

Memorial to Sir Walter Morley Fletcher

THE public life of Great Britain suffered a loss of more than common magnitude through the death of Sir Walter Morley Fletcher, first secretary of the Medical Research Council, on June 7, 1933. He was then in his sixtieth year and in the height of those powers which he had used without stint in the advancement of knowledge for the relief of human suffering. Walter Fletcher gave richly to the common weal, and it is fitting that some worthy tribute of an enduring kind should be paid to his memory. An appeal has therefore been issued over the signatures of the Lord President of the Council, the president of the Royal Society and representatives of aspects of science and medicine with which Sir Walter Fletcher was particularly associated. It is considered that the tribute should consist in the first place of a personal memorial, and secondly of the inception of some scheme for the furtherance of the cause which Sir Walter Fletcher had so much at heart. It is therefore proposed first to commission a portrait bust, to be placed in a suitable setting in the entrance hall of the National Institute for Medical Research, at Hampstead. The remainder of the sum collected will then be used as a fund for building—at the farm premises of the National Institute at Mill Hill—a Walter Fletcher Laboratory, to be devoted particularly to those nutritional studies in which he was so keenly interested. This will not only provide an appropriate memorial, but also it will make an urgently needed contribution to the national equipment for work in what is at present among the most important of all branches of medical research. All subscriptions should be sent to the Secretary, Fletcher Memorial Fund, 38 Old Queen Street, Westminster, S.W.1.

Telford Centenary Exhibition

THOMAS TELFORD, the distinguished civil engineer, died at his house at 24 Abingdon Street, Westminster, on September 2, 1834, at the age of seventy-seven years, and a few days later was buried in the nave of Westminster Abbey. For the last thirteen years of his life he was president of the Institution of Civil Engineers, and in connexion with the centenary of his death the Institution has arranged an exhibition which was open for inspection at the conversazione this week and will remain open each day at 10 A.M.—5 P.M. until June 22. The materials for the exhibition have been gathered together mainly through the efforts of Sir Alexander Gibb, whose forbears were associated with Telford in some of his works. Telford's whole life was devoted to engineering works of national importance, and his steady rise from a stone mason, working on Somerset House, to the head of his profession, was due to his wide knowledge, energy and sound judgment. He constructed many hundreds of miles of roads, more than a thousand bridges, some of the most important canals in Great Britain and also did valuable work on harbours. His most famous works included the Ellesmere Canal with the great Pont Cysylltau Aqueduct, the wrought iron suspension bridge over the Menai Straits and St.

Katherine's Docks. He took the liveliest interest in the formation and growth of the Institution of Civil Engineers, presenting to it a collection of books for the formation of a library and bequeathing to it several thousands of pounds. The exhibits collected for the occasion of his centenary relate to nearly all his activities and include plans, drawings, reports, note books, letters, portraits, etc. A carefully annotated catalogue has been prepared which itself forms a valuable addition to the material relating to the great engineer.

History of Derbyshire Industries

THE Newcomen Society held its summer meeting in Derbyshire on June 6–9, and the members were able to pay visits to many interesting works. These included the Old Crown Derby China Works, the quarries of the Clay Cross Lime Co., the hosiery works of Messrs. George Brettle and Co., Ltd. and the Mill Close Lead Mine, Darley Dale. At various places, some interesting machines and engines were inspected and at the works of the D.P. Battery Co. two very fine water wheels were seen. After the Society's dinner on June 7, two papers were read, one on the High Peak Railway, and the other on the history of some Derbyshire industries. The latter was by Mr. Rhys Jenkins, who gave in it brief reviews of the lead, iron and other industries from the earliest records. Lead mining and smelting was carried on in Derbyshire by the Romans, and a number of pigs of lead with Latin inscriptions have been found. It is stated that there are no fewer than 4,000 disused lead mines in the county, and that some seventy years ago the output was 4,000 tons per annum. The lead smelting works near Lea appear to be the last in the county. Definite evidence of iron working go back to the twelfth century, and Mr. Jenkins traced the development from that time onwards. One interesting feature was the records of distinct industries in various localities, chains being made in one place, sickles and scythes in another, and so on. About a century and a half ago, there was a flourishing industry at Hartshorn, when hundreds of gross of wood screws were made weekly. Of Lombe's famous silk mill erected two centuries ago, nothing now remains; but its erection was an outstanding event in the history of machine building.

