

### Current Topics and Events.

A SOCIETY for Cultural Relations between the peoples of the British Commonwealth and the Union of Socialist Soviet Republics has been founded recently in London. The objects of the Society are : (1) To collect and diffuse information in both countries on developments in science, education, philosophy, art, literature, and social and economic life ; (2) To organise lectures and an interchange of lecturers, conferences, exhibitions, etc., and to arrange for the publication and translation of papers and books ; (3) To provide opportunities for social intercourse ; (4) To take any action deemed desirable to forward the intellectual and technical progress of both peoples. Russia has unfortunately been cut off from all other civilised countries for about ten years, owing to the War and the revolution which followed it. Only in this year has it been possible to break down some of the wall separating Russia from other peoples. Through the crevices Europe begins to see that, in spite of the most difficult conditions prevailing in science and art, the great spirit of Russia is still alive and even active. Hunger, shortage of necessary technical materials, apparatus and books, the necessity of working in rooms and laboratories where the temperature in winter was near freezing-point, prosecution by the Government—all this has not killed the spirit of Russia. The attempts of the Government to proletarianise science and art have not been very successful for a simple reason, namely, there is only one truth, the same for proletarians and bourgeois, the desire for which is that peculiar feature which distinguishes a man from an animal. For Russians the breaking down of the wall surrounding their country has become much more important than for countries which are outside this wall: the development of western science, art, literature, philosophy, and social life, which is free and not "controlled" by Government and has proceeded under normal conditions of life, has resulted in remarkable progress. There is no need to point out how vital the knowledge of this progress is to Russia. From this point of view, it is necessary only to wish all success to this new society, provided it does not become an official organisation, but remains free from any official control and concerns itself only with the promotion of friendly relations between the intellectual representatives of both countries.

By the retirement, after fifty years of service, of Dr. H. J. H. Fenton, who went to Cambridge in 1874 as an undergraduate of Christ's College, the University has lost a well-known personality and the Chemical Department a distinguished man of science. Dr. Fenton has taken part in the development of chemistry in the University from its infancy, since he became junior demonstrator, under Prof. Liveing, some years before the new laboratories, the nucleus of the existing buildings, were completed and occupied in 1888. In 1886 Fenton published an investigation on the hydration of ammonium carbamate to ammonium carbonate in aqueous solution, in the course of which he employed a novel method of

analysis depending upon the fact that sodium hypochlorite sets free only the ammonia nitrogen, whilst sodium hypobromite liberates the amide nitrogen as well. In 1894 he began a fruitful series of researches on the oxidation of hydroxy-acids by hydrogen peroxide in the presence of traces of ferrous iron as catalyst. At an early stage of this work he prepared from tartaric acid the interesting compound dihydroxymaleic acid, and by heating it with pyridine obtained the simplest sugar, glycollic aldehyde. In 1899 Fenton and Miss Gostling discovered the chloro- and bromo-methyl furfuraldehydes, which they obtained by treating ketohexoses or cellulose with the corresponding halogen hydrides. Apart from their intrinsic interest, these compounds formed the basis of new colour tests for certain classes of compounds; e.g. by treating bromomethylfurfuraldehyde with malonic ester in the presence of alcoholic potash a fluorescent material was produced, which Fenton showed could be employed to distinguish hexoses from pentoses. Another interesting substance, termed by Fenton methylfural, gave colour-reactions with primary amines and carbamides. Readers of Fenton's "Outlines of Chemistry" and of his more elementary "Physical Chemistry for Schools" will obtain some idea of the scope of the material which formed the basis of his lectures, but only those who followed the lectures were aware of the masterly treatment of the subject. His "Notes on Qualitative Analysis" constitute the *vade mecum* for thousands of students of that particular branch of practical chemistry.

