increasingly made to support Empire industries he proposed to discuss certain of the timbers obtainable within the Empire, either from home or overseas, which in some form or other may be used for decorative purposes and in the making of furniture. An approximate calculation showed that the value of timber, excluding pulpwood, entering the British market, amounts annually to £40,000,000–£45,000,000, of which about 30 per cent represents hardwoods, much of which goes into utility and decorative work. Of the totals, therefore, of £30,000,000 for softwoods and £12,000,000 for hardwoods, the Empire's share at present works out to somewhat less than 10 per cent for softwoods and less than 30 per cent of the hardwoods; of which latter, however, a large amount, in value at least, is for teak from Burma. The wide use and popularity of foreign timbers is attributed by Maj. Cosgrove to a number of causes—such as the volume in which supplies have been available, their suitability and relative cheapness, the preparation which has been bestowed upon them in the form of careful manufacture, grading, and conditioning, and so forth. This implies that the timbers in use have an assured position, and that users will as a rule purchase them from descriptions alone and usually without preliminary inspection.

After discussing briefly the value of research work, Maj. Cosgrove enumerated some of the hardwoods, from both the British Empire and foreign sources, which are well known on the markets. He then discussed the possibilities of timbers which are particularly suitable for decoration and furniture from Great Britain, India, British North Borneo, Australia, New Zealand, British West Africa, British Guiana, West Indies, British Honduras, and Canada.

Advances in Stereo-Chemistry

THE sixth Messel Memorial Lecture was delivered before members of the Society of Chemical Industry at Nottingham on July 14 by Sir William Pope. Reviewing "Forty Years of Stereo-Chemistry", Sir William Pope traced the important developments of the present century in this branch of organic chemistry, which about 1890 was comparatively dormant, and had largely remained so since the work of Pasteur, van't Hoff, and Le Bel. Development recommenced with the introduction of an improved technique for the resolution of synthetic mixtures or racemic compounds which followed from the discovery of the sulphonic acids of camphor and their halogen derivatives. The further demonstration that optical activity may be associated with the presence in the molecule of asymmetric atoms of other elements such as sulphur, tin, silicon, phosphorus, as well as the verification among ethylene derivatives of van't Hoff's prediction of the optical activity of allene derivatives of the type *abC:C:Ccd*, led chemists generally to realise that the chemical molecule is spread out in three-dimensional space, and prompted subsequent attempts to ascertain the way in which the properties of compounds are influenced by the shape of the molecules.

Sir William Pope referred to the way in which the conception of the asymmetric carbon atom has tended to divert attention from the conditions of mirror-image isomerism defined by Pasteur. The asymmetric carbon atom covers only one, though the commonest, class of mirror-image isomerism. The fundamental condition is that the molecular configuration may possess any elements of geometrical symmetry except a centre of symmetry or a plane of direct symmetry. Thus the molecular configuration of an optically active compound need not be asymmetric or entirely devoid of geometrical symmetry. In the Hantzsch and Werner theory of the configuration of the eximes, illustrated by Mills, or the optical activity and mirror-image isomerism among diphenyl derivatives, discovered by Kenner, are other examples of the way in which the whole of organic chemistry has acquired a stereo-chemical aspect.

While our knowledge of certain branches of stereo-chemistry is rapidly advancing, the space configuration of the benzene ring and of aromatic compounds in general remains an unsolved problem. Similarly, our knowledge of the combination to a homogeneous crystalline compound of substances with mirror-image configurations is developing but slowly, and little attention has been given to the question of racemic combination between dextro- and laevo-isomerides in the liquid state. Although as yet the novel and powerful methods of modern physics for determining the arrangement of the atoms or even of the components of atoms in solid, liquid, or even gaseous substances, such as X-ray diffraction determinations, the measurement of dipole moments, or the quantitative study of the behaviour of films only a few molecules in thickness, have merely enabled us to confirm the structures assigned on chemical grounds, Sir William Pope suggested that we may be on the verge of fresh developments which will convert the new physical methods into much more searching weapons for the determination of molecular configuration than any formerly at our disposal.

