

Current Topics and Events.

His Majesty the King has approved of the following awards this year by the president and council of the Royal Society:—A Royal Medal to Prof. W. H. Perkin, for his work on the constitution of the alkaloids; a Royal Medal to Prof. A. C. Seward, for his researches on the palæobotany of Gondwanaland. The following awards have also been made by the president and council:—The Copley Medal to Prof. A. Einstein, for his theory of relativity and his contributions to the quantum theory; the Davy Medal to Sir James Irvine, for his work on the constitution of the sugars; the Sylvester Medal to Prof. A. N. Whitehead, for his researches on the foundations of mathematics; the Hughes Medal to Mr. F. E. Smith, for his determination of fundamental electrical units and for researches in technical electricity.

THE following is a list of those recommended by the president and council of the Royal Society for election to the council at the anniversary meeting on November 30:—*President*, Sir Ernest Rutherford; *Treasurer*, Sir David Prain; *Secretaries*, Mr. J. H. Jeans and Dr. H. H. Dale; *Foreign Secretary*, Sir Richard Glazebrook; *Other Members of Council*, Prof. J. H. Ashworth, Prof. L. Bairstow, Prof. F. O. Bower, Prof. S. Chapman, Sir Dugald Clerk, Prof. F. G. Donnan, Prof. E. J. Garwood, Prof. J. P. Hill, Prof. J. B. Leathes, Prof. J. C. G. Ledingham, Sir Thomas Lewis, Prof. F. A. Lindemann, Sir Robert Robertson, Sir Charles Sherrington, Dr. G. C. Simpson, and Mr. W. C. D. Whetham.

SIR ERNEST RUTHERFORD, O.M., who has been nominated to succeed Sir Charles Sherrington as president of the Royal Society, was born at Nelson, New Zealand, on August 30, 1871. Educated at Nelson College and Canterbury College, New Zealand, he proceeded to the University of Cambridge, entering Trinity College. He occupied the post of Macdonald professor of physics, McGill College, Montreal, from 1898 until 1907, when he left to become Director of the Physical Laboratories in the University of Manchester. From thence he went to Cambridge to take up the duties of Cavendish professor of physics, a post which he still occupies and adorns. Nobel Laureate in chemistry in 1908, Sir Ernest was Copley medallist of the Royal Society in 1922. In 1923 he was president of the British Association at its Liverpool meeting, and he remarked that it was in Liverpool in 1896 that he first attended any gathering of the kind, and that there he read his initial scientific paper. Sir Ernest's address was entitled "The Electrical Structure of Matter." The unknown appears, he said, as a dense mist before the eyes of man. In penetrating the obscurity we cannot invoke the aid of supermen, but must depend on the combined efforts of a number of adequately trained ordinary men of scientific imagination. It may be recalled that Sir Ernest Rutherford was the recipient, in 1908, of the Bressa quadrennial prize of 9600 lire (say 400*l.*) at the disposal of the Turin Academy of Sciences, instituted to recompense the most notable scientific achievement during the

particular period. We believe that no other Englishman has received this award.

DR. HENRY H. DALE, C.B.E., who has been nominated for the secretaryship of the Royal Society in succession to Sir William Hardy, is a Londoner, and was born in 1875. Educated at Tollington Park School and the Leys School, Cambridge, he graduated at Trinity College, Cambridge, taking up afterwards his medical career at St. Bartholomew's Hospital, London. At the present time Dr. Dale is head of the Department of Biochemistry and Pharmacology under the Medical Research Council. He gave a series of lectures in Johns Hopkins University, Baltimore, in 1919. Croonian lecturer at the Royal Society in 1919, he was last year awarded a Royal Medal of the Society in recognition of his researches in pharmacology and physiology.