An exhibition is now being held in the Assyrian Basement of the British Museum of some of the objects found by the Joint Expedition of the Museum and the University Museum of Philadelphia to Mesopotamia during 1923-24. The principal objects now shown were found around the Temple platform at Tell el-Obeid about five miles from Ur. Of these, the most important, from the historical point of view, is the marble foundation tablet bearing the hitherto unknown name of King A-an-ni-pad-da of the First Dynasty of Ur, which dates back to before 3000 B.C. The exhibit includes a pictorial representation by Mr. C. L. Woolley of the walls and entrance of the temple as they stood originally. This enables visitors to appreciate the significance of the remarkable collections of models of animals and the friezes in bas-relief which adorned the walls with representations of animals and scenes of agricultural life. A wonderful copper statue of a bull some 2 ft. 4 in. high and 2 ft. 8 in. long is undoubtedly the oldest hollow statue now known to exist. It reveals a remarkably high technique for so early a date. It was made by carving the body and limbs in wood separately, and fastening them together with copper wire. Thin copper sheets were then hammered over the whole. The exhibition includes several examples of the use of different coloured *tesserae* inlaid in bitumen for decorative purposes. The collection will be on view for about two months before it is apportioned to the British Museum, Philadelphia and Baghdad.

THE Natural History Branch of the British Museum, which started its series of picture post-cards not long ago, has gone ahead with them rapidly. Some beautiful examples in colour have been produced by Messrs. Stone, Waterlow and Sons, and W. F. Sedgwick. Of these, 70 cards illustrate insects, 10 birds, 5 reptiles, and 15 plants; and 20 cards represent 122 eggs of British birds. The monochrome series comprises 20 views of the building, 90 mammals, 35 birds, 40 insects, 25 plants, 60 fossils, 15 meteorites, 15 reptiles, 10 corals and sponges, and 10 rare and curious natural history books. Among recent additions, those in colour of British flowering plants promise to be as useful as they are attractive; each shows a plant or spray in flower, a single flower, fruit, and sections; they are made from drawings, but the name of the artist is not given. There are three sets of very life-like reptiles and batrachians, presumably from exhibited specimens. Miss Alice B. Woodward, who worked under the guidance of the late C. W. Andrews, has contributed six characteristic reconstructions of extinct mammals, mainly Proboscidea. New ground is broken by a set illustrating the life history of the common eel, based on the memoir and photographs by Dr. Johs. Schmidt. The educational value of all these cards is considerable, and teaching establishments not already acquainted with them should write to the Director for the latest list.

THE statement of activities of the National Research Council of the United States for the year ending June 30, 1923, is now issued as Circular 49 of the Council. It appears that the Council now derives the whole of its finances from other than Government sources, and is in consequence entirely controlled by its own chosen officers. Its budget for the year was half a million dollars, and in addition it is spending one and a third million dollars on the new building at Washington to accommodate the Academy and the Council, described in *NATURE* of July 22, 1922, p. 120, and June 28, 1924, p. 940. It maintains about 100 post-doctorate research fellowships in physics, chemistry, biology and medicine from funds derived from the Rockefeller Foundation. Under its sponsorship a considerable number of special organisations carry on research on physical, engineering, chemical, geological, biological, anthropological, psychological and medical questions, such as the structure of the atom, research chemicals, petroleum, sex problems, immigration, food and nutrition. There can be no doubt as to the determination of the people of the United States to make their country a great centre for research, nor as to the energy with which they are carrying out their intention.

In his presidential address to the Society of Chemical Industry, delivered on July 9 in Liverpool, Dr. E. F. Armstrong referred to the success of the chemical exhibits at the British Empire Exhibition, of the chemical literature which has been issued in connexion therewith, and of the Bureau of Chemical Abstracts, which has been formed to prevent overlapping in the abstracts that are issued by the Chemical Society and the Society of Chemical Industry. On the other hand,

he deplored recent signs of increasing competition between the various chemical societies, and the inaction of the Federal Council for Pure and Applied Chemistry in regard to the further consolidation of chemical interests and the establishment of a central Chemistry House. The greater part of the address consisted of a dissertation on the fats, written in collaboration with Mr. John Allan, which gives an excellent survey of existing knowledge and problems in this important field, and would be still more valuable if it had been published with full references to the original literature.

