

Dr. Bernhard Fischer-Wasels, professor of morbid anatomy at Frankfort-on-Main, president of the German Pathological Society and editor of the *Frankfurter Zeitschrift für Pathologie*, aged sixty-five.

Sir James Larmor, F.R.S., formerly Lucasian professor of mathematics in the University of Cambridge, on May 19, aged eighty-four.

Prof. B. Malinowski, professor of anthropology in Yale University, formerly University professor of anthropology in the London School of Economics, on May 16, aged fifty-eight.

Dr. C. Hart Merriam, founder in 1885 and until 1910 chief of the United States Bureau of Biological Survey, now known as the Fish and Wild Life Service, on March 19, aged eighty-six.

Dr. John Miller, director of aircraft production (factories), formerly chief engineer, London and North-Eastern Railway (N.E. Area), on May 16.

The Rev. T. E. R. Phillips, a past-president of the Royal Astronomical Society and of the British Astronomical Association, on May 13, aged seventy-four.

Dr. G. G. Stoney, F.R.S., who for many years was associated with C. A. Parsons and Co. Ltd., particularly in connexion with the development of the steam turbine, on May 15, aged seventy-eight.

Prof. G. A. Witherington, formerly professor of mathematics in the Royal Naval College, Greenwich, on May 1, aged sixty-nine.

Prof. W. J. Young, professor of biochemistry in the University of Melbourne, aged sixty-three.

NEWS and VIEWS

World Mineral Resources and Post-War Needs

IN the fourth clause of the Atlantic Charter, Mr. Roosevelt and Mr. Churchill state "that they will endeavour, with due respect for their existing obligations, to further enjoyment by all States, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are necessary for their economic prosperity". The Division for the Social and International Relations of Science of the British Association is therefore arranging a conference on "Raw Materials and Industrial Needs: Mineral Resources and Outlook", to be held in London at or about the end of July. As Sir Richard Gregory, president of the Association, pointed out in submitting the proposal for such a conference, the world's natural resources—both organic and inorganic—are much too large a subject to be dealt with in a single conference, but a survey of the present position of minerals of industrial importance, with suggestions for further investigations into their geographical distributions and research into the production of substitutes, will show the close contact between science and fundamental national and international problems. The Conference will indeed be similar to a joint meeting of the Sections of Geology, Geography, Physics and Chemistry at an annual assembly of the British Association, and its papers will be of the nature of contributions to a report upon the distribution, output and industrial uses of the chief mineral deposits of the world. Such energy resources as solid, liquid and gaseous fuels belong to a class of their own, and the facts relating to them have been brought before a number of World Power Conferences. Whatever is known about the nature, distribution and uses of minerals in the earth's crust has been gained by scientific inquiry, and the knowledge is international in origin and scope. By presenting the chief facts as to natural resources of minerals and their geographical control, such a conference can do much to promote recognition of the interdependence of nations and the need for collaboration between them.

Scientific Workers of the Argentine

DURING last March, Prof. E. D. Adrian, professor of physiology in the University of Cambridge, paid a visit to the Argentine at the invitation of the Argentine National Academy of Medicine. He was

welcomed with much cordiality and was frequently assured of the sympathy of Argentine medical men and scientific workers for the Allied cause. Towards the end of his visit, Prof. Adrian was asked to receive a deputation from the Comisión Sanitaria Argentina de Ayuda a las Democracias (Health Committee to Aid Democratic Countries). This deputation asked Prof. Adrian to convey a message of solidarity to members of the medical profession and scientific men in Great Britain. The Committee said that the example set by British men of science working in their laboratories and clinics, holding congresses even in war-time to promote the application of scientific discovery to the progress of mankind, and arranging the co-ordination of the scientific work of Great Britain, the U.S.S.R. and the United States, strengthens their faith in the triumph of democracy through science. This very cordial message from the Argentine will be received with much satisfaction by scientific workers in Great Britain, who will be encouraged to pursue the course they have set for themselves in helping to rid the world of totalitarianism.

Illuminating Engineering Society

AT the annual general meeting of the Illuminating Engineering Society on May 12, Mr. W. J. Jones (president) was able to present an encouraging record for the past session. A feature has been the further development of centres and groups, of which there are now eleven, and which are expected to do useful work in studying the lighting requirements of special local industries. The position in regard to the Society's work on A.R.P. lighting, undertaken jointly with the Ministry of Home Security, has for the time become stabilized, but a number of committees are now exploring various aspects of lighting in relation to after-war reconstruction. The "Recommended Values of Illumination" put forward by the Society (I.E.S. Code) has been adopted by the Ministry of Supply, the Admiralty and the Ministry of Aircraft Production, in applying the Factories (Standards of Lighting) Regulations (1941). Many members of the Society are engaged in the task of designing lighting installations for factories engaged on national work. The Society in 1940 initiated the practice of conferring fellowship on those of its members having the requisite technical qualifications. The number of fellows created is now 96—rather less

than ten per cent of the membership of the Society. The new president for the forthcoming session is Mr. R. O. Ackerley.

