

yet known as to the causes of silicosis, etc. The suggestion is made that the incidence of silicosis may in large measure be due to the riding of men on 'spakes'. The essential thing is that up to the end of December 1934 there have been a great many deaths in the country from silicosis, of which more than 50 per cent have occurred in the anthracite area of South Wales. Other subjects treated in the report before us are underground illumination, utilisation of coal by converting coke oven gas into gas with high calorific value, the quantity of firedamp in coal seams as worked, the pressure not having been investigated, spontaneous combustion in coal mines, control of atmospheric conditions in hot and deep mines, whilst investigations connected with the Gresford disaster apparently have occupied a great deal of the time and energies of the Research Laboratory, of which the late Prof. J. S. Haldane was director.

Land Utilisation Survey

THE fifth annual report of the Land Utilisation Survey of Britain has recently been published. It records the number of published sheets as thirty-two, with twenty more sheets scheduled for publication in the near future. The completed survey will comprise 235 sheets. Most of the field work has now been completed, but there are still gaps, notably in East Cornwall, Herefordshire, the West Riding and parts of Wales. It is planned to issue eventually eighty-seven county reports. These will analyse the distribution of each type of utilisation and, where information is available, compare to-day's conditions with those of the past. The utilisation of the land will be correlated with soil conditions. Each county report will be published at one shilling. It may be noted that the relevant maps have been called for by the Commissioner of the Special (Depressed) Areas in order to indicate what land is still available for settlement or development. The cost of publishing a sheet is roughly £100, and various county authorities and universities have made contributions to the sheets of their areas. In other cases the ordering of large numbers of sheets for educational purposes has enabled publication to take place. The director, Dr. Dudley Stamp, appeals for more help of this kind. The headquarters of the Survey is the London School of Economics, where offers of help should be addressed.

Lasting Qualities of Printing Paper

THIRTY-THREE years ago the Carnegie Institution of Washington, after careful inquiry, decided that papers made of rags of the best grade gave the greatest promise of durability, and since then the more important books published by the Institution have been printed upon specially made all-rag paper (Carnegie Inst., Washington, Report of Editor of Division of Publications for year 1934-35, p. 371). Increasing costs of such paper, together with the fact that the supremacy of all-rag paper has been challenged, led to a new investigation, which has just been completed. The value of rag paper is confirmed, for all investigators agreed about its satisfactory

behaviour over long periods, but attention is directed to factors other than quality which affect the lasting property of paper. For example, disintegration is hastened when paper is stored in atmospheres rendered acidic by the presence of sulphur dioxide. It is recommended that permanent records should be stored under controlled atmospheric conditions of 50 per cent relative humidity and 70°-75° F. temperature. It is doubtful if paper made from chemically treated wood fibres would stand as well, but the evidence is not strong enough to induce the Institute to cast aside its rags.

Tests on Wood Boxes and Crates

THE United States Forest Products Laboratory has already undertaken detailed scientific and engineering tests on wood boxes and crates. Fibre-board boxes and other shipping containers are now to be subjected to similar tests, according to Science Service, of Washington, D.C. These latter now constitute business amounting to 165,000,000 dollars in the United States. It is said that these fibre boxes and containers are on a largely empirical basis, and the unavoidable losses are as yet unknown. The investigation will take place in the pulp and paper section of the Laboratory, since fibre box paper is largely made from waste, such as newsprint, in combination with new pulp. The strength tests of the paper will be carried out with the use of highly accurate scientific instruments. These include a Tuckerman optical strain gauge which, under rigidly controlled atmospheric humidity conditions, tells the degree of stiffness in small strips of paper. A tiny mirror, rotating as the paper is stretched, throws a beam of light on a small scale which indicates the amount of stretch. Strength formulæ so derived will be correlated with others obtained from tests on the strength of finished fibre boards, as well as others calculated from tests of completed boxes. A circular rotating drum will be used for tests on completed boxes, both full and empty; the drum when revolved jolts, drops, and slides boxes round in a fashion similar to the treatment they are subjected to in transit by rail, ship or lorry.

Handbook of International Organisations

A RECORD of international organisations is kept by the Section of International Bureaux of the League of Nations, and is published as a half-yearly "Bulletin of Information on the Work of International Organisations", and collected and compressed in a "Handbook of International Organisations", of which the last Supplement is dated 1931. The information contained relates not to work organised by the League but to the voluntary international societies—"organisations internationales privées"—which exist outside the League, many of which are older than the League. They have an independent life of their own, but keep touch with the League. There appear to be certain features common to a number of these organisations and their conferences; for example, several of them feel the need of specialist international

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vocabularies of their own. At many of the conferences, League of Nations representatives have been present. More and more the conferences are grouping themselves, and many conferences are being attended by representatives of other conferences. Such groups are the educational, agricultural and economic conferences. For example, the "Liaison Committee of Major International Associations" represents more than twenty-four international organisations, mostly educational. The economic conferences are not under the dictation of Governments. Between them these societies are working out a world-policy which is years ahead of the present League of Nations. The number of societies is increasing, and they are increasingly specialised. The International Council of Scientific Unions does not cover everything, although it is an authorised channel of communications. New societies of all sorts keep on appearing. All this apparatus of voluntary societies may be thought of as advisory to the official governmental League of Nations. Possibly it is more important that the politicians should listen to the scientific workers, rather than that the latter should let themselves be entangled in political machinations.

