

News and Views.

THE subject of noise and its measurement, dealt with by Dr. G. W. C. Kaye in his recent Royal Institution discourse, which forms our supplement this week, is one of great practical importance and wide interest. It is becoming increasingly apparent that excessive or particularly irritating noise is injurious to health, happiness, and working efficiency. Laboratory measurements have shown that even during sleep sufficiently deep to render the sleeper unconscious of any sounds, response to such sounds as are made by the early morning milkman is readily detectible. There are numerous practical difficulties in the quantitative measurement of noise, since acoustical, psychological, and physiological factors are all concerned. A general survey of the methods at present in use is given by Dr. Kaye. The results gathered from several independent sources deal with all types of noises, from the whispering human voice, the crying of twins, and the applause at Lindbergh's reception in New York, to transport noises, the roaring of lions, and the sounds of Niagara Falls.

It is noteworthy that increased speed of transport is only obtained at the cost of increased noisiness, the average loudness levels in decibels above threshold inside various vehicles being for a recent type of bus or a saloon car or express train about 60, whilst for aeroplane cabins the value is about 100. Much of the noisiness of modern transport could only be reduced by redesign of the machinery involved, and it is unfortunate that the silence of the exhaust of the luxury motor car is obtained only by a certain loss of engine efficiency. For this reason, the same methods could not easily be used to reduce the machine-gun-like noises of the motor bicycle exhaust. The absolute amount of sound energy lost by even the noisiest of machinery is negligibly small, and quieter machinery is therefore only more efficient because of better mechanical design and not because of absence of sound-energy losses. From noise measurements made inside buildings, it is evident that stillness could be much more readily obtained in the Victorian home with its general solidarity, heavy hangings, and absence of loud speaker and gramophone, than in the modern ideal home with its thin walls and flimsy hangings.

ON Aug. 20 occurs the centenary of the birth of the eminent Austrian geologist Eduard Suess, who was born at No. 4 Duncan Terrace, Islington, a house which now, thanks to the action of Dr. F. A. Bather, bears a commemorative tablet. The son of a German merchant then resident in England, but who afterwards lived at Prague and Vienna, Suess was educated in the University of Vienna, and became an assistant in the Imperial Museum. At the age of twenty-six years he was made an extraordinary professor in the University, and ten years later was appointed to the chair of geology, a post he held until 1901. A most successful teacher, he counted among his pupils Mojsisovics, Fuchs, Waagen, Penck, and Neumayr, who became his son-in-law. In addition to his

academic posts, he held seats in the Municipal Council of Vienna and the Diet of Lower Austria. It was largely through him that Vienna obtained an adequate water supply. He was chosen president of the Academy of Sciences of Vienna, was elected a foreign member of the Royal Society, and received the Copley Medal, while the Geological Society awarded him its Wollaston medal. He was included among the Scientific Worthies whose work has been reviewed in NATURE, an account of his life being given in our columns in 1905 by Sir Archibald Geikie. Suess died at Vienna on April 25, 1914.

MUCH of the earlier work of Suess dealt with the geology of the Vienna basin and the Alps, but he will always be remembered for his monumental work, "Das Antlitz der Erde". Setting himself the task of taking a comprehensive survey of all that had been accomplished in elucidating the geological structure of every part of the globe, he published the first part of his great book in 1885, the second in 1888, and the third in 1901. "The supreme scientific success attained by this great work", says von Zittel, "was a tribute to a work accomplished with the highest bibliographical skill and literary finish, the fullest geological and geographical knowledge, a convincing array of scientific facts that never fail to suggest an endless reserve in the background, and, above all, a calm, judicial, elevated tone of inquiry which the end of the nineteenth century may well feel proud to have witnessed and carried with it into its boasted wealth of scientific enlightenment." "Das Antlitz der Erde", it has been said, takes its place as a scientific classic beside Hutton's "Theory of the Earth" and Lyell's "Principles of Geology"; while of Suess, Prof. J. W. Gregory remarked, at the unveiling of the tablet in Islington, that "he ranked as the greatest original force in geological philosophy of his time".

