

the lighting industry started in 1903 at the National Physical Laboratory, where he was largely responsible for the design and calibration of the electric lamps which formed the standard of luminous intensity until 1948. Sir Clifford was, for a number of years, the director of the Research Laboratories of the General Electric Co., Ltd., and although his interests extended over many fields, it was in the subjects of photometry and illumination that he was peculiarly interested. He was one of the founders of the International Commission on Illumination and was its honorary secretary for many years.

Middle East Oil

In an article in Volume 31, No. 1, of *The Lamp* (house journal of the Standard Oil Co., New Jersey, published five times a year primarily for employees and stockholders) a survey is made of progress in oil production during the past fifty years in the Middle East. During that time production increased systematically, until in 1948 it reached a total of one million gallons per day, and the area became recognized as the third most important producing centre of the world, the United States and the Caribbean being first and second respectively. The most significant oil region in the Middle East as yet discovered lies in a great geological trough which extends through Iran, Iraq, Saudi Arabia and the smaller sheikhdoms of Kuwait, Bahrain and Qatar. There is intense activity throughout the area, and the very great rise in production is a measure of the success of prolonged labour by oilmen in one of the hottest climates of the world. Nevertheless, Middle East oil could be made to flow faster by elimination of the present bottleneck in transportation. Ninety per cent of the oil is concentrated in the Persian Gulf area, which at the nearest point lies eight hundred miles east and south-east of the Mediterranean. Every barrel of oil travels by sea. The route will probably remain the same for destinations east of Suez; but for the great markets of Western Europe, substitution of overland pipeline transport is geographically feasible. A combined land and sea route of four thousand one hundred miles to the English Channel ports compares impressively with the present all-sea route from the Persian Gulf, south-east round Arabia and northwards through the Red Sea and the Suez Canal. Pipelines when built will, it is estimated, eliminate more than three thousand one hundred miles of tanker haulage on shipments to Western Europe. A map showing proposed pipelines in the Middle East clearly indicates the extent of the project and at the same time demonstrates the present formidable wastage of tanker haulage. Given adequate overland transport facilities, this region can meet all Western European requirements. At the same time, the peoples of the Middle East will begin to feel the benefits attendant upon development of the first mass-volume export commodity they have ever had.

Bird Photography by High-speed Electronic Flash

A METHOD of taking bird photographs which promises to be of great value in the analysis and understanding of bird flight has been described by Eric Hosking (*British Birds*, 42, No. 8; August 1949). The high-speed electronic flash is many times brighter than bright sunlight and is usually arranged to last about 1/10,000 second. The set built to produce the flash was made by Dr. P. S. H. Henry, who also devised a photo-cell trip that would automatically operate the camera shutter, and with it the flash, at

the instant the bird passed through a pre-arranged zone in front of the camera. With this ingenious apparatus the bird thus takes its own photograph at the moment that it is itself in focus. Mr. Hosking illustrates his article with a number of photographs which have been taken by high-speed electronic flash and suggests that here may well be a means of advancing the study of aeronautics. This new method of photography should certainly add to our knowledge of bird life, and particularly of the more active phases of bird behaviour like courtship and aggressive displays, as well as the identification of food carried in the bill and the recording of feeding behaviour at the nest.

Sources of Information in Great Britain

THE first two of a series of "Aslib Guides to Sources of Information in Great Britain", issued in pamphlet form suitable for inclusion in a loose-leaf binder, and intended cumulatively to form a new edition of the "Aslib Directory", have recently been published (No. 1, *The Paper Industry*; pp. ii+14; 2s. 6d. net, to members, 2s. No. 2, *Agriculture and Allied Interests*; pp. v+64; 16s. net, to members, 13s.). The pamphlets are numbered in accordance with the Universal Decimal Classification and are arranged in three sections dealing with relevant national libraries and loan services, with the organisations in Great Britain which are the main sources of information in the particular field, and with the publications, including periodicals, directories, annuals and yearbooks. They are provided with a subject index to the libraries and other organisations and to the publications listed.