A MARKED degree of success appears to have attended the tests of wireless reception and transmission to and from a moving train carried out by the Radio Society of Great Britain on July 4. An experimental apparatus both for sending and receiving was installed on the express train leaving King's Cross at 7.38 P.M. for Newcastle, and signals transmitted from the train were received at distances of more than 200 miles. Observers in London could hear the signals distinctly while the train was approaching Newcastle (268 miles from King's Cross), and reception was reported from localities so far distant from the line as Shrewsbury and Glasgow. In spite of the deafening noise of the train, and other difficulties, the receiving apparatus worked satisfactorily, and those on the train were in touch with the transmitting station of the Society at Shepherd's Bush, London, while the train was passing through Darlington at 65 miles per hour. An experimental station at Bedford was kept in touch with for more than 150 miles. The complete analysis of the results is not yet available, but enough has been done to show that wireless communication with moving trains is a practical proposition.

THE Southend-on-Sea Public Museum (Prittlewell Priory) has just been enriched by the gift by Major Weber of the Hoy collection of birds (1797-1839). With one or two exceptions the Hoy collection is complete and consists of more than 260 cases. Most of the birds were taken in Essex, Suffolk, and Norfolk, and the collection contains many rare and valuable specimens. Among these are the first recorded British specimen of the pectoral sandpiper, bustards, ospreys, and eagles. The Southend Museum contains also the Christopher Parsons collection of birds (1807-1882) from south-east Essex, and since the Museum was opened in 1922 many rare bird visitors to the county have been secured by purchase, these including the first specimen of the yellowshank recorded in the eastern counties and the third in Britain; the smew; blue-headed wagtail; and numerous other birds. Major Weber's gift, added to the existing collection, makes the ornithological department of the Museum noteworthy among collections of local birds in Great Britain.

IN the seventh Trueman Wood Lecture delivered before the Royal Society of Arts on May 21 and just published in the Society's Journal, Sir William Pope spoke on "The Outlook in Chemistry," and gave a lucid exposition of recent progress in the field of atomic structure, valency, and crystal structure.

He referred particularly to the necessity of altering the methods of teaching chemistry which seems to result from this recent work. It was suggested that a preliminary account of the manner in which all the specialised parts of chemistry fit into the general scheme of the electronic structure of matter and energy should be given. The suggestion was also made that progress in chemical discovery would be more rapid if organised research on specific problems were undertaken rather than individual work.

A FEW days ago the British Cast Iron Research Association formally took possession of its own Laboratories, in Guildford Street, Birmingham, which have been equipped for the conduct of chemical analyses and general metallurgical and heat treatment work. The capacity of the Association to deal with its work will thus be greatly increased, but it is not intended to abandon the policy of having investigations conducted in university laboratories and in the works of members. It is anticipated that the Association, which commenced a new financial year on July 1, will incur an expenditure during the year of between 6000*l.* and 7000*l.* The research programme includes investigations on erosion- and corrosion-resisting and other special cast irons; moulding sands; graphitisation; cupola practice; standardisation of test bars, materials and methods; facing sands and blackings, and cast iron to resist abrasive wear, and jointly with the British Motor and Allied Manufacturers' Research Association, automobile cylinders and pistons.

REFERENCE has already been made (May 24, p. 756) to the valuable "Handbook to the Exhibition of Pure Science" prepared by a committee of the Royal Society in connexion with the exhibits arranged by it in the Government Pavilion at Wembley. The Handbook contains, in addition to descriptions of the exhibits, a most instructive series of twenty-two articles by leading authorities upon current scientific work and problems, and every student of science should possess a copy of it. We are glad to know that arrangements have been made for its sale outside the Exhibition through Messrs. A. and F. Denny, Ltd., 163A Strand, London, W.C.2, who can supply the Handbook direct or through booksellers. The price is 1*s.*, or post free 1*s.* 3*d.*; and as the book contains 228 pages it is remarkably cheap, as well as superior to many volumes published at a much higher price, whether intended for the general public interested in science or for students in school or college.