ONE of the recommendations of the Committee on National Expenditure was the abolition of the Empire Marketing Board. The Board's report for 1930-31, which has recently been published (H.M. Stationery Office, price 1s.), forms an adequate comment on which we need not enlarge. In spite of the world-wide economic depression, record imports for sixteen commodities from the Empire into Great Britain have been established, the increase being attributed largely to the greater attention paid by the producers to grading and marketing and to the closer contact attained between the home traders and the overseas producers. Although its activities are developing considerably, the methods of the Board have been similar to those in previous years. Economic investigations and market inquiries have been extended, and grants for research work both in Great Britain and overseas are being continued. A complete list of the latter is appended, with a short account of the work under investigation in a number of cases. The importance of collecting and disseminating information regarding the supplies of Empire and foreign

commodities available is fully recognised, and the issue of the weekly notes for fruit and dairy produce has been extended to include figures for the quantity of butter in cold storage, thus making a study of the consumption of imported butter possible for the first time. Two further reports on economic investigations, entitled respectively "The Marketing of Cheese" and "The Preparation of Fruit for Market", have been published, bringing the total number of this series up to twenty-five, and statistical surveys of world production and trade in beef and wool, similar to those already issued for oranges and cocoa, are nearing completion. Publicity has been obtained in a variety of ways, and definite success has attended the experiment of the opening of two shops in which samples of Empire produce are sold, under conditions which secure the goodwill and co-operation of the traders. The report concludes with a list of the publications of the Empire Marketing Board and the Imperial Economic Committee.

THE use of electricity to heat the soil around plants so as to force their growth has been experimented with successfully by engineers connected with the Southern California Edison Company. The main factor to which the success of the experiment is due is that the product can be placed on the market early, so that the price is three or four times greater than later on. When all the crops mature at the same time, the market is flooded and the price falls. Two exactly similar plots of ground were taken. One had insulated wires running through it about four feet apart and at a depth of eight inches. The current in the wires was regulated by a thermostat so as to maintain a temperature of about 70° F. Current flowed on an average two hours out of every five. The other plot was not electrically heated but was prepared in exactly the same way. Cucumber seeds were planted in both plots, in rows about four feet apart. It was found that more than one half of the crop in the wired portion had matured and been marketed before the first cucumber had reached maturity in the unheated plot. The net revenue obtained from the electrically heated plot was about £20 greater than from the other. Details of the experiment are given in the *Electrical Review* for Aug. 7.

MARCONI'S Wireless Telegraph Co., Ltd., has acquired from the British Air Ministry the full rights and drawings for the design and erection of radio beacon stations of the rotating type. Marconi fixed beacon transmitters have been installed at important coastal points in many parts of the world as an aid to maritime navigation. The company will now be able to provide for aerial navigation as well. Both kinds of navigation will doubtless benefit by having alternative beacons. The experimental rotating beacon stations at Orfordness, Gosport, and Farnborough have been reported on favourably. A special feature of the rotating beacon system is that it requires only an ordinary radio receiver and a stop-watch to enable a ship or an aircraft to take its bearings. It is likely, therefore, that the system will prove valuable in extending the use of radio navigation even to quite

small ships. The beacon makes use of a vertical closed aerial rotating at a uniform speed of one revolution in 60 seconds. The radiation from such a loop is a maximum in the plane of the loop, and zero, or a minimum, at right angles to that plane. For the calculation of bearings, two distinctive signals—a 'north signal' and an 'east signal'—are transmitted at regular intervals as the aerial rotates. The normal method of observation at the receiving station is to start a stop-watch at the moment the north signal ends, after which the time taken for the zero signal to be reached indicates the bearing of the observer from the beacon. If the observer is due north or south of the beacon, he may not be able to read the north signal, owing to the directional effect of the transmission. In this case the east signal is taken as the starting point. The number of seconds from the reception of the signal to the reception of the minimum signal gives the bearing in degrees. It seems likely that when navigators have become accustomed to radio beacons, it will be possible to dispense with several lightships.