Agricultural Attache to the British Embassy in Buenos Aires

MR. A. G. MILL has been appointed to succeed Major T. A. Rattray as agricultural attaché to the British Embassy in Buenos Aires. Mr. Mill, who is forty-one, has been connected with farming all his life, mainly with cattle, sheep and horses. From 1928 he was for ten years in the Argentine as an estate manager for Liebig's Extract of Meat Co. During the Second World War he was a government livestock officer in Britain, and since 1945 he has served in that capacity in Barbados.

Colonial Service: Recent Appointments

THE following appointments in the Colonial Service have been recently announced: D. J. O. Burke, A. G. Cullum and A. A. Kingshotte, agricultural officers, Nigeria; I. Constantinesco and A. Hamersley, agricultural officers, Tanganyika; J. H. Rhodes and A. T. Wilson, agricultural officers, Northern Rhodesia; J. Evans and J. A. Sandys, agricultural officers, Nyasaland; D. W. M. Haynes, agricultural officer, Federation of Malaya; R. H. Forster, agricultural officer, North Borneo; H. Sandford, agricultural officer, Sarawak; E. F. H. Sturgeon, agricultural officer (for soil conservation), Nyasaland; A. G. Bramwell, J. L. Masson, A. J. L. Mitchell and A. L. Roxburgh, assistant conservators of forests, Nigeria; A. P. B. Hamilton, assistant conservator of forests, Northern Rhodesia/Nyasaland; J. R. Hilton, assistant conservator of forests, Uganda; C. S. Kilpatrick, assistant conservator of forests, British Guiana; A. N. Loweth, assistant conservator of forests, Fiji; I. Paul, assistant conservator of forests, Sierra Leone; M. G. Yearsley, assistant conservator of forests, Gold Coast; O. P. Casey, G. C. McCallum

and J. H. Thompson, geologists, Nigeria; H. R. Versey and V. A. Zans, geologists, Jamaica; P. A. Ashworth, geologist, Sierra Leone; P. Collette, geologist, North Borneo; J. J. Frankel, petrologist, Lands and Mines and Survey Department, Kenya; E. T. Haldemann, geologist, Tanganyika; M. Kosten, geologist, Gold Coast; J. W. Pallister, senior geologist, Uganda; L. R. Verney, chemist assayer, Nigeria; A. H. J. Colley, veterinary officer, Northern Rhodesia; E. P. Lindley, veterinary research officer, Nigeria; R. L. McKenzie and W. P. McMillan, veterinary officers, Uganda; W. E. Pearson, veterinary education officer, Nigeria; W. Plowright, veterinary officer (pathologist), Kenya; P. W. Swire, veterinary officer, Nigeria; G. H. Yeoman, veterinary officer, Tanganyika; J. C. M. Gardner, entomologist, Forest Department, Kenya; D. M. Montgomerie, assistant meteorologist, Nigeria; H. H. C. Pudden, sylviculturist, Kenya; F. G. Smith, beeswax officer, Department of Agriculture, Tanganyika; H. J. Steer, statistician, Trinidad.

The following changes of appointment are also announced: J. D. Broatch (assistant director of agriculture, Gold Coast), deputy director of agriculture (cocoa industry), Gold Coast; J. C. Eyre (deputy director of agriculture, Northern Rhodesia), director of agriculture, Northern Rhodesia; A. V. Gibberd (senior agricultural officer, Nigeria), assistant director of agriculture, Nigeria; E. A. Lewis (chief field zoologist, Kenya), director, East African Tsetse Reclamation Department, East African High Commission; A. S. McKinnon (agricultural officer, Somaliland Protectorate), assistant director, Agricultural and Veterinary Department, Somaliland Protectorate; J. M. Ward (senior agricultural officer, Gold Coast), assistant director of agriculture, Gold Coast; K. R. M. MacDonald (assistant conservator of forests, Nigeria), conservator of forests, Nigeria; G. M. Gates (veterinary officer, Nigeria), assistant director of veterinary services, Nigeria; H. M. Stuchbery (senior veterinary officer, Tanganyika), deputy director of veterinary services, Nyasaland; C. R. Turbet (senior veterinary officer, Fiji), senior animal husbandry officer, Nyasaland; F. R. Johnson (analytical chemist, Gold Coast), senior fisheries officer, Gold Coast.

