Current Topics and Events.

IN the *Times* of November 14 a special correspondent in Berlin, dealing with the disarmament of Germany, stated that the German intention "to increase the frightfulness of war by new methods" was finding "its expression in the creation of a great laboratory attached to the Kaiser Wilhelm Institute near Berlin, the object of which is to study war from the scientific point of view." "This mysterious, powerfully equipped, and strongly financed laboratory," it was added, "works in close contact with several parallel institutions scattered over Germany, and especially with the Gas Testing Institute in Hanover." This allegation has been met by a letter from Dr. H. Freundlich, the Deputy Director of the Kaiser Wilhelm Institute, refused, he states, by the *Times*, and so published in the *Berliner Tageblatt* of December 16. Dr. Freundlich states, in the most explicit terms, that neither in the Kaiser Wilhelm Institute for Physical Chemistry and Electrochemistry, nor in any other Institute associated with the Kaiser Wilhelm Society, is there any work in progress that has the purpose of developing war from the scientific point of view, and that all work there undertaken is exclusively scientific and technical investigation for the industries of peace, and having nothing to do with the purposes of war. Finally, Dr. Freundlich invites the correspondent of the *Times*, accompanied by any expert he may choose, to visit the Kaiser Wilhelm Institute, so that he may investigate fully the situation and the character and purpose of the work which is being there carried out. We cannot, of course, know the considerations which led the *Times* to decline to publish this very emphatic repudiation of a serious charge, yet it seems highly desirable that the invitation of the Deputy Director of the Institute should be accepted, and the results made known in Great Britain. What can be credited to our late enemies should be credited, and if there could be an assurance that the great Institute, which was, and is still, presided over by Dr. Haber, is now entirely detached from scientific work relating to warfare, it would be welcome news to all who are waiting for additional signs of a real regeneration of Germany in heart as well as in economic prosperity.

IT is unfortunate that the mere mention of the word atom in a scientific lecture to which reporters are admitted now usually leads to sensational statements in the daily press, much to the annoyance of the lecturer and the detriment of scientific truth. This happened last week in connexion with a lecture delivered at the University of Leeds by Prof. R. Whiddington during a meeting of the Science Masters' Association. The lecture consisted merely of a general account of the present position of atomic physics with special reference to the work of Rutherford and Bohr. Prof. Whiddington's allusions to his own work were made to indicate the lines along which investigation into X-ray electrons and vacuum discharges was being attempted in the University of Leeds, and to give those members of the audience who so wished, an opportunity of seeing the kind of apparatus used. It is scarcely necessary to say that no extravagant claims of the kind suggested in a London newspaper were put forward by Prof. Whiddington or implied in what he said, and the most charitable explanation of the fantastic account published is that the reporter could not sufficiently well comprehend a lecture delivered to an audience consisting mainly of university graduates in science.

THE following presidents and recorders have been appointed for the meeting of the British Association to be held at Southampton on August 26-September 2: *Section A* (Mathematics and Physics)—President: Dr. G. C. Simpson; Recorder: Prof. A. M. Tyndall, University, Bristol. *Section B* (Chemistry)—President: Prof. C. H. Desch; Recorder: Dr. H. McCombie, King's College, Cambridge. *Section C* (Geology)—President: Dr. W. G. Miller; Recorder: Prof. W. T. Gordon, King's College, Strand, W.C.2. *Section D* (Zoology)—President: Mr. C. Tate Regan; Recorder: Mr. F. Balfour Browne, Dysart House, Luard Rd., Cambridge. *Section E* (Geography)—President: Mr. A. R. Hinks; Recorder: Dr. R. N. Rudmose Brown, University, Sheffield. *Section F* (Economic Science and Statistics)—President: (not yet appointed); Recorder: Prof. H. M. Hallsworth. *Section G* (Engineering)—President: Sir Archibald Denny, Bart.; Recorder: Prof. F. C. Lea, University, Sheffield. *Section H* (Anthropology)—President: Dr. T. Ashby; Recorder: Prof. H. J. Fleure, University College, Aberystwyth. *Section I* (Physiology)—President: Prof. A. V. Hill; Recorder: Dr. J. H. Burn, Felden Close, Boxmoor. *Section J* (Psychology)—President: Prof. C. Spearman; Recorder: Dr. Ll. Wynn Jones, 7 St. Mary's Avenue, Harrogate. *Section K* (Botany)—President: Prof. J. Lloyd Williams; Recorder: Mr. F. T. Brooks, 31 Tenison Avenue, Cambridge. *Section L* (Educational Science)—President: Dr. W. W. Vaughan; Recorder: Mr. C. E. Browne, Christ's Hospital, West Horsham. *Section M* (Agriculture)—President: Dr. J. B. Orr; Recorder: Mr. C. G. T. Morison, School of Rural Economy, Oxford.