FOLLOWING on the excavation of a seven-roomed house, later converted into baths, at North Wharborough, Hampshire, which was discovered in 1929, a building of considerable size has been brought to light, as is announced in the *Times* of Aug. 10, which may furnish much-needed evidence bearing on the rural organisation of Roman Britain. The buildings are situated only 8½ miles from the city of Calleva Atrebatum (Silchester); but they lie on no known Roman highway. The larger structure, like the smaller, would appear to have served two purposes; for at some time in its history it was converted by the erection of interior walls of wattle and plaster, relatively less substantial than the solid outer walls, into a system of cubicles, probably intended for farm labourers. Four buildings outside the south-west outer wall are probably stables. Coins, all belonging to the Constantine period or later (A.D. 306-381), were found. Presumably Silchester served as the market town for the villa. This is in some measure supported by the discovery of a potsherd inscribed 'Peregrini'. There were two potters of the name of Peregrinus, one from Southern Gaul, of the age of Domitian, A.D. 81-96, the maker of ware which has been found on several sites in Britain, and notably at Silchester.

THE academic study of comparative law is, as a rule, confined to codified law. This is due in part to the fact that material for study of non-codified law has not been available. In the nineteenth century opportunities for collecting data were neglected, as it was considered inevitable that such systems were destined to disappear. The event has proved that this view was erroneous; at the present day one half the globe is under the jurisdiction of Oriental and tropical customary law. Further, juridical science is coming to recognise more and more the importance of the non-codified systems of law. The whole subject, however, is in need of organisation before systematic

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study will become possible. We welcome an announcement which appears in *Man* for June that the Salle de Travail d'Ethnologie juridique of the Faculty of Law of the University of Paris is prepared to act provisionally as a central bureau for the study of customary Oriental and tropical law, and to serve as a channel of intercommunication between those who are interested in such studies. For this purpose, the subject has been divided into eight divisions according to geographical areas, and a beginning has been made by the printing of a dictionary of Indonesian law with the assistance of the International Academic Union. The study of Indonesian law will be further served by existing institutions, the Adat Law Section of the Royal Batavian Society of Arts and Sciences at Batavia, founded in 1926, and the Adat Law Foundation at Leyden, which was established in 1917. An inquiry is to be instituted in the Philippines in the current year.

At the ninth meeting of the Executive Council of the International Institute of African Languages and Cultures, held in Paris under the presidency of the chairman, Lord Lugard, on May 27-29, it was announced that the Rockefeller Foundation had promised a grant to the Institute, not to exceed £10,000 per annum, for a period of five years. Of this amount, £5000 per annum is a fixed grant. The remaining £5000 will be paid on the basis of £1 for each £2 obtained from other sources. The grant is for research work; and with this amount at its disposal the Institute will be enabled to prosecute a regular scheme of organised research, such as it has always contemplated since its foundation. A programme has already been discussed by the Executive Council. It is now being elaborated for submission at the next meeting of Council to be held in Paris in October. This generous recognition of the importance of the problems of Africa, of which the Rockefeller Foundation has shown itself convinced on previous occasions, should stimulate possible benefactors to ensure that the full amount of the grant may be made available for studies bearing upon what is held by many to be the gravest of the problems which will confront modern civilisation in the future—the relation of the white and the black races.

THE sixth annual meeting of the British Association of Commercial Seed Analysts was held on July 25 at the National Institute of Agricultural Botany, Cambridge, the president, Mr. N. L. Dickson, being in the chair. The report of the past year showed that a considerable amount of work has been accomplished, particularly interesting results having been obtained by co-operative work among members in the testing of exceptionally difficult seeds. Six papers, including valuable notes on "New Crop Germinations", have been published and an exchange of papers made with various Colonial and American departments of agriculture and the American Seed Analysts' Association. All publications received have been added to the library and are available to members on loan; further, it is hoped to issue summaries of such papers, in addition to extracts from the *News Letter* (the official organ of the Association of Official Seed Analysts of

