

on account of the grant for the year 1937-38 and 1938-39 and, subject to the vote of the Legislative Assembly, steps will be taken to pay this amount early in the year 1938-39.

Devices for Fighting Fires

In the High Tension Conference held in Paris in June interesting discussions took place as to the relative merits of fire-fighting equipment. In Part 2 of an article by T. Rich in the *Electrician* of July 16, the latest opinions of French engineers on the devices used in practice are given. For protecting transformers and alternators of large output, alarm indicators are used as well as extinguishing appliances. They are of the fixed type which operate automatically when the station has no attendants and when the generators are very large. The movable apparatus generally used consists of extinguishers, boxes of sand, blankets and water jets directly connected to the mains or to a foam generator. Gas masks, smoke fans and emergency lamps are auxiliary apparatus. Portable extinguishers are only used for very small fires. It is important that the material used should be a bad conductor of electricity, as small fires make a close approach necessary and the jet may give a dangerous shock. Carbon tetrachloride has high extinguishing powers and it is not a good conductor. But at high temperatures it decomposes into a gas that is corrosive and poisonous, so that a gas mask is desirable although it entails a loss of time. Methyl bromide is generally thought to give out less poisonous fumes but it is expensive. Saline solutions with a base of potash have a high extinguishing capacity but they are dangerous to use as the jet is a conductor. Carbonic acid snow is not such a good extinguisher but its use entails no danger to personnel. It can be used without cutting off the current, and so is useful in the case of small fires, but the risk of re-ignition is serious. Fire-resisting blankets are used to put out burning clothes on persons. They should be kept in metallic cases with anti-moth material and a window should be put in the case to ensure that the contents have not been borrowed for other purposes. 'Atomized' jets which work under a high pressure have been found useful both in putting out oil fires and cable fires. For hoses rubber is better than woven material. Each 'fire' point at an electric station should have a sand box with wood shovels, a gas mask and a lantern.

Annual Report of the Ministry of Health

THE eighteenth annual report of the Ministry of Health, 1936-37, has been recently issued (H.M. Stationery Office. 5s. net). It consists of an introduction and seven chapters, and includes the work of the Welsh Board of Health. The death-rate was 9.2 per thousand, the death-rate of infants below one year 59, and the maternal mortality rate 3.81, per 1,000 live births. Tuberculosis mortality was the lowest on record, being a rate per million living of 583 for pulmonary, and of 109 for non-pulmonary, tuberculosis. Notifications of diphtheria were 7,290 less than for 1935, but still considerably in excess of

those for 1933. Of enteric fever, 2,493 cases were notified, compared with 1,750 in 1935, the increase being mainly due to the epidemic last summer at Bournemouth, Poole and Christchurch. Public analysts examined 146,438 samples of food and drugs—a record number—of which 7,802 were reported against. Of this total, 80,082 were samples of milk and 7,588 those of butter. Under slum clearance and rehousing, up to the end of last year 100,355 houses had been demolished and 127,553 houses built to replace them, this being the fourth year of the five years' plan. This year, general progress in town and country planning, especially in preserving the countryside, has markedly increased. No less a sum than £65,000,000 of Exchequer money was spent in 1936 on services administered by the Ministry, but only £2,200,000 of this was expended on central administration.

Apparatus for Testing Petroleum and Related Products

A CATALOGUE of scientific apparatus is necessarily a classified list of separate items and to repay reading must be clearly printed, attractively set out, adequately illustrated and up to date. Messrs. Gallenkamp and Co.'s catalogue (No. 96A, 1937 Edition) listing apparatus for testing petroleum, tar, asphalt and their products, fulfils all these requirements and will be of definite interest to those engaged in the examination of these substances. The listed apparatus includes types standardized for routine tests by the Institution of Petroleum Technologists, the Standardization of Tar Products Test Committee, the British Standards Institution and the American Society for Testing Materials, as well as many other special forms which for one reason or another have not been so standardized. The drawings, in general, have been executed with due attention to detail, although on p. 35, an unsuitable type of ring burner has been included in the diagram of the apparatus for the determination of water in asphaltic substances; on p. 43, the position of the thermometer in the R and B softening point apparatus is incorrect and on the same page, the K and S softening point apparatus depicted is not the standard type specified by the S.T.P.T.C. The arrangement of the subdivisions is at present somewhat haphazard, necessitating frequent reference to the index; it could be improved by the substitution of an alphabetic order on the lines of the Institution of Petroleum Technologists' hand-book. Despite these defects, the catalogue will be appreciated by technologists specializing in the fields indicated in the title.