OF the many recent efforts made by British manufacturers to establish a home industry in the production of colouring matters, one of the most successful has been the enterprise started under the wise inspiration of Mr. James Morton, of the Morton Sundour Fabrics, Ltd., of Carlisle. Until 1914, this firm was entirely a dye-using undertaking dependent on continental sources for its supply of fast dyes. The stoppage of German supplies of colours consequent on the outbreak of war led Mr. Morton to turn his attention to the production of these essential dyestuffs, and, gathering together a group of chemists, he encouraged them to work out the difficult problem attendant on the large-scale production of modern vat colours, a group of chemical substances having highly complicated constitutions. By the end of 1915, the intricacies of indanthrene blue and flavanthrene (indanthrene yellow) had been unravelled,

and these colours were being turned out on a manufacturing scale. Other dyes of the same class speedily followed. These persevering investigations were not, however, restricted to the imitation of foreign products. The chemists of the Sundour factory, with commendable initiative, extended the scope of their work to the search for entirely new colouring matters. Here again they achieved a noteworthy success in the discovery of a new group of dyes, known as the Caledon Jade-green series, for the typical representative of this group is unsurpassed for fastness and colouring power.

A FURTHER important development is now announced from Scottish Dyes, Ltd., an offshoot of the Sundour firm. Processes have been discovered for rendering soluble the anthraquinone vat colours, in this way overcoming one of the disadvantages attending the use of these insoluble dyes. The process is being applied particularly to Caledon Jade-green, and the improved product is known as Soledon Jade-green. Similar soluble colouring matters can be obtained from other vat dyes of the anthraquinone series and render it possible to apply these colours to cotton and wool equally. In the case of the latter textile, this application will lead to a marked increase in the fastness of dyed woollen fabrics. The above-mentioned developments taken in conjunction with the industrial success which has crowned the recent investigations of chemists in other British colour factories demonstrate conclusively that scientific research is not merely a necessary but a profitable form of expenditure in all commercial undertakings dealing with chemical products.

AMONG the activities of the League of Nations, which celebrated its fifth anniversary on Saturday, January 10, are several of particular interest to workers in pure and applied science. The Transit Organisation of the League is engaged in work on matters concerning road traffic, inland and maritime navigation, telegraph, telephone and wireless facilities, calendar reform, etc. In the past year the Health Organisation has, in the words of the Fifth Assembly, "extended its sphere of action, improved, completed and defined its technical equipment, and is thus carrying out with increasing success its special task, which is to give effective help to the various national administrations in their campaign against epidemics and their attempts to improve public health." The Committee on Intellectual Co-operation, to which Prof. Einstein has returned, and M. Lugones, a distinguished Argentine *savant*, has been added, is organising and developing its work on bibliography, exchange of publications, inter-university relations, and the pooling and distribution of scientific information. This Committee held an extraordinary session in Paris on Monday, January 12, under the presidency of M. Henri Bergson (France). Prof. Gilbert Murray represented Great Britain, and other members of the Committee include Prof. Einstein (Germany), Mme. Curie (Poland), M. Jules Destrée (Belgium), Sir J. C. Bose (India), and Prof. R. A. Millikan (U.S.A.). The principal item on the agenda was the question of the organisation of the International Institute for Intellectual Co-operation, which was recently offered to the League by the French Government. The proposed Institute, which is to be established in Paris, will be under the direction of the International League Committee in Geneva, and it will be the duty of this Committee to draw up such rules and regulations for its organisation as will safeguard the international character of the Institute.

