

coloured beam is the same as that of a white beam of the same intensity. This conclusion was quite definite for the winter fogs in Surrey, near the National Physical Laboratory. There is a possibility that the conclusions may not hold good for other kinds of fog.

#### Earth-Sounds in the East Indies

CAPT. P. JANSEN, St. Helens Court, London, E.C.3, has sent us an interesting account of sounds heard by him near the mouths of rivers in the Dutch East Indies. Except in their higher pitch, they seem to resemble the barisal guns of the Ganges delta and the brontides of certain districts in Italy. On the roads of Sourabaya in Java, he says, two or three noises, as of foghorns of different notes, were heard at irregular intervals of a few seconds, each lasting for one or two seconds. In the hold of an empty ship, the noise was deafening. After continuing for one or two hours, the noises ceased as suddenly as they began. Capt. Jansen has heard the same noises, but less frequently, at the mouth of the Palembang River in Sumatra. At the mouths of some of the rivers of the Malay Peninsula, other noises were heard, like that of plucking the strings of a musical instrument, all on the same note and at irregular intervals. Although barisal guns and brontides have for a long time been carefully studied, their origin is still obscure. They are heard frequently in seismic districts and also in countries free from earthquakes. Possibly they have more than one origin, but their frequent occurrence near the mouths of great rivers seems to connect them with the settling of the delta or of the underlying crust.

#### International Scientific Management

It is now ten years since the first international conference was held in Prague at which papers dealing with various aspects of scientific management were read. That the intervening period has not been barren of results is the opinion of numerous European and American engineers and men of science who have contributed to the volume, "After Ten Years" ("Po desíti letech"), which has just been issued by the Masaryk Academy of Work under the editorship of Dr. S. Spaček, the Czechoslovak engineer who presided at the inaugural meeting in 1924. The next conference is to be held in London during July 1935, and will be under the auspices of the Federation of British Industries. In view of the many remarkable changes in outlook concerning industrial management, this conference should prove of considerable interest. One authority refers to the fact that scientific management was originally concerned exclusively with output by employees, whereas to-day attention is being focused upon wasteful administrative methods. It is considered that there is scope for much improvement in this direction.

#### Princeton Institute for Advanced Study

AN interesting account of the origin of this institute is given in *Scripta Mathematica* (1, No. 2) and reproduced in the Indian journal, the *Mathematics Student* (2, No. 2). Mr. Bamburger and Mrs.

Felix Fuld were much impressed by Dr. Flexner's well-known book, "Universities: American, English, German", and they asked the author what centre of learning he would organise if adequate funds were placed at his disposal. Dr. Flexner, after consultation with scholars throughout the world, replied that he regarded mathematics as the most fundamental of all disciplines, and suggested setting up a School of Mathematics. Mr. Bamburger and Mrs. Fuld accepted Dr. Flexner's ideas and gave five million dollars to have them put into effect. Prof. Einstein is director of the institute, which includes also Profs. Veblen and Weyl. Scholarships and fellowships are available for suitably qualified students. These are under the supervision of the professors, but there are no hard-and-fast rules, and each professor is at liberty to adopt whatever methods, formal or informal, he considers best calculated to promote research. This is an important point, since many consider that research institutes have a fatal tendency to become over-organised, to the detriment of original thought.

#### Positions in the Tristan d'Acunha Group

It has recently been discovered that certain positions in the Tristan d'Acunha group are incorrectly quoted in vol. 1, Part 1 of the "Report of Scientific Results of the Exploring Voyage of H.M.S. *Challenger* 1873-76". The principal effect of these errors is to place Inaccessible and Nightingale Island in incorrect positions relative to Tristan Island. A full account of the origin of these errors, with a description of the sequence of events which led to their discovery, has been published in the *Empire Surveyors Review* (vol. 2, No. 13, July 1934).

#### Exhibition of Kinematography

THE Royal Photographic Society, at its house at 35 Russell Square, is holding an exhibition of kinematography until November 30. The exhibition will be open from 10 a.m. to 6 p.m. daily, and a number of public lectures has been arranged. Admission is free. Particulars may be obtained from the Secretary of the Society. The opening lecture was given on November 6 by Mr. F. F. Renwick who described the Dufay colour process. As already mentioned in *NATURE* (133, 678; 1934), this process was to be made available to users of 16 mm. kine film during the summer of this year. When the film was issued it was found to be extremely successful. In his lecture, Mr. Renwick stated that a very large amount of research work had been carried out relating to the application of the process to the full-size kine film. In making copies, much progress had been made, and he was able to exhibit samples made both by projection and contact printing. This accomplishment has already been followed by prominent film-producing companies, and soon Dufay colour films will, no doubt, be included in screen programmes.