Natural Colour Eclipse Photography

WE have received from Mr. Edward R. Hewitt, of 127 East 21st Street, New York, a correction of the statement, quoted in *NATURE* of March 13, that the *National Geographic Magazine* of February contained the first natural colour photograph of a total solar eclipse ever reproduced. Mr. Hewitt informs us that the *Scientific American* of April 1925 reproduced a colour photograph, made by him, of the total eclipse of January 24, 1925, and has sent

us a copy of the reproduction. Mr. Hewitt, in 1925, used Autochrome plates specially sensitized by himself, and his camera had a focal length of 3 ft. Dr. Gardner, in 1936, used Dufay colour plates and a camera of 19-ft. focal length. Owing to the greatly differing circumstances, any detailed comparison of the two pictures would be invidious. The picture Mr. Hewitt has sent us is about a tenfold enlargement of the original, and shows a yellow coronal image extending to about a fifth of a solar radius from the limb, so that on the original plate the coronal image can only have been about 0.6 mm. across, whereas Dr. Gardner's picture was reproduced at about actual size and showed a corona extending to about a solar radius or about 20 mm. on the original plate. In view of the low resolving power of colour plates, it would be absurd to expect much recognizable detail on the 1925 plates, and indeed there is only a suggestion of coronal form, and the colour is presumably in error, but the photographs had the value of demonstrating that colour plates could be made sensitive enough to photograph a total eclipse.

Plant Diseases and Pests of India

Science and Culture contains an interesting review of "Some Plant Diseases and Pests of India and their Control" by Amil Mitra (2, Nos. 8 and 9, Feb. and March 1937). The paper should serve the useful purpose of directing attention to the serious nature of plant disease, for it includes succinct references to the monetary or percentage losses occasioned by many fungi and insect pests. These are sufficiently convincing. The world's loss through the activities of various rust diseases of wheat is estimated at about £60,000,000, and India bears about £4,000,000 of this. A smut disease of the Jowar crop, caused by the fungus *Sphacelotheca sorghi*, causes a loss of 20-25 per cent, and in the Bombay Presidency alone, this means a cost of two crores of rupees (about £2,000,000). Sugar cane mosaic, caused by a virus, often lowers the yield of sugar by 30-35 per cent, whilst a wilt of the pea crop caused by the fungus *Fusarium Vasinfectum* seems to cause the highest percentage damage, for more than half the crop is often lost as a result of its depredations. The review mentions the particular methods of control for each disease or pest, which have been found most effective in practice. A few insect and eelworm enemies are mentioned, but the main emphasis of the paper is that of a mycologist.

Journal of Parapsychology

An introduction by Prof. Wm. McDougall gives reasons for the publication of a new journal, the *Journal of Parapsychology*, and making clear its object. Throughout the ages, people have asked: Are mental processes always and everywhere dependent upon material and physical organizations? What are the relations of mind and matter? Do the volitions and beliefs of men make any difference to the historical course of the events of the world? Is the physical co-extensive with the mental and the powers and potentialities of mind to be defined by

the laws of the physical sciences? For the most part, the psychology studied in the universities has not concerned itself experimentally with these problems, and such work as has been undertaken has generally been the leisure-time pursuit of interested amateurs. Prof. McDougall thinks that all those phenomena vaguely denoted by the phrase, 'psychical research', ought to be the study of trained scientific workers in the universities, both in the interests of the development of knowledge and of the public. A beginning was made at Duke University in 1930 to study what the researchers called 'extrasensory' perception. In order that the experiments made in one laboratory may be repeated by other workers, it seemed desirable that there should be a journal. The need for multiple repetitions by different observers of all experiments purporting to give positive results is greater in this field than in others. The word parapsychology is chosen to denote the more strictly experimental part of psychical research. The journal is published quarterly, and the first number is dated March 1937 (Durham, N.C.: Duke University Press. Subscription 3 dollars a year).

Cist Burial at Blaydon-on-Tyne

AN interesting example of a cist burial is reported from Blaydon-on-Tyne (*The Times*, Aug. 6). The discovery was made by workmen digging in a sand-pit, who uncovered the broken upper slab of the chamber. The dimensions of the cist were 3 ft. 8 in. in length, 2 ft. 3 in. wide and about two feet in depth. The interior was filled with sand, but among the contents were found a human skull and bones of the skeleton. With them was a flint knife about two inches in length. The site was visited and the cist examined by Miss G. M. Scott, assistant curator of the Hancock Museum, Newcastle, Mr. W. Bulmer, of the Corbridge Museum, and other authorities of the locality, in whose opinion the find belongs to the Bronze Age and is to be assigned, notwithstanding the absence of the beaker which might be expected, to a date at about 1500 B.C. A burial with skeletal remains of a somewhat earlier date was found on Summerhill, not far away, seven years ago and is on view as reconstructed in the Hancock Museum.

National Museums of Natural History

FREQUENT visits from, and even interchange of, the staffs of the larger museums of the British commonwealth of nations, as referred to in an article in *NATURE* of January 9, has evidently the strong approval of Mr. Frederick Chapman, the well-known authority on the Foraminifera, who has written to us from Melbourne on the subject. The 'Australian Museum' is situated at Sydney and there is the 'Melbourne National Museum', which from the wealth of its collections, especially palaeontological, must be regarded as also of the highest rank. It is immaterial that one museum may be richer than the other in some sides of biology, for such must always be the case. The important matter is that tightening of the bonds between all the museums in question, which has the approval of the Museum Association