THE annual field day at the National Fruit and Cider Institute of the University of Bristol, Long Ashton, was held on Tuesday, July 15, and was attended by a representative gathering of agriculturists and horticulturists from all parts of the West of England and even farther afield. Among those present were Lord Bledisloe, chairman of the Governing Body of the Station, and Mr. W. G. Lobjoit, Controller of Horticulture, representing the Ministry of Agriculture and Fisheries. The visitors were first given the opportunity of sampling the

ciders produced during the last two seasons in the course of the Station's experimental work on cider-making. These were exhibited in the new wing recently added to the cider house. The variation in the quality of ciders due to seasonal influences was markedly illustrated by comparing ciders made in 1922 and 1923 from some of the more famous vintage varieties of apples, such as Kingston Black, Cap of Liberty, and Foxwhelp, the advantage being definitely in favour of the 1922 vintage. Among other interesting features illustrated by the ciders were the effects of storage of the fruit under various conditions prior to cidermaking, the results of natural fermentation of the juice as compared with fermentation of pasteurised juice by specially selected yeasts, and the different degrees of control of fermentation obtainable by methods of racking and filtration. After sampling the ciders the visitors were conducted through the fruit plantations to inspect the various features of the experiments at present in progress. The attention of the parties was directed by guides to the numerous field investigations in progress on many subjects of importance to the fruit-growing industry.

MR. R. M. STEWART, assistant director of the Dominion Observatory at Ottawa, has been appointed director of the Observatory in succession to Dr. O. Klotz, who died in December last.

WE learn that the Radio Society of Great Britain is in touch with the Postmaster-General regarding the restrictions as regards transmissions to the dominions and foreign countries recently introduced into the experimental transmitting licences now being issued. It is hoped that an official announcement may be made at an early date.

AT the annual general meeting of the Faraday Society held on July 7, Prof. F. G. Donnan was elected to succeed Sir Robert Robertson as president. The annual report records considerable activity during the past year, the result of which is reflected in the accounts, which show a deficit of 109*l.* 11*s.* 5*d.* on the year's work. Eleven meetings were held during the year, and of these four were general discussions, which have become so striking a feature of the work of the Society. The subjects of these were: (i.) "Alloys Resistant to Corrosion." (ii.) "The Physical Chemistry of the Photographic Process." (iii.) "The Electronic Theory of Valency." (iv.) "Electrode Reactions and Equilibria." The widespread appreciation in which the publications of the Society are held is indicated in the fact that the sales of Transactions and reprints amounted to nearly 900*l.*, a figure in excess of the amount received for subscriptions. It is surprising to note that the membership of this very active Society is only 432, and that consequently an appeal for a larger membership is made in the annual report. Particulars relating to the Society may be obtained from the secretary and editor, Mr. F. S. Spiers, 90 Great Russell Street, London, W.C.1.

In commenting upon an article in NATURE of July 12 on "Artificial Daylight," a correspondent suggests that

the apparent indifference to daylight lamps is due to their excessively high prices. Our contributor, Dr. Martin, remarks that he has no knowledge of the actual cost of production, but he agrees that the average price appears to be high. Doubtless, however, an increased demand would cheapen production and result in lowered prices. The question is one with the general question of efficient lighting. To take an actual example, there are many days during the winter in which the grading and examination of such things as seeds, tea, tobacco, etc., is very difficult, if not impossible. There is no doubt that time and money are lost in this way for want of an efficient illuminant. The actual cost of a good daylight lamp would be negligible in comparison with the saving effected; that is, if the user trusted his lamp and the customer had been educated to the point of trusting it also.

The following are among the pensions granted during the year ended March 31, 1924, and payable under the provisions of section 9 (1) of the Civil List Act, 1910: Mrs. C. A. F. Rhys Davids, in recognition of her contributions and those of her husband, the late Prof. Rhys Davids, to the advancement of Pali and Buddhist knowledge, 100*l.*; Mrs. Blanche Hartog, in recognition of the contributions of her husband, the late Prof. Marcus Hartog, to the study of natural history, 50*l.*; Dr. Alice Lee, in recognition

of her services to the cause of scientific research, 70*l.*; The Misses Ethel Marian and Katherine Elizabeth Rivers, jointly and to the survivor, in recognition of the services rendered by their brother, the late Dr. W. H. R. Rivers, to the cause of anthropology, physiology, and psychology, 100*l.*; Mrs. M. F. Robertson, in recognition of the services rendered by her husband, the late Dr. W. F. Robertson, to science and medicine, 100*l.*

MR. F. EDWARDS, 83 High Street, Marylebone, has just issued Catalogue No. 460 (British Empire Series, No. 3), containing the titles of upwards of 1100 works relating to India, Burma, Ceylon, Afghanistan, Beluchistan, Malaya, and Borneo. Many of the books listed formerly belonged to the late Dr. W. Crooke, a regular contributor to NATURE.