The Night Sky in January

FULL MOON occurs on Jan. 4d. 07h. 48m., U.T., and new moon on Jan. 18d. 07h. 59m. The following conjunctions with the moon take place: Jan. 9d. 05h., Saturn 0.2° N.; Jan. 10d. 10h., Mars 2° N.; Jan. 19d. 14h., Venus 10° N. In addition to these conjunctions with the moon, Venus is in conjunction with Jupiter on Jan. 25d. 13h., Venus being 7.3° N. At the beginning of the month Mercury sets one and a half hours after the sun; later in the month, it rises before the sun—at 6h. 20m. on Jan. 31. Venus sets more than three hours after the sun on Jan. 1 and two and a half hours after the sun on Jan. 15, and is in inferior conjunction on Jan. 31. The stellar magnitude of the planet decreases during the month from -4.4 to -3.2 . Mars rises at 23h. 25m. and 22h. 10m. on Jan. 1 and 31 respectively, appearing a little east of γ Virginis in the latter case. Jupiter can be seen for a short time, setting two hours after the sun at the beginning of January, but is drawing closer to the sun and is not favourably placed for observation during the greater portion of the month. Saturn rises at 22h. 12m., 21h. 16m. and 20h. 10m., at the beginning, middle and end of the month, respectively,

and is of about magnitude 1 a little east of σ Leonis. The rings are practically closed now, their plane passing close to the earth. Occultations of stars brighter than magnitude 6 are as follows: Jan. 1d. 04h. 08.3m., 36 Taur. (*D*); Jan. 3d. 3h. 28.9m., 136 Taur. (*D*); Jan. 9d. 00h. 47.5m., σ Leon. (*D*); Jan. 9d. 01h. 43.2m., σ Leon. (*R*); Jan. 28d. 20h. 10.2m., χ Taur. (*D*); Jan. 31d. 18h. 45.8m., 47 Gemi. (*D*). *D* and *R* refer to disappearance and reappearance, respectively, and the latitude of Greenwich is assumed. The earth reaches perihelion on Jan. 3.

Announcements

AN exhibition entitled "Research and Production" is to be held by the British Welding Research Association at its London headquarters at 29 Park Crescent, London, W.1, during February 7–11, between 10 a.m. and 5.30 p.m.

THE forty-seventh exhibition of scientific instruments and materials, organised by the French Society of Physics, will take place during May 26–June 1 in the exhibition rooms at the Sorbonne (University of Paris). The office of the exhibition committee will be at 12 rue Cuvier, Paris 5.

THE London Section of the Institution of the Rubber Industry is organising a one-day conference on the behaviour and testing of rubber under dynamic conditions, to be held in London on March 17. Six papers will be read, and preprints are available at 4s. 6d. a set. The conference is open to all. Further particulars can be obtained from the Secretary of the Institution of Rubber Industry, 12 Whitehall, London, S.W.1.

THE Association of Scientific Workers, 15 Half Moon Street, London, W.1, has announced the formation of a new branch for social scientists, the purpose of which is to provide an organisation and meeting-place for the consideration of professional problems concerning salaries, the role of the social sciences in society, and the employment of social scientists.

AT the request of the International Scientific Film Association, the Sciences Committee of the Scientific Film Association is compiling a register of men of science in Great Britain, engaged in pure or applied research, who use cinematographic methods in their work. This register will form part of an international list, and the collected information will be available to persons in any country on request. Scientific workers who use cinematographic methods are invited to send the relevant details to Dr. E. L. Huppert, honorary secretary, Sciences Committee, Scientific Film Association, 4 Great Russell Street, London, W.C.1.

UNDER the provisions of the Fulbright Programme, travel grants are available to citizens of the United Kingdom and Colonies to go to America for academic or educational purposes, provided that they have the financial support in dollars for the visit and are affiliated to an American institution of higher learning. These grants cover the cost of travel from the candidate's home to America and return, and are available during June 1, 1950–May 31, 1951. Further particulars can be obtained from the United States Educational Commission in the United Kingdom, 55 Upper Brook Street, London, W.1.

ERRATUM. In the communication "Oxidation of the Coagulation Factors" by Dr. L. A. Pálos in *Nature* of November 26, p. 926, the two illustrations should be interchanged.