Fig Mosaic

A LEAF-MOTTLED disease of the fig has been described from California and from Australia. The malady is caused by a virus, and is known as fig mosaic. Dr. G. C. Ainsworth announces the appearance of the disease in England (*J. Roy. Hort. Soc.*, December 1935), and mentions two types of mottling, namely, irregular, yellowish-green blotches, and pale green spots or bands along the larger veins. The fruit is affected but slightly, with small spots. Now that botanists are 'virus-conscious', it has been realised that the disease was known twenty years ago, though its cause was not suspected, and it is fairly widespread in Great Britain.

England to Cape Flight

Mrs. Mollison arrived in Cape Town at 3.30 British Summer Time on May 7, having completed a flight from England in 3 days 6 hr. 25 min. This time is a little more than eleven hours better than the previous record set up by Flight Lieutenant Rose, and represents a noteworthy achievement as regards endurance of both pilot and aeroplane. Mrs. Mollison flew over the West Coast route in Africa, and her machine was a Percival Gull with a Gipsy Six (120 h.p.) engine. It is stated in *The Times* that the distance covered was about 6,200 miles, with 43 hours flying and 36 hours on the ground. At the time of writing, Mrs. Mollison is well started on the return journey, but following the East Coast route.

Institution of Electrical Engineers' Awards

THE following awards of the Institution of Electrical Engineers have recently been made for papers read during 1935-36, or accepted for publication: Institution Premium to W. L. McPherson and

E. H. Ullrich; Ayrton Premium to Mr. G. H. Wilson, Lieut.-Commander E. L. Damant, and Mr. J. M. Waldram; Fahie Premium to Major L. H. Peter; John Hopkinson Premium to D. R. Davies and C. H. Flurscheim; Kelvin Premium to Dr. T. E. Allibone and F. R. Perry; Overseas Premiums to Dr. J. J. Rudra and D. J. Badkas, J. H. Sprawson and T. Varney; Extra Premiums to G. A. Whipple, A. L. Whiteley, Dr. Russell J. Reynolds, E. R. Kaan, B. G. Gates, E. T. Hippisley, A. C. Timmis, and Mr. R. Poole. *Wireless Section*: Duddell Premium to H. L. Kirke and A. B. Howe; Extra Premiums to W. J. Brown and E. B. Moullin. *Meter and Instrument Section*: Silvanus Thompson Premium to J. H. Buchanan; Extra Premiums to Prof. J. T. MacGregor-Morris and R. M. Billington, J. S. Preston and G. A. Burns and T. R. Rayner. *Transmission Section*: Sebastian de Ferranti Premium to Mr. D. Ross; Extra Premium to Mr. J. S. Forrest.

Conferences on Spectroscopy and Colour

THE Massachusetts Institute of Technology has recently announced a special summer programme on applied physics, in connexion with which a conference on spectroscopy and its applications will be held on July 20-22, and a conference on colour on July 23-25. The former conference will include discussions on spectroscopic analysis of materials, and on other applications of spectroscopy to biology, medicine, chemistry, metallurgy, mineralogy and to industrial and engineering problems; the latter will include spectrophotometry, colorimetry, and the applications of colour measurements to industrial problems. Detailed consideration will be given to the behaviour and control of the colour of dyes and pigments, and their application in such fields as the paint, ink, paper, textile and ceramics industries. These conferences come at the conclusion of the courses on spectroscopic analysis of materials which are being given at the Institute during the six weeks from June 16 until July 24. There is no charge for attendance at the meetings of the conferences, copies of the detailed programmes of which will be sent on application to Prof. G. R. Harrison, Department of Physics, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Announcements

MR. C. H. WADDINGTON, of the Strangeways Research Laboratory, and of the sub-department of experimental zoology of the University of Cambridge, has been awarded the Albert Brachet prize of the Royal Academy of Belgium for his experiments on chicken embryos. This was the first award of the prize, which is given for the best work in embryology published in French, German, English, Italian or Dutch over a three-year period.

THE field plots and laboratories of the Rothamsted Experimental Station, Harpenden, will be opened for inspection (by invitation) on June 11, at 11.15 a.m. The Right Hon. J. Ramsay Macdonald will be present.

THE Association of Scientific Workers has arranged a public meeting on the "Utilisation of Science" to be held on Friday, May 22, at University College, London, at 8 p.m. The speakers include Prof. P. M. S. Blackett, Dr. J. Needham and Dr. J. D. Bernal.

