

and Prof. A. G. Shenstone; spectroscopy and atomic structure, Prof. G. R. Harrison, Prof. D. R. Hartree and Prof. J. C. Slater. Only the mornings are to be occupied with these topics, the afternoons being left free for informal discussions, the inspection of laboratories, etc. The Conference, it should be noted, is merely the central feature of a summer research gathering of spectroscopists which it is hoped will become an annual feature of the Institute's programme. Already this year a number of investigators have stated their intention of spending some time investigating specific problems with the very complete spectroscopic equipment now available at the Institute.

The British Electrical and Allied Manufacturers' Association ('Beama')

THE 'Beama' (Kingsway, London, W.C.2) has recently published a book entitled "Twenty-One Years" which gives an interesting review of the work done by the British Electrical and Allied Manufacturers' Association since it was founded in 1911. The founders thought that voluntary co-operative action would go far to meet the economic difficulties which at that time were proving a severe handicap to the development of the electrical industry in Great Britain. Practically all the electrical manufacturers in the country are members of this Association. It has done excellent work in introducing order into the commercial relations between its members and its customers. Its opinion has carried great weight when legislation affecting the industry has been proposed. It has promoted far-reaching policies of research and standardisation benefiting engineering in general. The principle behind the Association's activities has been co-operation without the sacrifice of individual initiative. It has succeeded in linking together the manufacturing interests with the leading professional engineering institutions. Mr. D. N. Dunlop has been the director of the Beama since its start and much of its success is due to him. It has done excellent work in providing for the education in Great Britain of students from all countries, particularly from the Dominions. In 1920 it founded a research association which has done excellent work. During the past few years electrical manufacturers have begun to increase their exports to Europe, a sign of competitive efficiency. The Association took a leading part in encouraging the World Power Conference and also in encouraging the National Grid Scheme, the largest electrical achievement in the world.

The National Physical Laboratory

THE report of the National Physical Laboratory for the year 1932 is an illustrated volume of 277 pages which gives a short account of the activities of each department of the Laboratory. Owing to the trade depression, the number of investigations carried out for industry and the number of routine tests have fallen off, and the resulting diminution of income has necessitated reduction of expenditure on materials and equipment, and leaving vacancies on the staff caused by resignations unfilled. The new tank for

ship tests has been completed, the acoustics building is nearly ready and the new wind tunnel for high speed tests is well in hand. The erection of the photometry building has been postponed. A gift of £5,000 has been received from Sir James Lithgow for a propeller water tunnel in the Froude Laboratory. In addition to eighty reports and memoranda on aerodynamical subjects, ninety-one official and twenty unofficial papers on other branches of the work of the Laboratory have been published in scientific and technical journals during the year, and they afford ample evidence that the Laboratory is taking a prominent part in the advance of science and industry.

Physics in American Industry

IN connexion with an editorial note in the April issue of the *Review of Scientific Instruments*, American manufacturers are urged to keep in touch with the fundamental science of physics in all industries which deal with the mechanical and electrical properties of materials, the flow of heat, the use of colour and the reproduction of sound; and some useful information is given as to the means at present available for securing this contact. The *Review*, which is published monthly, goes free to every member of five scientific societies and at a reduced subscription to any person who already subscribes to one of the seven other journals dealing with physics, which are published in the United States. A large proportion of the five to six thousand copies of the *Review* goes into the hands of people associated in one way or other with manufacturers, but the editors consider that in the interest of industry many more copies should be utilised in this way. It is hoped that the association of local physical societies with the recently formed American Institute of Physics will help to link physics and industry more closely throughout the United States.

Science and Education in Poland

THE two outstanding contributions in vol. 16 of *Nauka Polska*, an annual publication devoted to studies in science and letters in Poland, are "The New Trends in Scientific Thought" by Prof. C. Białobrzewski and "The Promotion of Education in the Provinces of Podolia, Volhynia and the Ukraine before the Partition of Poland" by Prof. A. Knot. Prof. Białobrzewski is concerned mainly with the philosophical outlook and with recent developments in psychology, but he also remarks upon the progress now taking place in various branches of physics. He asserts that one epoch in the history of science has just closed and that another, more definitely creative, is beginning. Prof. Knot's account of the early educational facilities in south-east Poland is a well-documented article. The author has traced the development of educational institutions in these remote districts from the fourteenth century to the close of the eighteenth, when the kingdom of Poland was completely partitioned between Russia, Prussia and Austria. Mention is also made in this number of *Nauka Polska* of the celebrations held at Warsaw last year, commemorating the fifty years' existence of the Mianowski Institute. Among the notes from

abroad there is an account of the organisation of science in Great Britain with special reference to the aims and objects of the British Association and of the British Science Guild.