#### A Photographic Centenary

THE year 1834 is famous for the production of the earliest recorded photograph on paper. This was the work of Henry Fox Talbot, who used paper

sensitised by means of silver chloride. Fox Talbot's extensive investigations may be said to have laid the foundations of modern photography. The inventor and his work are briefly described in the *Photographic Journal* (August 1934, pp. 427-435). An exhibition celebrating this centenary of photography is now to be seen at the Gallery of Messrs. Elliott and Fry, Ltd., 63 Baker Street, London. The collection includes a copy of Talbot's book, "The Pencil of Nature", written in 1843, the first book to be illustrated with photographs. Several original prints, including one of Trafalgar Square without the Nelson Monument, and one original paper negative are shown. Talbot was a very close friend of Sir William Herschel, and the early progress of photographic inventions owed much to the suggestions of the latter—notably one made on January 30, 1839, that 'hyppo' should be used to fix the photographic records.

#### Biochemical Society, Calcutta

WITH the object of the promotion of biochemical studies and research, a Biochemical Society has recently been formed at Calcutta. The Society was formally inaugurated on July 6, 1934, at the All-India Institute of Hygiene. The first committee of the Society is constituted as follows: Prof. N. M. Basu, Lieut.-Col. T. C. Boyd, Prof. S. Ghosh, Prof. J. N. Mukherjee, Dr. B. B. Sen, Prof. H. K. Sen, Prof. H. E. C. Wilson, with Dr. B. C. Guha as honorary secretary and Dr. B. Ahmad as honorary treasurer. It has been arranged to hold monthly meetings for biochemical discussions and reading of original papers, reviews, etc. Four meetings have already been held.

#### Vitamin B<sub>1</sub> Potency of Marmite

THE Marmite Food Extract Co., Ltd., writes, with reference to Mr. A. R. Keast's comments on the vitamin B<sub>1</sub> potency of its yeast extract (*NATURE*, Nov. 3, p. 696), that the first estimation which showed a content of 840 international units per oz. has been confirmed in a later test on a mixture of eight different samples. The tests were carried out on pigeons by the method described by Coward, Burn, Ling and Morgan (*Biochem. J.*, 27, p. 1719; 1933). Their letter has been referred to Mr. Keast, who points out that Marmite deteriorates with age, and that the pigeon cure method does not always give the same result as the rat growth method of assaying vitamin B<sub>1</sub> in terms of the international standard. Coward *et al.* (*loc. cit.*) found, for samples of dried yeast, that the pigeon method (cure of head retraction in birds given a diet of polished rice) gave a higher value for the vitamin B<sub>1</sub> potency than the rat method (growth of rats on a diet deficient solely in vitamin B<sub>1</sub>): the same results were, however, obtained by both methods in the case of a soft yeast extract. They also point out that although the probable error of the pigeon test is much greater than that of the rat test, yet the former has the great advantage of being specific for the factor it is used to estimate.

#### Announcements

At the annual dinner of the Institute of Fuel held on November 12, H.R.H. the Duke of Kent presented the Melchett Medal to Dr. Friedrich Bergius, the distinguished German chemist and pioneer in the manufacture of oil from coal. In Germany, Dr. Bergius's hydrogenation process has for several years been used for the production of petrol from brown coal. Methods based on Dr. Bergius's discovery are now being developed in the United States and in Great Britain. At present, Dr. Bergius is working on the production of sugar from wood.

SIR JOHN CADMAN has been elected president of the Institution of Petroleum Technologists for the session 1935-36, and will take office immediately after the annual general meeting on March 12, 1935.

THE following officers were elected at the anniversary meeting of the Mineralogical Society on November 1: *President*, Sir Thomas Holland; *Vice-Presidents*, Mr. Arthur Russell, Sir William Bragg; *Treasurer*, Mr. F. N. Ashcroft; *General Secretary*, Mr. W. Campbell Smith; *Foreign Secretary*, Prof. A. Hutchinson; *Editor of the Journal*, Dr. I. J. Spencer.

PROF. J. B. S. HALDANE, professor of genetics in the University of London, will deliver the tenth annual Norman Lockyer Lecture of the British Science Guild on November 28 at 4.30 p.m. in the Goldsmiths' Hall, London, E.C.2 (by permission of the Goldsmiths' Company), taking as his subject "Human Biology and Its Applications". Tickets, for which there is no charge, are obtainable on application to the Secretary, the British Science Guild, 6, John Street, Adelphi, London, W.C.2.

THE eighth edition of their catalogue of collecting apparatus has been issued by Messrs. Flatters and Garnett, Ltd., 309 Oxford Road, Manchester. The list, which contains a number of new items, includes collecting apparatus for botany, entomology, pond life and geology, besides miscellaneous aquaria, glass top boxes, cabinets and collectors' books.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned: An assistant lecturer and demonstrator in chemistry at University College, Leicester—The Registrar (Nov. 23). An assistant lecturer in mining at the North Staffordshire Technical College, Stoke-on-Trent—The Clerk to the Governors, Town Hall, Hanley, Stoke-on-Trent (Nov. 26). An assistant inspector of scientific supplies—The Director-General, India Store Department, Belvedere Road, S.E.1 (Nov. 26). A Pender professor of electrical engineering in the University of London (University College)—The Academic Registrar, University of London, S.W.7 (Jan. 18). A chemical engineer for research in waxes—The Secretary, Industrial Research Council, Department of Industry and Commerce, Lord Edward Street, Dublin.