News and Views.

THE results of the explosions made by the German Greenland Expedition to determine the thickness of the Greenland ice-cap have been awaited with much interest, owing to their widespread geographical and geological bearing. Two theories have been advanced as to the structure of Greenland. According to one theory, it is a high plateau capped with ice, and the rapid flow of the Greenland glaciers is due to their steep gradient. According to the rival view, Greenland, like Ireland, is a saucer-shaped land, consisting of a rim of mountains with the central hollow filled by ice, which flows outward over the surrounding highlands. Carvill Lewis adduced Greenland in support of the assumed covering of the Irish Sea by a dome of ice which then flowed over the Welsh mountains to the height of 1300 ft. Croll claimed that the Greenland ice was as thick as its height above sea-level, in support of his view that the ice at the south pole is 24 miles thick. Croll's estimates of the thickness of the Greenland ice-cap were declared impossible, in accordance with Lord Kelvin's calculations as to the maximum possible thickness of ice.

THE German Greenland Expedition under the late Prof. Wegener has now tested the thickness of the ice by artificial earthquakes, and the results have been announced by a telegram published in the *Times* on Aug. 13. The largest single charge fired was 74 kgm. of dynamite: 25 explosions were made, and the resulting waves observed. The control station was on lat. 72° N., midway between the eastern and western coasts, and therefore at the geographical centre of Greenland. The height there is 9800 ft. above sea-level. From the time taken for the return of the explosion-wave reflected from the base of the ice-sheet, it is calculated that the ice is 8800 ft. thick. The rock floor, according to this result, is only 1000 ft. above sea-level. The ice 38 miles inland, at the height of 6000 ft. above sea-level, is from 2300 ft. to 3000 ft. thick, so that the rock floor is there about 2000 ft. higher than in the interior. These experiments tend to support Croll's view that Greenland is saucer-shaped, and that the internal ice-cap is much thicker than has been claimed as physically possible. To what degree the explosion-wave results are trustworthy will be considered when the details of the experiments and calculations are available; but the ice is obyiously much thicker than was expected on the conception that Greenland, like Labrador, is a high plateau with a marginal mountain range.

THE subjects to be dealt with by Section G (Engineering) of the British Association during the London meeting have been broadly chosen from three separate points of view. That the meeting marks the centenary of the Association is shown by the presidential address by Sir J. Alfred Ewing, which is, at the same time, the Bramwell Trust Lecture. In this Sir Alfred will deal with the position of prime movers in 1931. Prof. Elihu Thomson will speak on "Pioneering in Electrical Engineering Fifty Years Ago", and Sir Robert Hadfield will describe "Faraday's Work in Ferrous Metallurgy". To reflect the activities of the Association in all parts of the British Commonwealth, papers are to be given by: General C. H. Mitchell (Canada), "Engineers' Contributions to Canada's Development"; Mr. A. L. Egan (South Africa), "Methods of Improving the Kata Conditions of Atmospheric Air in Deep-level Mines". Lastly, since the Association is meeting for the first time in London, the special engineering interests of that city are to receive attention. London is, practically speaking, the centre of many activities in the sphere of aeronautics. The research work in this sphere at the National Physical Laboratory and at the Royal Aircraft Establishment, South Farnborough, will be touched upon by Mr. E. F. Relf and Mr. R. McKinnon Wood, who will respectively describe the new wind tunnels at these two establishments. Col. the Master of Sempill will give a paper on "Motorless Flight". These three papers are correlated with demonstrations: the wind tunnels by the visit to the National Physical Laboratory, and "Motorless Flight" by the gliding demonstrations to be given at Feltham Air Park on Sunday, Sept. 27.