WE have received Bulletin 212 of the Department of the Interior, Washington, entitled "Analytical Methods for Certain Metals, including Cerium, Thorium, Molybdenum, Tungsten, Radium, Uranium, Vanadium, Titanium, and Zirconium," by R. B. Moore, S. C. Lind, J. W. Marden, J. P. Bonardi, C. W. Davis, and J. E. Conley. The pamphlet is of great value and should be found useful by analysts. Many modern products (*e.g.* special steels) contain these so-called "rare" elements, and rapid and accurate methods for their estimation are required.

### Our Astronomical Column.

LARGE FIREBALL.—On July 7, a few minutes after midnight, a splendid meteor was observed at various places. It appeared, however, at a time when few observers were about, and hence we are not likely to receive many accounts of it. The object gave a very vivid illumination for a few seconds and moved very slowly from a radiant very probably in Scorpio. The descriptions already to hand are not, however, sufficiently definite to allow safe deductions to be made from them. From near Dunstable, the flight of the fireball was recorded as from  $\kappa$  Draconis to a little below  $\alpha$  Aurigæ. From near Ludgate Hill, London, the meteor appeared as a large ball of fire leaving a trail of white sparks. The nucleus was yellow in the central part and brilliant orange in the outer portion.

Observations of the position of the flight and its duration would be valuable. Large meteors have often been directed from Scorpio in the three months May, June, and July, the radiant point being a few degrees N.E. of the bright red star Antares.

AUGUST PERSEIDS.—This annual display of meteors has already given clear evidence of its activity. Mr. Denning, writing from Bristol, states that he observed an early Perseid this year on June 27, when the radiant was in about  $356^{\circ}+39^{\circ}$ . From this point in Andromeda, the shower will move to E.N.E. through the northern region of Perseus and on between the constellations of Auriga and Camelopardalus. This stream of meteors has the longest duration of any known shower and the propriety of terming it "the Perseids" is perhaps questionable seeing that the meteors, during a portion of the shower's activity, diverge from Andromeda and other constellations.

Of late years this shower has formed some attractively abundant displays and notably so in 1921 and 1923. In the former year there was a decided maximum, the horary number reaching 250 for one

observer on Aug. 12 A.M. Coulvier-Gravière, a great French observer of meteors in the first half of the last century, thought that, after a maximum which he observed in 1848, the strength of the display declined so rapidly that it would be extinct by the year 1860. His conclusions were, however, far from being realised, and the shower continues to be visible every year with apparently the same richness as it exhibited in former times.

THE CANADIAN ECLIPSE EXPEDITION TO WALLAL 1922.—C. A. Chant and R. K. Young have just published the details of their investigation of the gravitational bending of starlight made at Wallal (Publications of Dominion Astrophys. Observ., vol. ii. No. 15).

An equatorial was taken, the general design of which is stated to resemble that of the 100-inch at Mt. Wilson. The total weight was about a ton. A guiding telescope of  $4\frac{1}{2}$ -inch aperture was attached to the camera,  $\beta$  Virginis being used for guiding. Two plates were taken for the Einstein investigation, each with 45 seconds exposure; 20 stars are shown, the magnitudes of which range from 4.3 to 9.5, but the two faintest were not used.

Full details are given of the measurement and reduction. The adopted mean shift at the sun's limb is  $1.75''$ , exactly agreeing with Einstein's value. The separate values for measures in the  $x$  and  $y$  coordinates are  $1.32''$ ,  $1.96''$ .

The results are insufficient to *prove* that the individual shifts follow Einstein's law (shift varies inversely as distance from sun's centre): but they group themselves fairly satisfactorily on either side of the theoretical curve.

The three separate investigations made during this eclipse all give mean results very close to Einstein's value.