

Trade Unions in Industry

As part of a general production drive, the Trades Union Congress is inviting trade unionists to extend their knowledge of management in industry. Through its publicity organ *Industrial News*, the Congress has announced that it is co-operating with the National Institute of Industrial Psychology, the British Institute of Management, the Government Committee on Industrial Productivity and the Administrative Staff College in seeking ways to make workshops more happy and efficient places. Experiments are to be carried out on the problems of the effects of boredom in industry, the means of minimizing labour turnover and the training of new employees. The Trades Union Congress is asking members of trade unions to co-operate with these organisations by seeking goodwill for their officers at places suitable for experiment.

Cultivation of Root Vegetables

BULLETIN No. 120 of the Ministry of Agriculture and Fisheries (H.M. Stationery Office, 9d. net) deals with all phases of the commercial cultivation of carrots, beetroot, parsnips, turnips, swedes and other minor root crops. A new revision (August 1947) of the third edition has recently appeared, and brings the subject-matter up to date. The most modern additions deal with row-crop cultivation, irrigation, and the control of weeds.

Precession of an Unsymmetrical Top

It has been known since the time of Lagrange's "Mécanique Analytique" (1788) that a rigid body smoothly pivoted at one of its points O and symmetrical about an axis passing through O can have steady motions of precession in which the axis of symmetry rotates uniformly about the vertical while the solid itself rotates uniformly about the axis of symmetry; but it has been generally supposed that there is no corresponding result if the body is unsymmetrical. However, G. Grioli (*Annali di Matematica*, 26, 1; 1947, and *Rendiconti dell' Accademia Nazionale dei Lincei*, 4, 420; 1948) has shown that under certain conditions we can have steady precession of an unsymmetrical body about a non-vertical axis. If G is the centre of mass, it is necessary that OG should be perpendicular to one of the two circular sections of the momental ellipsoid at G , and that the axis of precession should be inclined to the vertical at a definite angle which can be calculated from the same momental ellipsoid. If these conditions are satisfied, there is a doubly infinite set of motions in which OG is perpendicular to the axis of precession, and the solid rotates uniformly about OG in the same time as OG rotates uniformly about the non-vertical axis of precession.

Geotectonic Map of North-west Germany

LAST year the first German publication on scientific geology since the War was issued by the Reichsamts der Bodenforschung, Hanover, namely, a general geotectonic map of north-west Germany, scale 1:100,000 (15 sheets, 200 marks). This map comprises all wells and geological as well as geophysical results from 1934 up to 1945. The new map is supplemented by formation data, stratigraphic symbols, profiles, surface contour lines, data of the depths, and geophysical data. Moreover, there is attached a general map, scale 1:1,000,000, of the

structures and two hundred salt domes in this area. A volume of annotations of the map is projected.

Society for Visiting Scientists

THE Society for Visiting Scientists (5 Old Burlington Street, London, W.1) has been able to extend its facilities and membership for scientific workers resident in the United Kingdom. The number of such members is no longer limited, and applications for membership from scientific workers interested in the Society's aims will be welcomed by the Executive Committee. Applicants should apply to the Assistant Secretary, mentioning one or more members of the Society who would be willing to be their sponsors. The subscription for members resident in the United Kingdom is three guineas per annum, with an entrance fee of one guinea. Visiting scientists from overseas are charged an entrance fee of five shillings only, and pay an annual subscription only if they reside in the United Kingdom for more than six months. The Society now has more than 1,300 members, about 1,170 of whom are overseas. In addition to the opportunity of meeting visiting scientists, and thus furthering international contact and friendship among men of science, the Society's premises offer useful club facilities.

National Foundation for Scientific Research, Brussels

THE twentieth annual report of the National Foundation for Scientific Research, Brussels, for the year 1946-47, gives lists of members of the various commissions, and a note on the Inter-University Institute of Nuclear Physics. It also includes full details of the forty-five research grants made for the year 1947-48, amounting to 2,062,500 francs, and an analysis of the distribution of grants made since the establishment of the Foundation. Special grants for the period 1947-48 have been allotted to M. Biquet for sinking wells in water-bearing strata for the study of the freezing of dead ground at great depths (150,000 francs); to Prof. F. Mayence for excavation at Apamée (100,000 francs); to MM. Gratia, Florin, Massart and Desreux for completing the existing installation of apparatus for electrophoresis by a high-quality optical apparatus of the Klett or Pearson type (100,000 francs); and to Prof. Piccard and Prof. Cosyns for submarine investigations at great depths. A list of publications during the year by those receiving grants during 1945-47, arranged under authors' names, is appended.

International Union of Crystallography

THE first General Assembly and Congress of the recently formed International Union of Crystallography was held at Harvard University, Cambridge, Mass., during July 28-August 3 and was attended by some 350 crystallographers of ten nations. In recognition of his epoch-making contribution to the modern development of the subject, Prof. M. von Laue (Germany) was unanimously elected honorary president of the Union. Officers were elected as follows: *President*, Sir Lawrence Bragg (Great Britain); *Vice-Presidents*, A. Westgren (Sweden), R. W. G. Wyckoff (United States); *General Secretary*, R. C. Evans (Crystallographic Laboratory, Cavendish Laboratory, Cambridge); other members of the Executive Committee are M. J. Buerger (United States), P. P. Ewald (Great Britain), A. L. Patterson (United States), J. Wyart (France). Statutes and by-

laws of the Union were adopted, and the adhesion of Great Britain, the United States, Canada and Norway was recognized. Commissions of the Union were established as follows: *Acta Crystallographica*, International Tables, Structure Reports, Crystallographic Apparatus, Nomenclature, Crystallographic Data. Crystallographers throughout the world interested in the work of any of these Commissions are invited to make contact with them through the General Secretary. The second General Assembly and Congress will be held in Europe during the summer of 1951.