High Speed Precision Photography

AN interesting demonstration was given on June 12 of a new development in the taking and timing of serial photographs of objects moving at high speed. The apparatus, which is easily portable, is the combined work of the Western Electric Co. and Kodak Limited. It was demonstrated that 2,500 exposures per second could be made of objects in normal daylight or illuminated with ordinary $\frac{1}{2}$ -watt type lamps on the standard small size Kodak film. The interest in the camera lies in its extreme simplicity. As the film has to move across the focal plane with speeds up to 50 feet per second, the usual intermittent motion must be dispensed with and a uniform motion substituted. Mounted between the lens (Kodak

anastigmat $f1.8$) and the film is a small slab of glass which rotates about an axis parallel to its own plane and passing through the middle of the slab. This gives a lateral motion to the image in the same direction as that in which the film is moving. Exposure is only allowed when the slab is approximately normal to the optic axis, when the lateral speed of the image will be $\omega T(\mu-1)/\mu$, where T is the thickness of the slab and ω its angular velocity. There is no mechanical shutter other than the mounting of the slab, which intercepts the light twice for every complete revolution, and this combined motion of film and image takes the place of the more usual motion hitherto adopted. The image of a moving dial is projected on to the corner of each exposure by an accessory internal optical system. The motion of the dial is controlled independently by a 200-fork controlling a synchronous motor. The time spacing on the image can be read to $\frac{1}{1000}$ sec. The demonstrations of muscular reaction times and of splashes were extremely good, but it was noticed that in the comparatively simple image of a falling steel ball, there was a slight elongation.

International Broadcasting Union

THE International Broadcasting Union (or the Union Internationale de Radiodiffusion—to use its official title) is making its first official visit to Great Britain at the meeting which is being held in London from June 12 until June 20. The issue of *World Radio* of June 8 contains a series of articles describing the organisation and work of the Union. When the Union was founded in London in March 1925, eight European countries were represented, and according to the minutes of that meeting it was estimated that the broadcasting stations in Europe at that moment radiated a total energy of 80 kilowatts, of which 43 kilowatts emanated from stations in Great Britain. At the present time, in the tenth year of the Union's existence, twenty-five countries have members within the Union and the radiated energy of more than 250 stations included within what is officially recognised as the European zone is about 4,250 kilowatts. The particular function of the Union with which the listening public is probably most familiar is that of 'policing the ether'—in other words, maintaining the wave-lengths of stations so far as possible uninterrupted by those of other stations.

THIS, however, is only one of many useful and essential duties performed by the Union with the aid of commissions dealing with legal, programme, relay and technical matters. In the course of its work, a spirit of co-operation has been established among the European broadcasting authorities as a result of their common membership of the Union, and in addition strong and valuable links have been forged with the broadcasting organisations of other continents, notably the great American chains and the corporation which controls Japanese broadcasting. Moreover, the Union has striven throughout its existence to promote that good understanding between nations, which is one of broadcasting's most valuable contributions to national life. Since

the inception of the Union, the president of the Council has been Sir Charles Carpendale, one of the controllers of the B.B.C., while Mr. A. R. Burrows, a pioneer of British broadcasting, has filled the post of secretary-general in a popular and efficient manner at the Geneva office of the Union.

British Antarctic Expedition

SOME further details of Mr. J. R. Rymill's forthcoming antarctic expedition are published in the *Geographical Journal* of June. It is hoped to leave Great Britain early in September in the *Penola*, a three-masted topsail schooner of about 200 tons with a length of 112 ft. The *Penola*, which is fitted with a 100 H.P. Diesel engine, was built in 1908; she is of oak, and is now being reconditioned and sheathed with greenheart at Southampton. A De Haviland Puss Moth aeroplane, capable of carrying three men, or two men with a survey camera, is being taken. Sixty dogs from West Greenland and twelve sledges will be carried. Messrs. Hampton and Stephenson, with the dogs and much of the equipment, will leave for the Falkland Islands in July, and Mr. Rymill with the rest of the expedition sailing in the *Penola* will meet them there in October. *Discovery II* is to assist in the transport of stores as far as Deception Island. Beyond that, the plans of the expedition will depend on the state of the ice, but it is hoped to set up the base house on Hearst Land in order to explore east and west by sledge. It may, however, be necessary for the ship to return to Deception Island if no good harbour is found in the far south. The expedition proposes to return to England in May 1937.

Jubilee of the Society of Dyers and Colourists

COMMEMORATING the foundation, fifty years ago, of the Society of Dyers and Colourists, a jubilee issue of the Society's *Journal* has recently been published. Of the twenty-two articles which it contains, some are reviews of the advances which have been achieved during that time, and others deal chiefly with the present state of knowledge in various departments of the science and art of dyeing. A foreword is contributed by Prof. G. T. Morgan who, as an active worker in dye chemistry and as president of the oldest chemical society in the world, refers to the rise of the British colour industry and to the means whereby Parliament has safeguarded its growth. Mr. J. Huebner contributes an interesting account of the early history of dyeing, and Mr. A. H. Brewin sketches the history of the Worshipful Company of Dyers, London. Prof. A. G. Green discusses landmarks in the evolution of the dyestuff industry during the past half-century, and Dr. H. Levinstein contributes some pertinent observations on British patent laws. Articles on the constitution of cellulose by Prof. W. N. Haworth, on substitution in the benzene nucleus by Prof. R. Robinson, and on the relation between the constitution and substantivity of dyes by Prof. P. Ruggli serve as a reminder, should any be necessary, of the close dependence of a successful chemical industry on researches in 'pure' chemistry. Among the other articles, no less interesting because