MR. BALDWIN, Prime Minister, in his Rectorial address to the students of the University of Edinburgh on November 6, made a comparison between the aims of university study and the practice of politics. The student learns to acquire "habits of accuracy in measurement, precision in statement, honesty in handling statement, fairness in presenting a cause—in a word, to be true in word and deed." The politician, on the other hand, is concerned with persuading people to support his cause, so that truthfulness has often to be sacrificed to expediency. The result "is inevitably to place a veto on complete frankness, and to tempt recourse to words which are nebulous, hesitating, ambiguous, or misleading." While the discovery of truth is the purpose of scientific investigation, in the political field the truth may be tempered to the minds of an audience if a favourable impression is thereby secured. Mr. Baldwin did not for a moment suggest that such methods of political sophistry were worthy of an educated people, but he excused them as a consequence of a democratic constitution, and he urged that it was the business of universities to change the conditions which enable a modern demagogue to mislead the public. It will be a long time before the voters who decide how the State shall be governed will be able to distinguish between the special pleading of an advocate and the summing up of a judge when political questions are under discussion, and meanwhile they have the power to decide matters upon which they have no actual knowledge. The duty of those who object to this penalty of democratic control is to take an active part in enlightening the public and in securing the entrance into Parliament of members who not only know how to search for truth but also how to use scientific methods in its application to social life.

THE disaster in the valley of the Conway in North Wales on the night of November 2 adds another to the melancholy list of failures of dams, or retaining embankments, which have been constructed to the best of human knowledge and ability, and yet have developed some unsuspected source of weakness

resulting in collapse, unfortunately attended in so many cases by sad loss of human life and much destruction of property. The dam at Llyn Eigiau, North Wales, was constructed in 1908 for the purpose of impounding water to supply hydro-electric power for the aluminium works at Dolgarrog. It is a concrete embankment, shaped in plan like the letter L, with the angle, which, in reality, is slightly curved, jutting into the lake. The enclosure is estimated to have contained, before the collapse, about one thousand million gallons of water. A breach, which occurred near the junction of the two arms of the dam, apparently below the concrete work, allowed the whole or greater part of this mass of water to escape. For a distance of more than two miles, it traversed the relatively level bed of the stream which carries the normal overflow, and then precipitated itself down the mountain side in an almost perpendicular descent of nearly 1000 feet into the Conway valley below. Great boulders of rock, blocks of concrete, a girder bridge, a temporary iron church and a number of buildings were swept away and piled into a mass of débris and ruin along its course. The disaster is said to be the greatest of its kind which has occurred in Great Britain since the catastrophe at Bradfield, near Sheffield, more than sixty years ago, though more notable and devastating failures have been recorded in other countries.

COMMENTING ON our note (NATURE, October 24, p. 620) concerning his recent article on the position of the classics, Prof. J. P. Postgate writes that although it was not unfair to mention that the committee of the British Association had unanimously rejected the claims of Latin to be chosen as the international auxiliary language, it must not be forgotten that the committee, with one dissentient, also rejected the claims of English; and that although reporting in favour of the adoption of an artificial language, namely, Esperanto or Ido, the committee was unable to decide between them. "Their conclusion, then," he says, "was a purely negative one, and in present circumstances it could hardly have been otherwise." We thank Prof. Postgate for reminding us of the further decisions of this committee, but we cannot agree with him that the recommendation of Esperanto or Ido was a "purely negative" conclusion. Esperanto, in particular, is showing much vitality as an auxiliary language, "a special tool for a special purpose"; and we do not think that the position of the classics as a means of culture would in any way suffer if an easier, synthetic language were adopted for scientific and commercial purposes, or even as the medium for the exchange of international thought generally. Did not Mr. John Galsworthy declare recently that such exchange was the only possible salvation of the world?

THE work of M. Léon Guillet is well known to British metallurgists as well as to his compatriots, and many will be interested to know that his recent election to the Paris Academy of Sciences has been made the occasion of a proposal to raise a fund for a testimonial to M. Guillet, in recognition of the services

rendered by him to education, science, and industry. His work has covered a wide range, but his name is best known in connexion with researches on the alloy steels and on bronzes and other alloys of copper, particularly in regard to the changes brought about in them by quenching and other forms of heat treatment. A circular containing an appeal for subscriptions for this purpose has been issued, and is signed by many metallurgists, England, Belgium, Sweden, Italy, Denmark, and the United States being represented as well as France. Subscriptions should be sent to M. Roszak, 8 Rue Jean-Goujon, Paris VIII^e.