North America). Papers on the question of the germination of damaged seeds, read by Mr. F. H. G. Neale and Mr. W. Hallam Harding, aroused considerable interest and tended to confirm the opinion that many so-called damaged seeds will eventually produce normal plants. It was announced that Dr. Nelson, of the Royal Botanic Gardens, Edinburgh, a former president of the Association, has kindly offered to help members with any difficulties that might arise with unusual species, and the hope was expressed that members will not hesitate to communicate the results of their research work, experiences, or difficulties to the secretary Mr. F. H. G. Neale, "Emmandee," Hawthorn Gardens, Reading, as by this means the Association can prove of the greatest benefit to all its members.

THE South African Museum, in Cape Town, is to be congratulated upon the additions to its capacity made during the year through the aid of the Union Government. Storage and workroom accommodation has been increased, and the erection of a new wing and the taking over of rooms occupied by the Art Gallery will give much-needed opportunity for an adequate exhibition of the animals of South Africa. We trust that systematic zoology, which after all is but one aspect of a big subject, will not claim all the new space, and that a definite allocation may be made of room to illustrate the general teachings of natural science. Another side of the activities of this Museum deserves commendation. It sends annual expeditions to the country for the observation and collection of the native fauna, and in its journal, the *Annals of the South African Museum*, it publishes contributions to the knowledge of the animals of South Africa which, for quality and quantity, equal, and indeed exceed, the products of many much wealthier institutions. The abstract of accounts, which appears at the end of the Report for 1930, shows that the total grants made to the Museum fall short of £8000, and of this sum, more than £400 was devoted to the publishing of scientific results, evidence of the research enthusiasm of the staff.

THE Imperial Bureau of Fruit Production, East Malling, Kent, has produced the first number of a journal, *Horticultural Abstracts*, that it is proposed to issue quarterly. The annual subscription, five shillings, is very reasonable, so that this publication may appeal to a number of horticulturists and students of horticulture. On the other hand, it is difficult to know where scientific work of a biological character definitely ceases to be of interest to horticulture, so that many workers will probably prefer the bigger and more expensive *Biological Abstracts* now issued by the Union of American Biological Societies, which includes a special section for abstracts of a definitely horticultural character. In the present number of the new journal, 108 papers are dealt with; the abstracts, whilst commendably brief, seem to give a very clear idea of the general character of the papers. It is certain, however, that four issues upon this scale will not cover comprehensively the annual output of general scientific work of interest to the worker in horticulture.

ONE important outcome of the Conference of Empire Surveyors in 1928 has been the foundation of the quarterly *Empire Survey Review*, of which the July issue is the first. It is published at 3s. a number by the Crown Agents for the Colonies. The issue opens with an article by Mr. O. G. S. Crawford on primitive English landmarks and maps, which traces some of the influences that led to the division of lands and the institution of boundaries up to the fifteenth and sixteenth centuries. Another article, by Capt. D. R. Martin, describes the ingenious map-mounting machine which for a few years has been used by the Ordnance Survey in place of hand mounting or of the use of linen-backed paper in the printing room. There are also several shorter articles on technical problems of survey, as well as reports on various Empire survey departments.

ON Aug. 6, Mr. J. A. Mollison made a forced landing on English soil near Pevensey at 1.35 P.M., thus reducing the time for the flight between Australia and England by about two days. The actual time taken for the flight was 8 days 20 hours 19 minutes, the previous record, made by Mr. C. W. Anderson Scott, being 10 days 22 hours. The flight was an adventurous one, and Mr. Mollison experienced many difficulties, due chiefly to vagaries of the weather, which caused a certain amount of delay. The distance covered was about 10,000 miles, thus giving an average of about 1100 miles a day. The machine used was a Gipsy Moth, and, apart from extra petrol tanks, was a standard machine used for training amateur pilots. The engine was a Gipsy II. (120 h.p.).