FURTHER subjects to be discussed in Section G of the British Association which are connected more or less closely with London are: "Acoustical Problems of Broadcasting Studios", by Mr. Noel Ashbridge, of the British Broadcasting Corporation, and "London Tunnelling Problems", by Mr. H. H. Dalrymple-Hay. These papers, too, are combined with appropriate visits and demonstrations. Apart from these three special aspects, other important subjects of a general nature are included in the programme. Dr. W. Rosenhain will speak on "Metals and Alloys in relation to Engineering Progress", and Prof. F. C. Lea will present a paper on "The Effect of Temperature on some of the Physical Properties of Metals", these dealing with the metallurgical side. Sir David Milne-Watson, on "The New Gas Industry", will refer to some aspects of the important national question of fuel utilisation. Mechanical and manufacturing engineering are represented by Prof. E. G. Coker's paper on "Force Fits and Shrinkage Fits"; civil engineering by Prof. C. F. Jenkin, who will describe his "Earth Pressure Investigations"; while Prof. Julius Hartmann (Copenhagen) with his paper on "Jet Rectifiers" will deal with an important aspect of modern electrical engineering.

A CORRESPONDENT, writing from Loughborough on Aug. 6, mentions having seen a fully-grown cuckoo about his house for several days; on the above date it was perched on some railings along with about twenty sparrows, and being fed by a wagtail. Such an appearance of the yearling cuckoo is quite to be looked for at this time of year, but the fact that it has been deemed worthy of notice is worth recording, as it shows that the great difference in habits between the young cuckoo and the adult is not generally known. The old bird is notoriously secretive in its ways—so much so that it is literally only 'a wandering voice'

to 99 per cent of those who know of its existence. But the yearling exposes itself quite freely, is easily approached, and may be seen almost anywhere; in two summers a specimen was seen perched on the top of the Small Waders' aviary which used to be behind the Lion House in the Zoological Gardens. As the build of the cuckoo—long-winged and short-legged—is that generally characteristic of birds which hunt in the open, the behaviour of the yearling is more in accordance with what one would expect from its structure than is that of the adult. Evidently, however, during the bird's progress towards maturity and its travels to and sojourn in the south, it finds it expedient to conceal itself, and retains the habit; possibly the chief elimination the species suffers is by the persecution of birds of prey, which compels individuals to this change of customs, as the cuckoo appears not to suffer from starvation in spring or to be compelled to board ships when on passage—common misfortunes with others of our migrants. The wagtail above alluded to had, no doubt, reared the cuckoo, and the sparrows would have been attracted by their curiosity at a strange bird, often popularly mistaken for animosity, which they rarely display.

A REPORT by Miss D. A. E. Garrod on work on the British School of Archæology in Palestine during the past season appears in *Man* for August. Miss Garrod herself has been engaged in excavating the Mugharet-el-Wad, the largest of the Wady-el-Mughara group of caves, close to the rock basins which were uncovered in the previous season. A series of mesolithic burials has been found with circlets of beads of bone and shell still in place on the skeletons. The better preserved one, which has been removed in one piece, will go to the Palestine museum as an exhibit. On the skull are the remains of a cap strung with dentalia shells, while the lower jaw is full of bone pendant beads. The skeleton lay in a contracted position with one arm across the body. Of the other excavations, Mugharet-el-School is being carried out by Mr. Ted McCown. He has found an interesting Mousterian industry, and at the end of last May brought to light the skull and lower jaw of a young child, three to four years old (see NATURE, June 6, p. 865). The end of a child's humerus was revealed in the hard block of Mousterian breccia. This has now been sent whole to Sir Arthur Keith, in the hope that it may be found to contain the whole skeleton. At Mugharet-el-Tabou is a purely Mousterian deposit of great depth. Its great interest at the moment consists in the fact that it contains well-preserved fauna associated with the Mousterian—at present little known for this region. At Mugharet-el-Kabara, Mr. Turville Petre is excavating Zichron Jakob, a cave ten miles from Wady-el-Mughara. A mesolithic horizon has produced bone sickle handles with carved animal heads at the top, many bone harpoons, and various pieces of carved bone and stone, some of which, it is hoped, may be on exhibition later in London.