It is a gratifying indication of the position of scientific metallurgy in Great Britain that the two principal metallurgical societies, the Iron and Steel Institute and the Institute of Metals, have practically become international organisations, numbering a large foreign membership, and serving as the medium of publication for a mass of important work from foreign countries. We have received from the Institute of Metals a booklet addressed to metallurgists in the United States, containing a list of the two hundred members of the Institute resident in that country, and giving particulars of its activities. Recent volumes of the Journal of the Institute have contained many important papers from foreign sources, whilst its abstracts are much more complete than anything published elsewhere. There are obviously great advantages in a common medium of publication and a common source of reference to metallurgical literature, serving the whole of the metallurgical world acquainted with the English language, and the growth of American membership is a healthy sign.

IN the *Forum* for September several articles deal with China. Of these the more important are "China in Ferment," by Walter Littlefield, an attempt to analyse the present political situation in its bearing upon the covenants of Washington of 1921-1922, and "The Foreign Devil in Young China," by John Brailsford, in which the author seeks to define the relation of western industrialism and western revolutionary thought in China. Neither writer offers much ground for optimism. The former, while crediting Washington with sincerity in forming the covenants through which China was to preserve her territorial and political entity, considers that both China and the other Powers signatory to the convention who are interested in the exploiting of China have proved indifferent to Washington's solicitude. The author fails to see that his naïve conclusion that not only is it difficult to gauge the real attitude of the individual Tuchuns but also that any one of these who may hold Peking is prepared to assent to measures which he is unable to guarantee will be carried out, and his still more naïve confession that Washington does not appear to have grasped this fact, are not only a criticism of the United States diplomacy, but also an endorsement of the attitude of Great Britain that China must first place her house in order before anything can be done in regard to treaty rights. Of this attitude he is both critical and suspicious. In

the second article, Mr. Brailsford shows that the intellectuals and students, whether Christian or heathen, have eagerly embraced revolutionary ideas out of sympathy with labour in opposition to western industrialism. They favour, on the whole, a class struggle rather than peaceful reform by development of the Chinese guild and social systems. As the adverse conditions of western industrialism have had as yet little or no opportunity to develop in China, the revolutionary attitude seems unreal and doctrinaire as well as misdirected. The need for political and administrative reform is real enough.

MR. R. A. CHATTOCK, the electrical engineer to the City of Birmingham, gave a short but interesting presidential address to the Institution of Electrical Engineers on October 22. He pointed out that the new processes being introduced for the production of steam enable us to obtain more perfect combustion and higher temperatures. The difficulties with regard to furnace linings have been overcome by screening the furnace walls with water tubes which form part of the boiler itself. He then pointed out some of the advantages of pulverised fuel. He reminded his hearers that if the distillation of coal proves to be commercially feasible, from 30 to 70 per cent. more weight of coal will have to be handled so as to get a given electrical output. Hence although in some cases it will be profitable to adopt this process, the number of pounds of coal for a given output will compare very unfavourably with that required by a station burning coal to destruction. There is also, as in the case of the gas industry at the present time, a serious financial risk of finding it impossible to dispose of the by-products at a remunerative price. Mr. Chattock laid stress on the importance to a power station of having the ratio of the average output to the total output, that is, the load factor, as large as possible. A residential neighbourhood has only a power factor of about 10 per cent. If prices to the consumer are to be reduced, it is necessary to foster the use of electricity for heating and cooking by an attractive two-price tariff. He is opposed to the political agitation for constructing a few large power stations and distributing over considerable distances to many substations. In his opinion the cost of distribution would in general be so great that no appreciable reduction in the price would be possible. It will be remembered, however, that the main reason for Mr. Snowden making the suggestion in 1924 was that it would reduce the number of unemployed. Mr. Chattock is also strongly opposed to having a single standard frequency for alternating current supply. He pointed out the great convenience of having mercury arc rectifiers in order to convert alternating to direct current supply. Most engineers are in favour of standardisation, but if it be adopted too soon, it will only hamper progress.

