the opportunity of continuing, if they wish, irrespective of age. Mr. Watkinson referred particularly to the shortage of skilled engineering craftsmen and to the value of older craftsmen as a reservoir of skill, who could at least be employed for shorter hours or as instructors. With regard to the professional man and the obstacle which pension schemes present to continued employment, he said that the Association of Superannuation and of Pension Funds had authorized him to state that the Association could show any employer who felt that a pension fund or superannuation fund is a bar to the employment of older men and women how to modify that policy. After referring to the efforts of the Ministry to influence opinion and to spread the knowledge of what the Advisory Committee is doing, Mr. Watkinson appealed for the co-operation of employers, trade unionists, members of Parliament and all people of goodwill in solving a problem which is of vital importance to the national economy and to the health and happiness of older people themselves.

Nationalized Industries and Accountability

In opening a debate in the House of Commons on February 8, on the Report of the Select Committee on the Nationalized Industries, the Lord Privy Seal, Mr. H. Crookshank, said that in principle the Government accepts the idea of a select committee and also the recommendations of the present report on that subject, subject to modifications and to consideration of the views expressed in Parliament. The Government would prefer to keep open the