THE farming industry in Germany is far from flourishing at the present time. Instead of this preventing the development of new industrial material, it seems, judging from the large number of new agricultural devices shown at the recent show in Hanover, to be acting as a spur to further improvements. In the *Electrician* for July 31, R. Borlase Matthews describes some of the novel machines shown at this agricultural exhibition. Manufacturers are providing machines likely to reduce the costs of production, and the farmer is doing everything to increase the cultivated area and farm the land more intensively, so as to lower the total cost per unit produced. The number of new implements shown was nearly two hundred, and there were 5300 machinery exhibits, numbers which far surpass anything seen at shows in Great Britain. Electrically operated apparatus was very much in evidence, large scale demonstrations being given of equipment suitable for dairying, poultry-keeping, etc. An ingenious device known as the 'rain-cannon' is used for watering fields. It consists of a jet mounted on a cylindrical pressure tank. The upper portion of the tank is filled with air, which is compressed by the water until there is equilibrium. When this is attained, a valve situated in the nozzle opens an orifice. Owing to the sudden release, the air pressure ejects the water in a powerful jet to a considerable distance and at the same time moves it round slightly. This method is a great improvement on the old sprinkler and pipe-line methods. A small rain-cannon requiring only a pressure of two or three atmospheres to work it was a very popular exhibit. Pneumatic transport methods for transporting hay from the barns are coming into use owing to their convenience. A device was shown which supplied concentrated feed to the horses in stables twice a day. It was entirely automatic, requiring charging only once a week.

IN the *University of Colorado Studies* for April 1931 there is an interesting paper by Prof. Kenneth Field on the effects produced by interconnexion of electric light and power supply companies. The tendency in America is for the small companies to unite and form large companies. For example, twenty large companies control more than fifty per cent of the total supply. Just as with the 'grid' in Great Britain, the economies arise from the decrease in the consumption of fuel per unit power generated, the more economical maintenance that can be attained, and what may be described as the substitution of capital for labour. In large steam stations, evaporators for distilling water can be used to prevent scale-forming materials from entering the boilers, and this reduces the maintenance costs. Mechanical stokers, coal and ash handling machinery, coal bunkers, etc., considerably reduce the manual labour required. When water is available for condensing purposes, steam generating stations are located at the coal pits, and thus the cost of transport is lowered. Savings in reserve capacity are facilitated by making temporary service from distant plants possible. During a recent drought in North Carolina, industries in that State which were dependent upon electric light and power were kept in operation by energy received through interconnexion with the Southern Company, operating in South Carolina. This company had no surplus power, but obtained from

the Georgia Company the equivalent of the power which it passed on for use in North Carolina. In turn the Georgia Company received from the Alabama Company the equivalent of the energy it gave to the Southern Company. In effect, therefore, the North Carolina industries were kept going by electricity generated in the State of Alabama. The power was not actually transmitted, but the effect produced was the same as if it were.

A NEW scientific journal which marks an important stage in the geological survey of China has appeared under the name of the *Soil Bulletin*, published for the University of Nanking and the China Council of the Institute of Pacific Relations by the Geological Survey of China. Two numbers have appeared to date, the first in December 1930 and the second in March 1931; and both make contributions of interest to a subject which has received little scientific attention. Soils have distinctive morphological characters, and their classification on the basis of their own features, rather than from the point of view of their origin, is more likely to be of value to the agriculturist. A preliminary reconnaissance of a portion of the soils of China was carried out by Prof. C. F. Shaw in 1930, and this revealed the presence of nine soil regions. Of these, three are large areas of primary soils and six are composed exclusively of secondary soils. It was found that the geological origin of the soil material was subordinate to climate in determining the broad general soil regions, but within the regions it was of much importance. Mode of formation has had a dominant rôle in determining the characteristics of those regions which are composed mostly of alluvial sediments, though both climate and geological origin have naturally also had much influence.

AT the Congrès International du Bois et de la Sylviculture, which was held in Paris on July 1–5, an International Association of Wood Anatomists was formally constituted. This was the outcome of an informal meeting of wood anatomists which was held at Cambridge on the occasion of the fifth International Botanical Congress, in August 1930. At that time it was not found possible to do more than appoint a committee to consider the question of organisation and to report to the next conference, which was provisionally fixed for July 1931, in Paris. The Committee's report included a draft constitution, which was finally adopted at an open meeting held on July 4 last. The Committee was then empowered to enrol members and to carry on the affairs of the Association until such time as the statutory Council shall have been appointed. The secretary to the Committee is Prof. S. J. Record, Yale University School of Forestry, New Haven, Connecticut, United States, and the British representatives on the Committee are Mr. E. H. B. Boulton, Department of Forestry, University of Cambridge; Dr. L. Chalk, Imperial Forestry Institute, Oxford; Mr. B. J. Rendle, Forest Products Research Laboratory, Princes Risborough, and Mr. M. B. Welch, Technological Museum, Sydney, Australia.