ON Saturday, November 7, the Marchese de Pinedo landed at Rome, after having completed a flight in a Savoia 16 flying boat of about 35,000 miles to Australia and Japan and back again. This remarkable journey commenced on April 21 last, and the route followed was via Baghdad, India, Burma, Singapore, and the

Dutch East Indies, to Australia. Leaving Australia and turning north, Japan was reached, and here a new engine was fixed. Thus some 20,000 miles were covered by the first engine, and the second sufficed to bring the seaplane home via the coast of China to Burma, and then along the usual airway to Europe. Throughout the journey, which took 370 flying hours, the Marchese de Pinedo was accompanied only by one mechanic. The achievement was noteworthy as regards both the skill and endurance shown by the airman and the general trustworthiness for transcontinental and transoceanic travel which the seaplane has shown itself to possess.

THE hundredth annual course of Christmas Lectures for Juveniles at the Royal Institution will be delivered this year by Sir William Bragg on "Old Trades and New Knowledge." The trade of the sailor is the title of the first lecture, to be given on Tuesday, December 29, and the following five lectures will be on the trades of the smith, the weaver, the dyer, the potter and the miner.

THE president of the Executive Committee of the International Research Council has summoned a meeting of the General Assembly of that body to be held at Brussels on June 29, 1926. The object of the meeting will be to discuss the advisability of removing from the statutes the restrictions which have hitherto stood in the way of admitting the Central Powers of Europe to the Research Council.

APPLICATIONS for the Royal Society Government Grant for Scientific Investigations for 1926 must be received by, at latest, January 1 at the offices of the Royal Society, Burlington House, Piccadilly, W.1. They must be made on a printed form obtainable from the clerk to the Government Grant Committee, Royal Society.

AN informal lecture will be delivered before the Chemical Society at Burlington House on Thursday, November 26, by Prof. R. Robinson, professor of organic chemistry in the University of Manchester, who has chosen as his subject "Recent Researches on the Structural Relationships of some Plant Products." The lecture will be given at 6 o'clock, and not at 8 o'clock as originally announced.

THE first broadcasting station in the Irish Free State has been erected by Marconi's Wireless Telegraph Company, Ltd., in the McKee Barracks in the outskirts of Dublin. The studio will be in Denmark Street, off Henry Street. The transmitter, which will operate on a wave-length of 390 metres and will use the call sign 2RN, is a Marconi 6 kw. type Q set. This is the same type as that used at the majority of British broadcasting main stations, and also at a large number of foreign stations. It is expected that tests will begin shortly, and that the service will be inaugurated during December.

AN exhibit of winter-flowering begonias, showing the wild species from which these winter-flowering begonias have been derived, has been arranged at the Royal Botanic Gardens, Kew, in the house which is devoted to objects of special and current interest. The two wild species which are particularly