Mechanization of African Agriculture

PROBLEMS likely to be encountered in the mechanization of African agriculture are to be studied by a mission which is visiting Uganda, Tanganyika, Nyasaland and Nigeria. The leader is Dr. J. R. Raeburn, of the Agricultural Economics Research Institute, Oxford, and he is accompanied by Mr. J. W. Y. Higgs, lecturer in agricultural economics, University of Reading, and Mr. R. K. Kerkham, Uganda Agricultural Service, who is at present stationed at the Uganda Agricultural Research Station. The terms of reference are: "To make a systematic survey of the sociological, economic, agricultural and technical problems which must be studied if mechanization of agriculture in the Colonies is to develop along sound lines, including *inter alia* the forms or organization required to achieve the best results (for example, whether mechanization should be on a co-operative, group or peasant basis), the most profitable lines of future research into problems arising out of mechanization, the economics of it and the types of tractors and implements which would be likely to be most suitable to the differing African communities, and such questions as the technical training of African craftsmen, the division and displacement of labour which will result from mechanization and its impact on current farming and social systems."

Colonial Service Appointments

THE following appointments in the Colonial Service have been announced: A. Bolton, plant breeder, Kenya; E. A. Rosenquist, botanist, Malaya; J. A. F. Gerrard, geophysicist, Uganda; A. D. Campbell, veterinary officer, Nigeria; D. W. D'Silva, assistant conservator of forests, British Honduras; H. T. Hayes, fisheries officer, Gold Coast; G. H. Lunam, fisheries officer, Nigeria; D. M. Rhodes, fisheries officer, Uganda; O. E. Symes, fisheries development officer, Nigeria; T. R. Hayes (principal agricultural officer, Uganda), assistant director of agriculture, Uganda; R. B. Jagoe (botanist, Federation of Malaya), senior botanist, Federation of Malaya; H. T. Pagden (entomologist, Federation of Malaya), senior entomologist, Federation of Malaya; D. H. Welsh (agricultural officer, Nigeria), principal of schools, Agricultural Department, Nigeria; D. B. Fanshawe (assistant conservator of forests, British Guiana), senior assistant conservator of forests, British Guiana.

Effect of Lightning Discharge

PROF. E. W. MARCHANT, 20, Harthill Road, Liverpool 18, writes: "During a severe thunderstorm in Liverpool on July 31, the centre of the roadway was struck by lightning. The lightning discharge produced a crack about six feet long in the asphalt road

surface near the centre of the road and close to a manhole cover, which, I understand, was open at the time of the storm. Six or seven pieces of melted tar were scattered over the road close to the crack. Heavy rain was falling at the time and the interesting thing about the discharge was that it struck the flat surface of the road, although, only thirty feet away on each side, were trees about twenty feet high."

Announcements

DR. ANDRÉ DANJON, director of the Paris Observatory, has been elected a member of the Section of Astronomy of the Paris Academy of Sciences, in succession to the late Dr. Henri Deslandres.

DR. W. A. MACFARLANE, director of fuel efficiency in the Ministry of Fuel and Power, has been lent by the Ministry to the Department of Scientific and Industrial Research for about two years for appointment as director of the United Kingdom Scientific Mission in the British Commonwealth Scientific Offices in Washington. He will also be attaché for scientific matters in the British Embassy. In accordance with arrangements made at the time of his appointment, the present director of the Mission, Dr. F. N. Woodward, is returning to the United Kingdom towards the end of the year.

THE Public Health and Municipal Engineering Congress and Exhibition will be held at Olympia, London, during November 15-20. Further information can be obtained from the Joint Hon. Secretary, 84 Eccleston Square, London, S.W.1.

THE twenty-third annual conference of the Association of Special Libraries and Information Bureaux (ASLIB) will be held at Ashorne Hill, near Leamington Spa, Warwickshire, during September 17-20. Further information can be obtained from the Secretary, ASLIB, 52 Bloomsbury Street, London, W.C.1.

THE Council of the Royal Society of Arts is offering, under the Thomas Gray Memorial Trust, the objects of which are "the Advancement of the Science of Navigation and the Scientific and Educational interests of the British Mercantile Marine", a prize of £50 for an essay on "The Applications of Radar to Navigation". Further information can be obtained from the Secretary, Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2.

The South African Journal of Science of March 1948 reports the Oudtshoorn meeting in July 1947 of the South African Association for the Advancement of Science. It includes the presidential address by Prof. H. H. Paine, "The World View of the Physicist", and the addresses of the sectional presidents. Of these, Prof. C. C. Gillie reviewed "A Century of Astrophysics", Dr. C. N. C. Hamilton dealt with "Coal", Prof. A. Quintanilha with "The Problem of Cotton Production in Portuguese Africa", Dr. C. S. Grobbelaar with "Anthropometry and its Role in South Africa", the Abbé H. Breuil with "Ancient Raised Beaches and Prehistoric Civilizations in South Africa", and J. D. Rheinallt Jones with "The Development of Central and Southern Africa", including a few suggestions for research and action on some of the problems common to these territories. A number of the papers read at the meeting are also printed.