IN 1911 an International Hygiene Exhibition was held at Dresden, and in 1930 a second International Exhibition was the appropriate occasion for the opening of a permanent museum of hygiene in that town. Since the first exhibition, almost revolutionary changes have taken place throughout the whole field, so that the 1930 exhibition presented quite a different picture from its predecessor. Its sections included the hospital, physical culture, occupational hygiene, psychic life and hygiene, woman and child, care of health, nourishment, clothing-hygiene, and sanitary and dwelling conditions. The aim of the Museum, organised as a registered association, is to convert the greatest possible number of people to a systematic and continuous care of their health, not merely by imparting instruction, but also by influencing them to think hygienically for themselves. Various sections are devoted to press and publication propaganda, teaching apparatus, lantern-slides, travelling exhibitions, health service, and so on. An illustrated article in the *Museums Journal* for July gives in some detail an account of this important institution.

AN explanatory circular (1208) has been issued by the Ministry of Health respecting the *Memorandum* (153/M.C.W.) on birth control issued in March. It is emphasised that local authorities have no general power to establish birth control clinics as such. Under the Maternity and Child Welfare Act, 1918, facilities for birth control advice at a centre are limited to married women already in attendance as expectant or nursing mothers in whom further pregnancy would be detrimental to health. Under the Public Health Acts, gynæcological clinics may be established and contraceptive advice may there be given to married women in attendance for a similar reason. It is considered undesirable that a gynæcological clinic should be established at a maternity and child welfare centre; such a clinic should be provided in separate premises or at a hospital. Contraceptive advice should not be regarded as falling within the scope of the normal duties of the medical officers of a local authority, who should be free to undertake or to decline it.

THE further issue in the Ministry of Agriculture's new series of bulletins includes one (No. 13) on "Home-grown Feeding Stuffs" by Dr. H. E. Woodman, the object of which is to indicate how the farmer's own produce may best be used in the rearing of stock. From a comparison of the relative cost of some home-grown and purchased feeding stuffs, it is evident that it may pay the farmer better to retain his own potatoes and corn for home consumption rather than to sell them and have to purchase maize meal. A general description follows of the composition, feeding value, and uses of a large variety of common home-grown foods, such as cereals, hays, forage crops, silage, potatoes, and sugar beet by-products, and rations suitable for different types of stock are supplied. In conclusion, a comparative table is drawn up showing the composition and feeding values of various winter forage crops and pasture

grass, from which it is evident that kales in particular should prove satisfactory substitutes for pasturage. Copies of the bulletin may be purchased direct from the Ministry of Agriculture, 10 Whitehall Place, S.W.1, price 8*d*. post free.

The Indian Journal of Veterinary Science and Animal Husbandry is the title of a new quarterly journal the first part of which has recently been published for the Imperial Council of Agricultural Research, New Delhi, India. The annual subscription, including Indian postage, is Rs. 5, or 8*s*. 3*d*., which should be sent to the secretary of the Imperial Council. The aim of the journal is to encourage practical investigations of economic value, and actual notes of practical experiences and clinical observations, rather than abstruse articles on research, are what are required, though reviews and abstracts of current work will be included. This first part contains an article by H. Cooper on anti-rinderpest inoculations, and other papers and abstracts on diseases and infections of cattle and other animals.

IT is announced that Lord Ilchester and Prof. J. Stanley Gardiner have been elected trustees of the British Museum in succession to Lord Ullswater and Lord Chalmers, who have retired.

AFTER consultation with the Lord President of the Council and the president of the Royal Society, the recently formed Agricultural Research Council has appointed Sir William Dampier to be secretary of the Council. Mr. E. H. E. Havelock, of the Development Commission, has been appointed assistant secretary.

