

Current Topics and Events.

WE have received under the designation of "Commission F (Propaganda)" what is apparently a proposal emanating from the Twenty-third World Peace Congress to the Commission for Intellectual Co-operation of the League of Nations. We forbear to reproduce the language of this document, which has evidently been written under strong emotion. After an allusion to the fact that science often places its work at the service of war and destruction, a further allegation is made that science is frequently governed by a spirit of national hostility and narrow-mindedness, accompanied by the oppression and persecution of savants "who expressly profess another opinion." The wording of this document is not felicitous, but the meaning and purpose are tolerably clear. The Commission for Intellectual Co-operation will certainly have the goodwill of the British scientific world in its efforts to divest science from all its misuses by man, and in all efforts towards promoting international amity. We think, however, that the document before us greatly overstates the case and does much less than justice to the international sympathies that have existed and have been fostered in the scientific world. We certainly know nothing of international oppressions and persecutions following upon conflicts of opinion; we should rather have said that, before the War, the nations had nowhere reached a sense and condition of brotherhood more real than in the world of science. Not only was there a pooling of all new knowledge, but there were also numerous international organisations for co-operative scientific investigation and for deliberative and social intercourse. Few men of science in modern times have attained maturity without finding themselves linked by strong ties of friendship to a multitude of foreign fellow-workers. Certainly there are sometimes acute differences of opinion between two men of science, or it may be two schools of thought in different countries, but we have no knowledge of any oppression or persecution arising here any more than among men of the same country.

THE dictum that "for the chemist there are no waste products" is well illustrated by the exhibition which British Glues and Chemicals, Ltd., is holding in its research department at 19 Bedford Square, London, W.C.2. Although bones were used for many purposes by primitive man, and glue is said to have been first prepared from them by Papin in 1680, no industry of any importance based upon their utilisation was initiated until about a century ago. Since then the number of products made from bones has increased considerably and the quantity of bones consumed has multiplied almost beyond measure. In addition to the manufacture of glue and gelatin, the extraction and preparation from bones of calcium phosphate, in various forms and degrees of purity, is a great and growing industry. This substance is used as bone-ash in the ceramic industry, and as bone-meal, steamed bone-flour, raw bone siftings, "dissolved" bones in agriculture. Recently pure finely

ground steam bone-flour, containing 65 per cent. tricalcium phosphate and 10 per cent. calcium carbonate, has come into prominence as a food for farm stock. Other useful products obtained from bones are fat for soap and candle manufacture, animal charcoal, bone oil and pitch, and ammonium sulphate. A large variety of substances and commodities is shown in the exhibition, and in many cases useful explanatory data are added.

AT the opening meeting of the new session of the Society of Chemical Industry (Manchester section), Mr. W. J. U. Woolcock, president, gave an address on the benefits that accrue from close co-operation of the scientific and industrial branches of chemistry. The impetus to co-operation given by the War has now passed, and we are in danger of retrogression. Lack of understanding between scientific worker and industrialist may be due to weaknesses on both sides. The former is apt to forget that common sense is often more important than scientific knowledge; the latter to regard pure and applied science as unrelated spheres of activity, and to consider research in pure science as wasted effort, particularly when times are bad. Members of both branches are prone to take on work for which they are not fitted by nature. It is to revolutionary discoveries, especially in pure science, that we must look for help. The Association of British Chemical Manufacturers has had an educative influence on the less enlightened manufacturers; in working for the advancement of chemical industry, it helps to open up better prospects and bring about better conditions of employment for the chemist, and by effecting successful co-operation among chemical firms, it fosters co-operation between the technical and non-technical branches of the same firm. The organisation of the chemical and other scientific exhibits at the British Empire Exhibition is a splendid example of the successful co-operation of scientific and industrial workers.

AN archaeological discovery of the highest importance for Indian prehistory has been made at Mohenjodaro in Sind and at Harappa in the Punjab. Beneath strata belonging to the Kushan culture of the second century B.C. have been found remains of massive brick structures and a number of objects, including new types of pottery, plain and painted and both hand- and wheel-made, bangles of glass, paste, and shell, stone rings of unknown use, knives and cores of chert, and oblong bars of copper, assumed to be coins. A number of seals, of ivory, paste, stone, and steatite, are engraved with an unknown pictographic script and figures of unicorns and bulls, in a style unknown to Indian art. The absence of iron, except in the latest strata, and the scarcity of metal indicate an early date. Sir John Marshall, Director-General of Archaeology in India, in describing the discovery in the *Illustrated London News* of September 20, points out the affinities of the script to pictographs from the Mediterranean area of Mycenaean age; but he is of the opinion that this culture developed in the Indus valley without

serious modification by outside influence. Prof. Sayce, in commenting on the discovery in the issue of September 27, points out that the inscribed seals are practically identical with the Proto-Elamite "tablettes de comptabilité" found by de Morgan at Susa, and indicate intercourse between Susa and North-West India in the third millennium B.C. In the same journal on October 4, Messrs. Gadd and Sidney Smith of the British Museum described in detail, with numerous illustrations, the parallels to be found in the objects from both the sites and from Babylonia, their conclusion being that the makers of the seals were in close touch with the Sumerians and had borrowed their artistic style and the basis of their script from them somewhere about 3000-2800 B.C.