THE forty-first Annual Congress of the South-Eastern Union of Scientific Societies will be held at Oxford on June 30–July 4. The president-elect of the Congress is Prof. G. D. Hale Carpenter, who will deliver the presidential address entitled "Charles Darwin and Entomology" on June 30. Further information can be obtained from the honorary general secretary, Mr. E. A. Martin, 14 High View Close, Norwood, S.E.19.

THE National Baby Week Council is arranging a National Baby Week to be held on July 1–7. The special subjects of propaganda this year are (1) maternal welfare, stressing the constructive aspects as distinct from maternal mortality, disease and morbidity, and (2) the question whether all is being done, nationally and locally, for the welfare of the child of 2–5 years of age. Further information can be obtained from the Secretary, National Baby Week Council, 117 Piccadilly, London, W.1.

A SHORT course in genetics, cytology and plant biochemistry will be held at the John Innes Horticultural Institution, Mostyn Road, Merton Park, London, S.W.19, on July 13–25. It is expected that the following will lecture: Sir Daniel Hall, Prof. J. B. S. Haldane, Dr. C. D. Darlington, Mr. M. B. Crane, Dr. R. Scott-Moncrieff, Dr. F. G. Brieger and Dr. K. Mather. The course will be open to university and research station staffs and post-graduate students. No fee will be charged. The names of those who desire to take part should be sent in good time to the Librarian at the Institution.

THE twenty-fifth Congress of the Italian Society for the Progress of Science will be held this autumn at Tripoli, under the presidency of Marshal Balbo, Governor of Libya.

At the suggestion of the Touring Club de France, the Paris Academy of Medicine has appointed a committee to inquire what steps can be taken to support the campaign against noise.

AN International Congress of Medical Motorists will be held in Paris on June 14–16. Further information can be obtained from the Association des médecins Automobilistes de France, Boulevard Magenta 60, Paris.

THE second Congress of the International Association for the Study of Solar, Terrestrial and Cosmic Radiations will be held at La Malou (Hérault) on July 15–17, when papers will be read on solar electrical radiations, atmospheric electricity and ionisation of the air and the radioactivity of rocks and wells. Further information can be obtained from the secretary of the Association, 24 rue Verdi, Nice.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:

An assistant (Grade III) at the Chemical Research Laboratory, Teddington—The Establishment Officer, Department of Scientific and Industrial Research, 16 Old Queen Street, Westminster, S.W.1 (May 19).

A junior assistant in the Ballistics Department of the Research Department, Royal Arsenal, Woolwich, S.E.18—The Chief Superintendent (May 19).

A teacher of domestic subjects and a lecturer in mechanical engineering in the Central Technical College, Suffolk Street, Birmingham, 1—The Chief Education Officer (May 27).

A sub-assistant in the Royal Botanic Gardens, Kew—The Secretary, Ministry of Agriculture and Fisheries, 10 Whitehall Place, London, S.W.1 (May 28).

A lecturer and two demonstrators in physiology in the University of Liverpool—The Registrar (May 29).

A teacher of mathematics in the Northern Polytechnic, Holloway, London, N.7—The Clerk (May 29).

A lecturer in physics in the Polytechnic, Regent Street, London, W.1—The Director of Education (May 29).

A demonstrator in zoology in the University of Bristol—The Registrar (May 30).

A regius professor of practice of medicine in the University of Glasgow—The Private Secretary, Scottish Office, Whitehall, London, S.W.1 (May 30).

A professor of mathematics in the Queen's University of Belfast—The Secretary (May 30).

Five assistant veterinary officers to the Essex County Council—The Clerk to the County Council, County Hall, Chelmsford (May 30).

A lecturer in the Civil and Mechanical Engineering Department and a lecturer in charge of instruction in instrument making in the Northampton Polytechnic, St. John Street, London, E.C.1 (May 31).

A lecturer in physical chemistry in University College, Bangor—The Registrar (June 6).

An assistant (Grade III) in the Admiralty Scientific and Technical Pools (chemistry and metal analysis)—The Secretary of the Admiralty (C.E. Branch), Whitehall, S.W.1 (quote C.E. 2659/36) (June 6).

An assistant lecturer in botany and an assistant lecturer in metallurgy in University College, Swansea—The Registrar (June 6).

A junior assistant physicist in the Royal Cancer Hospital (Free), Fulham Road, London, S.W.3—The Secretary (June 15).

A regius professor of astronomy in the University of Glasgow—The Private Secretary, Scottish Office, Whitehall, London, S.W.1 (June 30).

A superintending engineer and constructor of shipping in the Royal Arsenal, Woolwich—The Under-Secretary of State (C.5), The War Office, London (August 1).

Research assistants in applied mechanics or experimental physics and a research assistant of the Silk Section of the British Cotton Industry Research Association, Shirley Institute, Didsbury—The Director.

An instructor in commercial fruit growing in the Kent Farm Institute—The Agricultural Organizer, Springfield, Maidstone.