THE nineteenth annual meeting of the Indian Science Congress will be held in Bangalore on Jan. 2–8, 1932, under the presidency of Rai Bahadur Lala Shiv Ram Kashyap. The following have been elected sectional presidents; agriculture, Mr. G. N. Rangaswamy Ayyangar; mathematics and physics, Prof. Ganesh Prasad; chemistry, Prof. P. R. Ray; zoology, Prof. D. R. Bhattacharyya; botany, Dr. Haraprasad Chaudhuri; geology, Mr. Percy Evans; medical and veterinary research, Lt.-Col. A. D. Stewart; anthropology, Mr. J. P. Mills; psychology, Prof. N. S. N. Sastry. Further information can be obtained from the General Secretary, 35 Ballygunge Circular Road, Calcutta.

THE Association of Special Libraries and Information Bureaux will hold its annual conference at Lady Margaret Hall, Oxford, on Sept. 18-21, under the presidency of Mr. H. T. Tizard. Some problems of professionalism will form the subject of a lecture by Prof. A. M. Carr Saunders, and Mr. B. M. Headicar will discuss practical methods of arrangement, indexing, and routine in the business library and information bureau. Other subjects included in the programme are "International Abstracting and Indexing" by Sir Frederick Nathan, "Films as a Medium of Information in Education" by Mr. F. A. Hoare, and "Agricultural Economic Information" by Mr. J. P. Maxton. On Sept. 20, Sir Francis Goodenough will give a short address on the Report of the Board of Education Committee on education for salesmanship.

A GREAT earthquake was recorded in the observatories of Great Britain on the evening of Aug. 10. At Kew, the first impulses occurred at 9 h. 28 m. 21 s. p.m., G.M.T. The records indicate that the origin was about 4000 miles north-east by east of Kew, or near the Altai Mountains in Mongolia, and this position is confirmed by reports that it was about 2100 miles from Bombay. An earthquake on Aug. 16 which shook the city of El Paso and was widely felt in Texas and New Mexico was recorded as a small disturbance at Kew Observatory. The first impulses at Kew occurred at 11 h. 52 m. 4 s. G.M.T., and the records indicated that the epicentre was about 5300 miles away. Among other recent earthquakes, one of the most interesting occurred on July 18, in the Mississippi valley (*Daily Science News Bulletin*, Science Service, Washington, D.C., July 20). Its centre was close to New Madrid, the scene of the great earthquakes of Dec. 16, 1811, and Jan. 23 and Feb. 7, 1812.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—An assistant lecturer in mechanical engineering at the Technical College, Bradford—The Principal, Technical College, Bradford (Aug. 25). A principal of the Neath Mining and Technical Institute, and an assistant at the Caerphilly Mining and Technical Institute and Junior Technical Day School, with good honours degree in science—The Director of Education, County Hall, Cardiff (Aug. 25). A laboratory steward at the Technical College, Coatbridge—The Director of Education, Lanarkshire House, 191 Ingram Street, Glasgow (Aug. 26). A county librarian under the Durham County Education Authority—The Director of Education, Shire Hall, Durham (Aug. 27). Chemical laboratory assistants at the Royal Arsenal—The War Department Chemist, B.47, Royal Arsenal, Woolwich, S.E.18 (Aug. 29). An assistant librarian in the University of Birmingham—The Secretary, University, Birmingham (Sept. 5). A demonstrator of biology at St. Bartholomew's Hospital Medical College—The Dean of the Medical College, St. Bartholomew's Hospital, E.C.1 (Sept. 10). An assistant at the College of Estate Management for lecturing on town planning and road-making—The Secretary, College of Estate Management, 35 Lincoln's Inn Fields, W.C.2 (Sept. 14). A Milroy lecturer at the Royal College of Physicians for 1933—The Registrar, Royal College of Physicians, Pall Mall East, S.W.1 (Sept. 21). A handicraft instructor under the Lincolnshire (Holland) Education Committee—The Director of Education, High Street, Spalding. An assistant in the development section of the British Non-Ferrous Metals Research Association—The Director, British Non-Ferrous Metals Research Association, Regnart Buildings, Euston Street, N.W.1. An engineering draughtsman under the Air Ministry—The Secretary (S.1), Air Ministry, Kingsway, W.C.2.