THE harbour at Esquimalt, B.C., was formerly well known as the North Pacific Naval Station, directly under the Admiralty, but is now under the Canadian Department of National Defence. The graving dock, built in 1887 by the Canadian Government, has been in constant use, but the need has been felt for something better able to cope with naval and merchant vessels of modern size, and the Federal Government decided in 1920 to construct a new dry dock. An illustrated account of this dock appears in *Engineering* for September 26, from which we learn that the dock will accommodate the largest class of ships, a depth over sill at high tide of 40 ft. being provided, while the maximum usable length will be 1150 ft. The width at the entrance at coping level is to be 135 ft. and on the sill level 107 ft. 1 $\frac{3}{4}$ in. To the west of the dock there is a landing wharf 800 ft. long. The main pumping plant will consist of three 42-in. centrifugal pumps direct-connected to vertical-shaft induction motors of 1000 horse-power. Eight capstans will be provided on the dock side and one at the end of the chamber. The former will have a full-load capacity of 25,000 lb. at 12 ft. per minute, and the latter a capacity of 65,000 lb. at the same speed. The construction is now well advanced and it is hoped to complete the undertaking this year. Whilst the Government Department will undertake docking and undocking, shipowners will make their own arrangements with repair firms for carrying out work on vessels while in dock.

FLOODS in India are rapidly subsiding, according to detailed information given recently in the *Times*. In northern India an improvement in the railway situation is reported, although some weeks must elapse before thorough working is restored; many important towns are entirely cut off from railway service. The roads have also been affected by the floods, and many railway bridges have been destroyed. In Delhi the floods are said to be unprecedented in living memory, and the records show that the Jumna at Delhi rose 2 inches higher than the level of the last great floods in 1906. In the Karnal district of the Punjab 200 villages are affected, and of these 60 are said to have been destroyed. The floods of the Ganges have done considerable damage in the district of Cawnpore, where the river level is higher than has ever been recorded. At the end of September the

rainfall was excessive; in 2 days the amount reported was 15 inches at Mussooree and 13 inches at Meerut. At Simla continuous rainfall was reported for 72 hours, commencing at midday on September 27.

PROF. H. B. DIXON, honorary professor of chemistry in the University of Manchester, will deliver the inaugural lecture on "The Life and Work of Ludwig Mond," in the Chemistry Theatre of the University of Manchester on Monday, October 20.

APPLICATIONS are invited for an assistantship in the Technical Records Section of the Admiralty. Candidates must have a sound knowledge of modern physics and be able to read technical French and German and have some bibliographical experience. Applications must be sent by, at latest, November 10, to the Secretary of the Admiralty, C.E. Branch, Whitehall, S.W.1.

A DIRECTOR of the Laboratory of Microbiology and Pathology, Department of Public Health, Brisbane, is shortly to be appointed. Applications for the post are invited from holders of the diploma in public health with recent special laboratory experience in microbiology. The latest date for the receipt of applications, which should be sent to the Agent-General for Queensland, 409 Strand, W.C.2, is October 27.

Two research assistants, a senior and a junior, are required by the National Federation of Iron and Steel Manufacturers, Caxton House, Tothill Street, S.W.1, for research work on blast furnace reactions at the Imperial College of Science and Technology, under the direction of Prof. Bone. Candidates must possess a good knowledge of physical chemistry, gas analysis and manipulations. Applications must reach the director of the federation by October 27 at latest.

THE new weekly journal entitled *East Africa* is devoted to the interests of east and central Africa. It makes a good start with an attractive number that contains several interesting articles, including one on cotton production in the Sudan and another on the pastoral and agricultural possibilities of the highlands of Kenya, Uganda, and Tanganyika. The journal promises to be of value to all interested in the development of the lands of East Africa.

THE Air Ministry has announced that the two-seater dual control light aeroplane competition, which concluded at Lympne on October 4, has resulted in the production of new aeroplanes and engines of great interest and value from a practical and technical point of view. The aeroplanes, which were all widely divergent in design, proved themselves to be thoroughly efficient and satisfactory, and the power plant showed itself capable of carrying out all the tests prescribed, including the ten hours' reliability test. On the other hand, it was found necessary to run the engines at such a high speed in order to secure the maximum competition performance, that trustworthiness suffered. The Air Ministry is therefore reviewing the whole of the engine position with the view of obtaining the necessary technical data,

free from the adverse conditions inherent in a competition of this nature.

