

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