University and Educational Intelligence

CAMBRIDGE.—Applications for the Benn W. Levy research studentship in biochemistry should be addressed to Sir Frederick Gowland Hopkins at the School of Biochemistry before Aug. 1.

A pension of £540 a year has been granted to Sir Joseph Larmor on his retirement from the Lucasian professorship of mathematics, and to Mr. H. A. Roberts on his retirement from the secretaryship of the Appointments Board.

At Clare College, Mr. E. T. C. Spooner, University demonstrator in pathology, has been elected to an official fellowship.

At King's College, E. S. Shire has been elected to an R. J. Smith studentship, and A. G. D. Watson and D. Purdie to Harold Fry studentships.

Dr. P. A. M. Dirac has been elected Lucasian professor of mathematics in succession to Sir Joseph Larmor, who retires on Sept. 30.

EDINBURGH.—At a meeting of the University Court on July 18, Mr. W. L. Edge, fellow of Trinity College, Cambridge, was appointed lecturer in the Department of Mathematics, in succession to Dr. E. L. Ince, who has resigned.

The Cameron prize in practical therapeutics has been awarded to Prof. Edward Mellanby, professor of pharmacology, University of Sheffield, in recognition of his discoveries regarding the therapeutic actions of the fat-soluble vitamins.

LONDON.—The following appointments to University readerships have been made, to take effect from Oct. 1: experimental pathology (Lister Institute of Preventive Medicine), Dr. E. W. Hurst, formerly pathologist to the Millbank Research Fund at the Lister Institute; mathematics (Imperial College—Royal College of Science), Dr. W. H. McCrea, lecturer in mathematics in the University of Edinburgh; pathological chemistry (the Cancer Hospital), Dr. J. W. Cook, research chemist in the Research Institute of the Cancer Hospital. The title of University reader was conferred on the following in respect of posts held at the colleges indicated: geography, Dr. Hilda Rodwell Ormsby (London School of Economics); civil engineering,

Mr. John Purser (Imperial College—City and Guilds College) and Mr. M. K. Rice-Oxley (Imperial College—City and Guilds College); mechanical engineering, Dr. J. V. Howard (Imperial College—City and Guilds College) and Dr. S. Livingston Smith (Imperial College—City and Guilds College).

WALES.—At a meeting of the University Court on July 20, reference was made by the pro-chancellor to the very grave financial position of the University, which has arisen owing to the decrease in the contributions of local authorities since the passing of the Derating Act. Unless there is a favourable outcome to the negotiations which are now proceeding, the University will suffer a reduction in income of about £10,000 a year.

The Council of the Welsh National School of Medicine has appointed Sir Ewen J. Maclean to be an emeritus professor.

IN connexion with the Geneva Institute of International Relations, a conference on Training for World Citizenship will be held at the Institute on Aug. 19–23. Particulars can be obtained from the Secretary, Education Committee, League of Nations Union, 15 Grosvenor Crescent, London, S.W.1.

THE sixth International Conference of University Women is being held at Edinburgh. The Conference was opened on July 27 and will continue until Aug. 4. Included among the lectures being given in connexion with the Conference is one by Dr. Johanna Westerdyk on "Epidemics of Plant Diseases", and another by Mme. M. L. Puech on "Intellectual Co-operation". For the first time, the group discussion method will be introduced, the subject being "Does the University offer to the Modern Woman the Training needed to fit her for Life?": the discussion will be opened by Dr. Aurelia H. Reinhardt.