THE Paris correspondent of the *Times* states that M. Callizo, the French airman, has created a world "record" for altitude by reaching the height of 11,841 metres (38,843 ft.) in a flight made on October 10. M. Callizo's barogram has been verified at the École des Arts et Métiers. The previous record was held by M. Sadi-Lecointe, who reached a height of 35,239 ft. at Villesauvage, France, on September 5, 1923.

THE "Cobb" lectures, which were delivered before the Royal Society of Arts in March and April of the present year by Dr. T. Slater Price on "Certain Fundamental Problems in Photography," are published in full in the Society's Journals for September 5, 12, and 19. The three lectures form a concise but comprehensive statement of the present state of knowledge concerning the gelatino-bromide photographic plate. Dr. Slater Price deals first with gelatin and especially its physical properties and matters related thereto. He passes on to the colour of silver deposits produced in gelatin films by photographic processes, the nature of the developable as well as of the printed out image, the theories of the nature of the action of light and the "centres" of sensitiveness in the grains, and other matters. Those interested in these things will find it a great help to have the various results brought together as they are here,

with the valuable critical and comparative remarks of the lecturer.

THE latest catalogue of Mr. F. Edwards, 83 High Street, Marylebone, W.1 (No. 462, British Empire Series, No. 5), deals with books, engravings, drawings, and maps relating to Canada, West Indies, British Guiana, and Falkland Islands.

WE have received from Mr. W. H. Robinson, Nelson Street, Newcastle-upon-Tyne, a copy of his catalogue No. 11, 1924, of second-hand books. The catalogue, which is of a miscellaneous character, contains the titles of a good many works likely to interest readers of NATURE, e.g. a section is devoted to books illustrated by Thomas and John Bewick, and others to botany, natural history, folklore and archaeology. The prices asked appear to be reasonable.

A NEW book by Prof. Ellsworth Huntington is announced by Charles Scribner's Sons. It is entitled "The Character of Races: their Formation and Modification by Environment," and is a study of the ways in which racial character is moulded and modified by environment. Another book in the same publishers' announcements is "Racial Realities in Europe," by L. Stoddard. In this volume the following subjects are dealt with: racial realities, kindred Britain, the Nordic North, composite France, the Mediterranean South, Alpinised Germany, disrupted Central Europe, the Alpine East, the Balkan flux, Turkey, Arab lands, and the new realism of science.

Our Astronomical Column.

COMETS.—Encke's Comet has brightened remarkably, and is now on the verge of naked-eye visibility. A photograph by Mr. G. Merton shows a short tail. It is 138 years, or 42 revolutions, since the comet was first seen, but the loss in brightness during that period is not noticeable, in spite of the small perihelion distance. Some thirteen years ago the late Mr. W. T. Lynn suspected that the comet was fading, but the loss of light, if present, was only temporary.

Dr. W. Baade succeeded in photographing Reid's Comet, 1924a, on September 27 with the Bergedorf reflector. It was of magnitude 16 as compared with the calculated magnitude 10, indicating great physical loss of light. The position was within 4' of the Copenhagen orbit.

MARS.—*L'Astronomie* for August contains several drawings of the planet Mars, made during June and July. The southern hemisphere was then in its spring, the summer solstice being passed on September 30. The southern polar cap was large and showed much interesting detail. It was crossed by two large dark rifts, and the region Argyre on its edge was brighter than the rest of the cap.

M. Antoniadi, who has been observing with the 30-in. Meudon refractor, gives a series of measures of the size of the polar cap in the *Comptes rendus* of the Paris Academy of Sciences for September 22. Several years ago he contributed a paper to the Royal Astronomical Society indicating that the size and rate of melting of the cap vary with the solar cycle. The size is greater and the melting slower in times of sunspot minimum and diminished radiation.

It is noted that the present results are in full accord with this, and that the late winter and spring of the Martian southern hemisphere appear to have been colder than the average.

THE SPIRAL NEBULÆ.—Dr. K. Lundmark contributes a paper to the *Observatory* for September, dealing with the radial velocities and proper motions of the spiral nebulae. He includes some nebulae of the class described by Reynolds as globular, since they share the high radial velocity. He finds the following values for the solar apex and motion:

(1) From the radial velocities of 43 spirals—

R.A. of apex	20 ^h .3 ± 3 ^h
Decl.	+75° ± 30°
Velocity	651 ± 135 km./sec.

The large K term of +793 ± 88 km./sec. is indicated.

(2) From the very small and uncertain proper motions of seven spirals—

R.A. of apex	1 ^h .7 ± 5 ^h
Decl.	+63° ± 46°
q	0.0074" ± 0.0055".

Deduced mean distance of spirals 61,000 light years.

No allowance has been made for proper motion of comparison stars, which were of about magnitude 16.

The two positions of the apex do not differ more widely than we should expect from the large probable errors. Both R.A. and Decl. are considerably larger than the values, 18^h and +30°, given by the nearer stars, suggesting that the whole group of stars round the sun is drifting relatively to the group of nebulae.