THE British Broadcasting Company's new high-power station 5XX is being constructed at Daventry, Northamptonshire. The site of the new station is in open country, about 600 feet above sea-level, and 400 feet higher than the surrounding land. A "T" aerial will be used, and an 800-foot and a 500-foot mast are being erected, the transmitter being situated directly under the centre. The antenna has been designed so that its natural wave-length should be about 1600 metres, which is to be the wave-length used for transmission. The power rating is nominally 25 kilowatts, but the actual power used at the station will be 100 kilowatts. The earth system consists of a circular metal plate laid underground and has a radius of 100 feet. It will be connected with the London studio 2LO by means of an overhead telephone line, but an emergency underground cable will also be installed. It is expected that good crystal reception will be obtained up to a radius of about 100 miles. Transmissions will take place in the afternoon and evening. Special programmes of its own will be provided two days of the week, a relayed provincial programme on a third day, and relays of the London programme for the remainder of the week. The first programme will take place in a few months' time.

IT is evident that the visit of the Parliamentary Commission to East Africa, referred to in our leading article of January 10, has had some effect in directing the attention of the colonial governments to the cause of scientific research. By a happy coincidence, while Major A. G. Church was making a plea for greater encouragement for scientific institutions at the St. Andrew's Dinner at Mombasa, the Governor of Kenya Colony, Sir Robert Coryndon, at the corresponding function in the capital, made the same appeal and made use of the same illustration, namely, the Amani Institute. He stated that Kenya Colony is much behind the times so far as scientific research is concerned, and particularly in the investigation of human and animal disease, in botany and in ethnology, and there is lack of co-ordination amongst the East African Colonies on such questions. Sir Robert said that scientific workers in Kenya are too few, that they are working under very difficult conditions, and he would welcome the establishment of a central laboratory in which scientific problems could be properly attacked. Regarding the Amani Institute of Tanganyika, he deplored the fact that nothing has been done since the War to develop the work begun by the Germans, and upon which many thousands of pounds was spent by them. In paying

a tribute to the work of Dr. van Someren, who was responsible for the building and the collections of the Natural History Museum of Nairobi, the Governor made an appeal for the support of public-spirited men for the upkeep and improvement of that institution, laying stress on the fact that the cultural aspects of life must play an increasingly important part in the affairs of Kenya Colony.

A PARTY of 32 undergraduates from the Engineering Departments of the University of Cape Town are at present on a tour in England. Accompanied by eight members of the staff, including Profs. Bohle, Plant, McMillan, Snape, and Boyd, they arrived in London on December 31, and their stay will extend over five or six weeks. The objects of the tour are to bring the students into close touch with British manufacturers and to give them a broader outlook on life in general. The whole trip has to be completed within the long summer vacation. The first fortnight has been spent in the London district, where, in addition to visiting the historic buildings, special visits have been made to the National Physical Laboratory, Science Museum, Woolwich Arsenal, and to some important firms. From London the party proceeds to Birmingham, Manchester, Preston, Liverpool, Newcastle, and Sheffield. Each student has to submit a report of the tour which, if the professor of mechanical engineering considers satisfactory, will count in lieu of the six weeks' vacation workshop course usually taken in the summer. Many of the students from Cape Town after finishing their four years' course come to England for experience in works, and remain here. While there are a fair number of openings for civil engineers in the Public Works and Irrigation Department of the Union Government, it is more difficult for electrical and mechanical engineers to find employment in the colony. In organising this unique tour, the Dean of the Faculty of Engineering, Prof. H. Bohle, has been assisted by the staff of the High Commissioner of the Union of South Africa and the officials of the Union Castle Mail Steamship Company, and as a result it has been possible to carry out the complete trip, lasting twelve weeks, for 65*l.* a head.