concerned are *Begonia socotrana*, from the Island of Socotra, and *Begonia Dregei*, from South Africa. *B. socotrana* was introduced in 1880 by the late Sir Isaac Bayley Balfour, Regius Keeper of the Royal Botanic Garden, Edinburgh. This, in itself a beautiful winter-flowering species, has proved of immense importance as the progenitor of our present-day race of winter-flowering Begonias. From 1883 onwards Messrs. J. Veitch and Sons produced many fine winter-flowering varieties by inter-crossing it with various tuberous-rooted varieties of begonia from the Andes of South America. Some of the most recent hybrids resulting from these crosses are "Exquisite," "Fascination," and "Optima," which are shown in this group. The leaves tend to resemble those of the Andean species rather than those of *B. socotrana*. Though they are very beautiful plants, as can be seen from the display in the Kew Conservatory, they are not very generally grown as their cultivation presents some difficulties. M. Lemoine, of Nancy, in 1892 crossed *B. socotrana* with the South African species, *B. Dregei*. The resulting hybrid was *B. Gloire de Lorraine*, of which there are now several varieties, including some of American origin, such as "Glory of Cincinnati" and "Mrs. Petersen." These are now some of the most popular and easily grown plants for winter decoration. There are now four additional sets of picture postcards in colour on sale at the Royal Botanic Gardens. These comprise a set of stove and greenhouse plants, two series of rock garden and hardy herbaceous plants, and a set of Himalayan rhododendrons.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A professor of materia medica at the Royal Veterinary College, Camden Town, N.W.1—The Secretary (November 21). A lecturer in the department of electrical engineering of Bradford Technical College—The Principal (November 24). The professorship of physics at University College, Nottingham—The Registrar (November 28). A county analyst under the Lancashire County Council—Clerk of the Lancashire County Council, County Offices, Preston (November 28). An assistant lecturer in mechanical engineering at the Manchester Municipal College of Technology—The Registrar (November 30). A lecturer in pathology and bacteriology in the Welsh National School of Medicine, Cardiff—The Secretary (December 4). An assistant lecturer in physics at Natal University College Pietermaritzburg—The Registrar (December 31). A part-time assistant in the department of zoology and geology of University College, Southampton—Dr. W. Rae Sherriffs. A lecturer in education in the University College of Wales, Aberystwyth—The Secretary. A professor of biology and a professor of bio-chemistry in the College of Medicine, Singapore—The Private Secretary (Appointments), Colonial Office, 38 Old Queen Street, S.W.1. A laboratory assistant in the physics department of the Liverpool Collegiate School for Boys—Director of Education, 14 Sir Thomas Street, Liverpool. A male junior assistant in the Research Department, Woolwich, for computing work in connexion with ballistic observations—Chief Superintendent, Research Department, Woolwich.

Our Astronomical Column.

NOVEMBER METEORS.—Mr. W. F. Denning writes: "The return of these meteors is due on the mornings of November 15 and 16, but they are not expected to be unusually abundant. In certain years, however, when the display was not anticipated, it came with special activity.

The orbit of the stream extends out to beyond the path of Uranus, and the cometary system, to which it owes its parentage, has a period of about $33\frac{1}{2}$ years. All along this lengthy ellipse the meteoritic particles are distributed, and they are certainly clustered more abundantly in certain sections of the orbit than in others. Hence the annual displays vary in their character, some being much richer than others.

This year there will be no moonlight to interfere with observation. The radiant point does not rise until nearly 10.30 P.M., and the meteors cannot be seen before that time; in fact, the most promising period at which to watch for them lies between 1 and 5 in the morning. The splendid display of 1866 reached its maximum at about 1.10 A.M., when one observer counted about two hundred meteors per minute.

The meteors of this system are generally bright, very swift, and leave luminous trails which often linger for several seconds and, in the case of very bright objects, may endure for 10 or 15 minutes. The directions of the meteoric flights are from the well-known "sickle" of stars in the western part of Leo.

The comet associated with this shower was last

seen in 1866. It will return in 1933, and for several years before and after that time showers of these mid-November meteors should be as abundant as they are attractive.

Though one of the richer sections of the stream which gave us the display of 1866 was sufficiently disturbed by the attraction of Jupiter to enable it to pass outside the earth's orbit in about 1899, there are other regions of the system capable of inducing rich displays, as in 1867, 1868, and 1869. There were also fairly abundant exhibitions of meteors in 1901 and 1903."

THE MASSES AND COLOURS OF THE STARS.—*Astr. Nach.* No. 5394 contains two papers on these subjects by G. Shain and Miss V. Hase, of the Simeis Observatory, Crimea.

The former contains arguments favouring Eddington's masses, deduced on the assumption that absolute luminosity is a function of mass, rather than those of Seares, deduced from the principle of equipartition of energy (*i.e.* assuming that Mv^2 is constant for all stars). The latter principle is shown to fail for the brighter giant stars, notably those of type B, though for the dwarfs it agrees fairly with Eddington.

In the other paper it is argued that there is a correlation between colour and absolute magnitude, the giants of a given spectral class being redder than the dwarfs, and the dwarfs having the higher temperature for a given intensity of spectral lines.