EDUCATION for commerce was discussed at a meeting of the Royal Society of Arts under the presidency of Sir Francis Goodenough on April 27. A full account of the lecture by Mr. H. Ramsbotham, Parliamentary Secretary to the Board of Education, which preceded the discussion, and of the remarks by a number of authorities, eminent in business and education, who took part in it, has now been published (*J. Roy. Soc. Arts*, June 17). Mr. Ramsbotham emphasised the imperative necessity of co-operation between employers and teachers in connexion with the framing of curricula, recruitment for employment in commerce, and part-time further education of employees. Now that so large a proportion of the younger generation, who would in former times have gone into the factory or the office at the age of fourteen years, remain in school for another two years, it is of vital importance that the needs of the factory and office should not be ignored by the schools. In the course of the discussion, many practical problems were dealt with and elucidated by reference to particular instances. Mr. Chorlton referred to effective training methods in use on the continent, especially Czechoslovakia, where the number of part-time day students of 16-20 years of age is thirtyfold greater in proportion to population than in Great Britain. Mr. Harold Sanderson described a successful experiment in the Burslem (Potteries) district in secondary education with an artistic bias. Miss Ford, H.M. Staff Inspector of Schools, suggested that American experience in child guidance and vocational guidance showed that we do not in Great Britain devote enough attention to detailed systematic examination of children to find out what their aptitudes are. Other speakers dwelt on the necessity for a better understanding on the part of university authorities of the qualifications appropriate for employment in commerce.

Calendar of Geographical Exploration

July 31, 1908.—Interior of New Guinea

D. Mackay and W. S. Little landed in New Guinea and explored the Upper Purari River. They suggested that coal existed in the interior of the island, and as a result Staniforth Smith in 1910–11 opened up for the first time a large area north-west of the Gulf of Papua and east of the basin of the Fly River.

Aug. 1, 1862.—The Kara Sea

P. von Krusenstern, jr., started from the Pechora River on his second attempt to reach the Kara Sea. His boat became fixed in the ice near Yugor Shar and drifted across to the east coast of the Kara Sea, his narrative forming the first complete sketch of a journey from west to east of that sea. He and his men had a series of hairbreadth escapes: their vessel was nipped in an icefield and eventually had to be abandoned. They made their way across the ice, sometimes leaping on to pieces of drift ice which had to be towed by boathooks, but ultimately reaching land and travelling in reindeer sledges to Obdorsk. A curious incident was the attempt of six walruses to accompany them on to a piece of drift ice.

Aug. 2, 1904.—Tibet and the Mustagh Pass

Sir Francis Younghusband reached Lhasa on a political embassy. On the return journey, the Brahmaputra from Shigatse to its source, the Sutlej from its source to the borders of India, and the Gartok branch of the Indus were surveyed by members of the party—a most important contribution to the geography of south and south-west Tibet. In 1886, Younghusband and H. E. M. James set out from Manchuria for India, during which journey they discovered and crossed the Mustagh Pass in 1887. Younghusband's work markedly extended the amount of accurately surveyed area in these regions; he also proved that the Mustagh is the true water parting west of the Tibetan plateau.

Aug. 3, 1868.—Scientific Exploration of China

Baron F. von Richthofen sailed from San Francisco for China, where he carried out his classic survey of that country. In 1859 he had accompanied a Prussian diplomatic mission as geologist, visited Ceylon, Japan, Formosa, the Philippines, and Java, and made an overland expedition from Bangkok to Moulmein. Unfortunately, his records and collections on this journey were lost. In 1877–85 he published three volumes and an atlas dealing with the geology and geography of China, including a notable study of the loess regions. He directed attention to the coalfields of Shantung, to the importance of Kiaochow as a port, and to many other possibilities of economic development. Between 1868 and 1872 he made seven expeditions into the interior of China, visiting, among other regions, Shantung and South Manchuria, central China, Chih-li, and Szechwan.

Aug. 4, 1482.—Mouth of the Congo

Circumstantial evidence points to this as the probable date on which Diego Cam or Cão discovered the mouth of the Congo River. Cam was the first explorer to carry stone pillars to mark newly discovered points, instead of relying on wooden crosses or carved trees. He put up four pillars altogether, two on his first and two on his second voyage. Fragments of the pillar he set up on Shark point to commemorate his discovery of the Congo River still