THE disappearance of seals of economic value from their more accessible breeding-places, under the pressure of the seal-hunter, has intensified their destruction in more remote areas. From some of these they have already been exterminated — the fur-seals (*Arctocephalus australis*) and sea-elephants (*Macrorhinus leoninus*) of Gough Island have all but gone—and there is a danger that in their other southern haunts such seals and the less valuable Weddell, crab-eating, and Ross's seals of the Antarctic circle may ultimately be reduced to the vanishing point. We therefore welcome the announcement (*Times*, January 6) that the French Government has decided to create a preserve for seals and for penguins, which are destroyed wholesale in some areas for their feathers and oil, on the territories belonging to France in the Southern Ocean. These include Kerguelen, the Crozet Archipelago, St. Paul and Amsterdam islands, and the Adélie Land sector of the Antarctic continent. In these areas the destruction of seals and penguins will henceforth be illegal. The crux of the efficacy of animal sanctuaries, however, lies in the proper enforcement of the law, and we doubt whether the policing of these widely scattered scheduled areas by naval patrols based on Madagascar, as is proposed, will be so thorough as one could wish to see.

EVERY one familiar with astronomical and other optical instruments will see with regret the announcement that the old-established firm of Sir Howard Grubb and Sons, Ltd., St. Albans, and formerly of Dublin, has gone into voluntary liquidation, and is for sale. The business was founded in Dublin early in the nineteenth century by Sir Howard Grubb's father, the late Mr. Thomas Grubb, F.R.S., who was engineer to the Bank of Ireland and designed and constructed the machinery for the manufacture of the bank notes. Although made seventy or eighty years ago, this machinery was still in use four or five years ago and probably is so still. A number of machine tools, such as lathes, planing, engraving, wheelcutting and dividing machines, were made by the firm, as well as many portrait lenses. The works were moved from Dublin to St. Albans in 1918 in connexion with the manufacture of periscopes for British submarines. Among the important astronomical instruments made by the firm are the following: 27-inch refractor and dome for Vienna; 26-inch photographic refractor for Greenwich; 24-inch photographic refractor with 18-inch guiding telescope for Cape Town; and a similar instrument for the Radcliffe Observatory, Oxford, with dome and rising floor; 26-inch refractor for Johannesburg; mounting for 24-inch refractor for Santiago, Chile; 40-inch reflector for Simeis, Crimea; 7-metre solar spectrograph for Pulkovo; the 13-inch photo telescopes with 10-inch guiders for the International Photographic Survey of the heavens, erected at Greenwich, Oxford, Dublin, Cork, Capetown, Mississippi, Melbourne, Tacubaya (Mexico), Perth (W.A.), etc. It is greatly to be deplored that a firm with such a record of splendid work, and a reputation so high among optical instrument manufacturers, should have lacked sufficient support to keep it in existence as a profitable concern.

THE late Prof. John Milne, the distinguished seismologist, was among those commemorated a few days ago in a ceremony at Tokyo in honour of living and dead foreign benefactors of Japan.

A SERIES of six Hunterian lectures on "Recent Discoveries of Fossil Man" will be delivered by Sir Arthur Keith at the Royal College of Surgeons of England on January 19, 21, 23, 26, 28, and 30, at 5 o'clock each day.

THE Council of the Geological Society has this year made the following awards:—*Wollaston Medal*: Mr. G. W. Lamplugh; *Murchison Medal*: Dr. H. H. Thomas; *Lyell Medal*: Mr. J. F. N. Green; *Bigsby Medal*: Mr. C. W. Knight; *Wollaston Fund*: Dr. A. Brammall; *Murchison Fund*: Dr. A. E. Trueman; *Lyell Fund*: Dr. J. A. Thomson and Dr. W. A. Richardson.

WITH reference to the note in our issue of January 10, p. 60, on the proposed motor tours across the western Sahara to Timbuctoo, organised by Citroën Cars, Limited, it is announced that as absolute security cannot be relied upon along the Colomb-Bechar—Timbuctoo route, the opening of the service between the two points has been suspended for a period of at least one year.

APPLICATIONS are invited by the Metropolitan Asylums Board for the two following appointments, namely, the directorship of the board's pathological services and that of their diphtheria antitoxin establishment. Particulars of the appointments and forms of application can be obtained from the Clerk of the Board, Victoria Embankment, E.C.4. The completed forms must be received not later than the morning of Wednesday, January 28.

APPLICATIONS are invited for the post of an assistant agricultural chemist for the Division of Research, Lands and Forests Department, Sierra Leone. Candidates must hold an honours degree in natural science (chemistry being the principal subject), or associateship of the Institute of Chemistry, and a diploma in agriculture. Further particulars and the form of application are obtainable from the Private Secretary (Appointments), Colonial Office, Downing Street, S.W.1.