Power Production in the United States

THE chief sources of energy to-day in the United States are coal and petroleum, which between them account for more than 90 per cent of the demand, water power supplying only 10 per cent. A marked change has occurred in the relative proportion of energy obtained from coal and oil in that country over the last two or three decades. According to Messrs. W. S. Hutchinson and A. J. Breitenstein, whereas thirty years ago 91 per cent of the horse power came from coal and only 4 per cent from oil and natural gas, in 1930 horse power from coal had decreased to 60 per cent while that from oil and gas had risen to 31 per cent. It is estimated that by 1950 coal will furnish only 46 per cent of the country's power, while 45 per cent will come from oil and gas, the remaining energy being derived from water power. Consumption of coal in America apparently reached its zenith in 1917, according to Science Service of Washington, D.C., but from this date decline has been rapid, dropping from 6.08 tons per capita to 4.2 tons in 1930; a further drop is forecast for 1950. Although figures, and particularly estimates regarding the relative importance of coal and oil fuels, can be made to be most misleading, this summary of the situation in America, together with the forecast which experts have made, are not without interest and significance in the controversy which is still waging on this very question in Great Britain.

Announcements

SIR RICHARD GREGORY, Bt., editor of NATURE, has been elected a fellow of the Royal Society under the provisions of Statute 12, which provides for the recommendation by the Council of "persons, who, in their opinion, either have rendered conspicuous service to the cause of science, or are such that their election would be of signal benefit to the Society".

BRIGADIER E. E. B. MACKINTOSH has been appointed director and secretary of the Science Museum in succession to Sir Henry Lyons who is retiring next October.

PROF. JOHAN HJORT will deliver the next Huxley Memorial lecture at the Imperial College of Science and Technology, on May 4, 1934, at 5.30 p.m. The subject of his lecture will be "The Restrictive Law of Population". Prof. Hjort is professor of marine biology in the University of Oslo, and was formerly director of Norwegian Fisheries. He was elected a foreign member of the Royal Society in 1916.

At a meeting of the Royal Meteorological Society held on June 21, it was announced that the Council had decided to recommend to a special general meeting of fellows the adoption of revised by-laws, whereby the annual subscription would become two

guineas as from January 1, 1934, instead of three guineas as at present. It is hoped that as a result there will be an increasing number of new fellows.

THE annual conference of the Museums Association will be held at Norwich on July 3-7, under the presidency of Sir Henry Miers. Several papers will be read and two discussions have been arranged, namely, "Provincial Art Galleries" and "The Illustration of Natural Science". A film entitled "The Bittern in Norfolk and other Illustrations of Bird Life", will be exhibited by Lord William Percy. Further information can be obtained from the Local Secretary, Museums Conference, Castle Museum, Norwich.

THE Minister of Health has made Amendment Regulations, to come into force on September 1, to the Public Health (Imported Food) Regulations, 1925 (Statutory Rules and Orders, 1933, No. 347), with explanatory circular (Circular 1325). The principal purpose of the Amendment Regulations is to extend the existing scheme of certification now applied to the importation of any edible part of a pig so that it will apply in the same way to the edible parts of cattle, sheep and goats.

A SUPPLEMENT to the *Times* of June 20, entitled a "Gold Number", gives an account of gold from a number of different aspects. It is shown that the production of gold is in some respects a British Imperial monopoly, the British Empire producing something like 70 per cent of the world's gold output, 50 per cent of this output being due to the Transvaal. The issue is a very complete one and contains information on practically every aspect of gold production and utilisation.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A lecturer in mechanical engineering at the Municipal Technical College and Junior Technical School at Bolton—The Director of Education, Education Offices, Nelson Square, Bolton (July 7). A head of the Department of Biology at the Chelsea Polytechnic, London, S.W.3—The Principal (July 8). An assistant lecturer in organic chemistry at the University College of North Wales, Bangor—The Registrar (July 10). A demonstrator in zoology at University College, Southampton—The Registrar (July 10). An assistant lecturer in mathematics at King's College, Strand, London, W.C.2—The Secretary (July 10). A junior lecturer in chemistry at The University of Edinburgh—The Secretary (July 10). A librarian and curator of the museum for the Borough of Whitehaven—The Town Clerk, Town Hall, Whitehaven (July 15). An assistant lecturer in physics at the University of Leeds—The Registrar (July 17). An assistant master in machine design, applied mechanics, electricity, etc., at Erith Technical College—The Principal, Erith Technical College, Belvedere. A science master at Eastbourne Technical Institute—The Town Clerk and Secretary, Education Office, Mead's Road, Eastbourne.