It is with regret that we announce the death, on Aug. 6, of Prof. Archibald Barr, F.R.S., who was formerly Regius professor of civil engineering and mechanics in the University of Glasgow, and past president of the Royal Philosophical Society of Glasgow and of Section G of the British Association. Prof. Barr was seventy-six years of age.

THE following appointments have recently been made by the Secretary of State for the Colonies: Mr. A. J. W. Hornby, agricultural chemist, Nyasaland, to be assistant director of agriculture, Nyasaland; Mr. A. C. Miles, provincial superintendent of agriculture, Gold Coast, to be assistant director of agriculture, Gold Coast; Mr. R. O. Williams, superintendent, Royal Botanic Gardens, Trinidad, to be economic botanist, Trinidad; Mr. G. F. Clay, senior agricultural officer, Uganda, to be deputy director of agriculture, Uganda.

It will be remembered that the Faraday Society has convened a Colloid Committee to organise periodical meetings for the discussion of subjects connected with colloid science. The first meeting was held in Cambridge last year to discuss "Colloid Science Applied to Biology". Arrangements are now on foot for the second meeting, which will be held in Manchester in the autumn of 1932 to discuss "Textile Materials, their Components and Related Topics". A special organising committee has been convened to draft the programme of the meeting.

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THE new edition of the "Guide to Current Official Statistics of the United Kingdom" (H.M. Stationery Office, 1s.) has now appeared. This annual volume is of value to all workers who have occasion to use any of the statistical reports of various Government departments. A glance at its pages shows the wealth of material available. The greater part of the 320 pages is a detailed subject index with references to the numbers of the publications, which are listed also in numerical order under the various departments.

WE have received from Messrs. Watson and Sons (Electro-Medical), Ltd., Sunic House, 43-47 Parker Street, Kingsway, London, W.C.2, two new catalogues dealing respectively with diathermy apparatus and equipment for X-ray therapy. In each a brief introduction is given on the principles of the apparatus employed, followed by lists of outfits and accessories which experience has shown fulfil requirements. These include 'Sunic' condensers and spark gaps, induction coil apparatus, current generators, tubes and valves, filters and applicators, Greuz ray apparatus for treatment of skin affections, and protective materials.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—Two marine biologists (one a planktologist and one a benthos specialist) in the Marine Fisheries Laboratory of the Egyptian Government Coastguards and Fisheries Service, Alexandria—The Royal Egyptian Legation, 75 South Audley Street, W.1 (Aug. 20). A teacher of handicraft (woodwork, metalwork, and technical drawing), and an assistant master to teach, principally, elementary science and mathematics, at the Junior Technical School of the Castleford, Normanton, and District Mining and Technical Institute, Whitwood—M. G. Swaine, Education Offices, Castleford (Aug. 21). A graduate assistant at the Abertillery Mining and Technical Institute, and an engineering instructor at the Ebbw Vale Mining and Technical Institute—The Director of Mining Education, County Hall, Newport, Mon. (Aug. 24). A demonstrator of anatomy at the Royal Veterinary College—The Secretary, Royal Veterinary College, Camden Town, N.W.1 (Aug. 31). Two research assistants at the Institute of Agricultural Engineering, Oxford University, with special qualifications in, respectively, physics and engineering—The Secretary, Institute of Agricultural Engineering, 37A St. Giles, Oxford (Aug. 31). A male assistant curator of the Leeds Museums—The Committee Department, Town Clerk's Office, 26 Great George Street, Leeds (Sept. 9). A university reader in pathology at Westminster Hospital Medical School—The Academic Registrar, University of London, S.W.7 (Sept. 18). A William Julius Mickle fellow of the University of London—The Academic Registrar, University of London, South Kensington, S.W.7 (Sept. 30). A rector of Glasgow Academy—The Secretary, Glasgow Academy, 190 West George Street, Glasgow (Oct. 1). A Scottish medical secretary of the British Medical Association—The Medical Secretary, British Medical Association, Tavistock Square, W.C.1 (Oct. 1). A sixth form chemistry master at the Crypt School, Gloucester—The Headmaster, Crypt School, Gloucester.