The Illuminating Engineering Society made a practice, in the years preceding the War, of inviting an eminent expert from abroad to deliver an address on the occasion of each annual meeting. This practice is no longer possible in the present circumstances, but its own members have filled the gap. The lecturer on May 12 was Mr. G. H. Wilson, who took for his subject "Street Lighting: Past, Present and Future". Mr. Wilson remarked that the period 1928-38 was one of great technical progress. An outstanding event in 1928 was the erection of fifty model lighting installations illustrating the eight classes of the British standard specification. This led to a recognition of the importance of road surface brightness as a factor in relation to visibility. During the ten-year period two new sources, the sodium and mercury vapour lamps, were introduced. Their unusual spectra raised new problems and their shape and size made necessary considerable changes in the design of lanterns. Attention was also devoted to the problem of the siting of posts, which was discussed in the report of the departmental committee appointed by the Ministry of Transport appointed in 1934. After referring briefly to lessons to be learned from our experience of the low orders of illumination available during the present black-out, Mr. Wilson reviewed after-war problems. He pointed out the possibilities of the new fluorescent lamps, expressing the belief that technical resources are enormous. The future of street lighting, he affirmed, depends largely on the extent to which the scientific attitude of mind is employed in the application of the achievements of research—for example, in connexion with bold experiments in town planning.

Fluorescent Lighting

A PAPER on this subject, read recently by L. J. Davies, H. R. Ruff and W. J. Scott before the Institution of Electrical Engineers in London, gives a brief history of fluorescent lighting and follows this by a description of a typical mains-voltage tubular fluorescent lamp and the principles of its operation. The new fluorescent lamp combines the high efficiency of the straight electric discharge lamp, with much of the convenience of operation of the incandescent lamp, while possessing, in addition, special characteristics of low brightness, exceptional colour-rendering power, and comparative absence of radiant heat. The 200/250-v., 80-watt lamp and its auxiliaries, marketed in Great Britain in March 1940 to improve factory lighting in blackout conditions, are described in detail and the characteristics and components of the complete unit are explained. This lamp is 5 ft. long and $1\frac{1}{2}$ in. in diameter, taking 0.8 amp. at a lamp voltage of 115; its nominal luminous efficiency is 35 lumens/watt and its mean brightness is 3.3 candles/sq. in. Its high electric power/light conversion ratio is examined together with the conventions whereby these are assessed. The paper concentrates attention upon the practical features of the lamp, but gives a sufficient description of the physics involved to promote an appreciation of both the present characteristics and future importance of this type of light source. The authors conclude that the lamp is satisfactorily fulfilling a present industrial need, and that its quality has been so greatly appreciated that it is undoubtedly the forerunner of a new series of lighting lamps.

Industry in Scotland

IN the discussion in committee in the House of Commons on May 12 on the estimates for the Scottish Home Department, Mr. T. Johnston, Secretary of State for Scotland, gave a survey of industrial development in Scotland since 1918. He referred to the advisory committee on Scottish industry which has been set up, and expressed the hope that by its means the industrial aftermath in Scotland of 1914-18, due to concentration on heavy industries for export, will be avoided. In the course of the discussion, Sir John Graham Kerr put in a plea for the development of a variety of small light industries. The industrial belt of Scotland has grown in its present position because the sources of power are close at hand. Industry tends to drift to the more populous parts of the country—in Scotland to the south—and one way of stopping this drift is to carry power all over the country. The transport of power is of vital importance. In the form of coal and oil, subject to road or rail transport, power is only distributed with difficulty and at relatively high cost. The newer method of distribution of power through an electric grid might have a tremendous influence on Scotland and its industries, for, by these means, the site of industry is no longer tied to the source of power, and the feeding of small units becomes feasible.

Austrian Scientific Workers in Great Britain

AN Association of Austrian Engineers, Chemists and Scientific Workers in Great Britain has recently been formed. The main activities of the Association will be to assist members in their professional work and interests, to represent them with the authorities, to promote contact and relations with British colleagues and to form a link with British scientific and technical institutions. Lectures, courses and discussions will be held and will give opportunities for the exchange of views and to discuss matters of mutual interest. It is hoped that the Association may assure that better use is made of the knowledge and abilities of Austrian engineers, chemists and scientific workers who are anxious to assist in the war effort. The acting chairman of the Association is Dr. F. Ehrenfest-Egger; inquiries should be sent to the honorary secretary, Mrs. K. Hilfreich, 133 Hatherley Court, London, W.2. Lectures are being given on the first Monday of each month. Every Monday, commencing June 1, at 7 p.m., a club-room will be open for members of the Association at the Austrian Centre, 69 Eton Avenue, N.W.3, where there will be opportunities to read technical periodicals and to meet other colleagues.

A Relic of Dr. John Dee

THE sale by Messrs. Sotheby of an interesting relic of the mathematician and astrologer Dr. John Dee, who was patronized by Queen Elizabeth, was recorded in *The Times* of May 5. The relic is a gold disk $3\frac{1}{2}$ in. in diameter weighing 1 oz. 4 dwt. 5 gr., bearing the London date letter for 1589 and engraved with a diagram of the "Vision of the Four Castles" which appeared to his medium Edward Kelley, on the morning of June 20, 1584, at a house in St. Stephen's Street, Cracow, where the two men were staying. The diagram is reproduced in "A True and Faithful Relation of what passed for many Years between Dr. John Dee . . . and some Spirits" published in 1659 by Dr. Meric Casaubon. The disk was bought by the British Museum for £230.