MR. RICHARD H. BURNE has been awarded the Honorary Medal of the Royal College of Surgeons of England for "services rendered to the advance of biological knowledge." Mr. Burne has greatly extended the Department of Comparative Physiological Anatomy in the Museum of the College, of which department he is the Curator. The medal thus awarded, although founded in 1802, has been awarded only eleven times previously. The list of former recipients includes the names of Sir Richard Owen, Sir James Paget, Lord Lister, and of Sir R. Havelock Charles.

Our Astronomical Column.

THE SOLAR ECLIPSE OF JANUARY 24.—This eclipse cannot be regarded as of great importance for the study of solar physics, owing to the unfavourable season of the year, and the rather low altitude of the sun at all the land portions of the track of totality. The eclipse derives some interest, however, from the populous regions which it traverses in Canada and the N.E. corner of the United States, including some outlying districts of New York.

Efforts have been made to induce the general public to join in the observations; in particular, to note the exact duration of totality at numerous points close to the northern and southern limits. This will enable the exact position of the lunar node to be determined, as Newcomb did from similar observations in England in 1715. Numerous observatories lie within the totality track, so that full advantage will be taken of any opportunities for useful work that weather conditions may afford. The altitude is too small for study of the Einstein shift, which was, moreover, dealt with sufficiently in 1922.

The eclipse has some interest in the British Isles from the fact that, after a barren interval of two centuries, there is a very near approach to totality at St. Kilda in the Western Hebrides. The sun's altitude is, however, insufficient for any useful work, and landing on St. Kilda is generally difficult in winter. There is a large eclipse throughout the British Isles, beginning about $14^h\ 45^m$, and greatest phase an hour later. The magnitude reaches 0·94 at Glasgow, 0·82 in London.

It would seem that the only observation of value that can be made in Britain is the careful timing of the first contact. Dr. Innes proposed a useful method of improving the determination by frequent measures of the distance between the cusps for the first minute or so. If the projection method be employed, two observers can mark on the screen the positions of the North and South cusps at prearranged beats of the clock. This method was found practicable at Greenwich in April 1921.

WOLF'S COMETARY OBJECT OF DECEMBER 22.—Observations of this object on December 22, 23, 25, 26 are now to hand. Dr. A. Kahrstedt, of Berlin-Dahlem, has deduced the following (still very uncertain) elliptical orbit from the first 3 positions (Copenhagen Circular, No. 56).

T	1925 March 27·7308 G.M.T. (new)
ω	219° 32′ 38·0″
Ω	264 47 14·8
i	14 47 11·3
ϕ	40 27 44·4
μ	319·231″
log a	0·69726
Period	11·12 years.

The magnitude is estimated as 16. The approach to the sun will probably cause a slight brightening, but the distance from the earth is increasing. The object will remain observable for some months.

EPHEMERIS FOR GREENWICH MIDNIGHT.

	R.A.	N. Decl.
Jan. 14·0	$4^h\ 6·4^m$	20° 0′
22·0	4 10·2	18 38
30·0	4 16·4	17 29
Feb. 7·0	4 25·0	16 31

The object is in Taurus, moving towards Aldebaran. The elements have some resemblance to those of Faye's Comet, due at perihelion next September. Identity, however, does not appear to be possible.

INTERESTING GROUP OF MORNING STARS.—Mr. W. F. Denning writes: "On the morning of Thursday, January 22, the south-eastern sky before sunrise will display the planets Mercury, Venus, and Jupiter, and the crescent of the moon in near companionship. The picture will be a rare and interesting one, but it will not be easy to observe; for the planets involved will rise at about 6 h. 35 m., and this is only 1 h. 20 m. before the sun. They will be placed, therefore, very near the horizon, and will require a favourable atmosphere at low altitudes in order to be well seen. If the observer occupies a position commanding a good open view of the south-east, and if weather conditions are good, there should not be much difficulty in detecting the various objects, though twilight will be strong. The best time to look for them will be at about 7 A.M. or a little afterwards. Of the planets, Venus will be the most brilliant, Jupiter being next, and Mercury last in the order of magnitude."