

persons doing repetition work by the aid of special appliances, the products of mechanical engineering. In the course of his address, Mr. Taylor referred at length to the functions and designing of lenses, the properties and the production of optical glass and the various workshop processes by which lenses are cut, ground, polished and tested. It was in connexion with work on photographic lenses that the need was felt for screw-threads much more accurate in form, more free from pitch and periodic error, and this in turn led to improved technique of screw-thread measurement, gauging and generation.

#### Andrew Laing Memorial Lecture

THE winter session of the North-East Coast Institution of Engineers and Shipbuilders was opened on October 21 by the delivery at Newcastle-upon-Tyne of the presidential address by Mr. R. J. Walker, who since 1899 has been associated with the Parsons Steam Turbine Co., Ltd., of which after the death of Sir Charles Parsons he became chairman and managing director. At the following meeting of the Institution, held on October 28, Engr. Vice-Admiral Sir R. W. Skelton, the Engineer-in-Chief of the Fleet, delivered the first Andrew Laing lecture. Laing, who was born in Edinburgh on January 31, 1856, and died in Newcastle on January 24, 1931, from 1877 until 1896 was connected with the Fairfield Shipbuilding and Engineering Co., Govan, and from 1896 until the time of his death was managing director of the Wallsend Slipway and Engineering Co. His life's work was mainly connected with the design and construction of the machinery of Atlantic liners, his most famous ship being the *Mauretania*, built in 1907, which for twenty-three years held the 'blue ribbon' of the Atlantic. The construction of this vessel and her ill-fated sister ship the *Lusitania* was due to circumstances somewhat akin to those existing to-day, when the fastest vessels in the mercantile marine are not registered as British vessels. The initial step was the formation of an Admiralty committee in 1902 which was directed to inquire into the principles on which subsidies were being given and to consider how and at what cost vessels could be secured which should combine great speed with a large radius of action. The outcome was an agreement between the Government and the Cunard Co. whereby the Government agreed to advance a sum of money at 2½ per cent interest for the construction of two ships and to increase the annual subsidy. The bold step of adopting steam turbines for the vessels was due to the report of a technical committee on which Laing served.

#### Memorial to Sir Gregory Foster, Bt.

A FUND has been raised for the establishment of a memorial to the late Sir Gregory Foster, at College Hall, London, a hall of residence for women students in the University with which he was connected for more than thirty years, during twenty-one of which he was chairman of the Council. The memorial has taken the form of the provision of teak doors throughout the public rooms of the new building

for the Hall recently erected in Malet Street and to be opened by H.M. the Queen on November 10. A memorial tablet designed by Mr. Brook Kitchin has also been placed in the entrance hall and bears a record of the services rendered by Sir Gregory Foster. A portrait painted by Mrs. Macleod has now been finished and has been hung in the council room of the Hall. It represents the sitter not as his friends knew him in the last years of his life, but as he will be remembered by those who knew him in the fullness of his strength and vigour, thus providing an interesting comparison with the portrait recently painted by Sir William Orpen which hangs in University College. The memorial tablet was unveiled on November 4 by Sir Alexander Gibb, who succeeded Sir Gregory Foster as chairman of the Council of College Hall. About a hundred or so of those who had subscribed to the memorial fund were present, and for the greater number of these the occasion presented the first opportunity of seeing the new building, which in itself is the greatest and most lasting memorial to Sir Gregory Foster's work in providing increased residential accommodation for the students of the University of London.

#### Huxley Memorial Medal and Lecture

THE presentation of the Huxley Memorial Medal of the Royal Anthropological Institute for 1932 to Prof. C. G. Seligman will take place on November 29, when Prof. Seligman is to deliver the Huxley Memorial Lecture at 8.30 p.m. Prof. Seligman is already a medallist of the Royal Anthropological Institute, having been awarded the Rivers Memorial Medal for 1926 in recognition of his work in the field in New Guinea, among the Veddas of Ceylon and in the Sudan. Prof. Seligman gained his first experience of field work as a member of the Cambridge University Expedition to the Torres Straits in 1898 under Dr. A. C. Haddon. He visited New Guinea again as joint leader of the Cooke-Daniels Ethnographical Expedition in 1904, publishing his results in "The Melanesians of British New Guinea" (1910). His studies of the Veddas in 1907, in which he was assisted by Mrs. Seligman, were published as "The Veddas" in 1911, while the results of his investigations among the Sudanese tribes on several occasions, on which he has again been accompanied and assisted by Mrs. Seligman, are announced for publication at an early date. The study in the University of London of the customs and races of man has made substantial advances during Prof. Seligman's occupation of the chair of ethnology at the London School of Economics, especially in the promotion and organisation of training for colonial officials.

#### Scientific Expedition to Tibet

IN February 1933 Capt. F. Kingdon-Ward is setting out to explore what is perhaps the least-known part of Tibet—the arc of mountainous country which lies between the bend of the Tsangpo-Brahmaputra and the bend of the Salween. The route to be followed is: the Assam valley, Sadiya, Lohit valley, Rima, up the Rong Thod Chu, over the Ata Gang Pass (16,000 ft.)

to Shurdin Gornpa, in lat.  $29^{\circ} 30' N.$ , long.  $97^{\circ} 0' E.$ , where a base camp will be established at 13,600 ft. altitude. From here the collecting work will be done. This is the cross-roads of Asia, the meeting place of four floral regions, the Central Asian, Sino-Himalayan, Indo-Malayan, and Eastern Asiatic; and it harbours the richest alpine flora in the world. The flora of this area should in fact throw light on both the earlier east and west distribution of plants across south-eastern Asia, and on the later north and south distribution, down the Malay Peninsula, brought about during the last glacial epoch. The predominance of the former is difficult to account for if we assume the Himalayan uplift to stop short at the Tsangpo bend, or to curve southwards at this point. On the other hand, if the Himalayan axis is prolonged eastwards, the Salween River must cut across it in a very deep gorge, and should moreover cross at a point of maximum elevation, precisely as the Indus and Tsangpo do. These are matters for investigation. Thus both botanical and geographical work will be done. These are closely related, and each illuminates the other. The botanical collecting will be done on behalf of the Department of Botany of the British Museum.

#### Weather Information to Aviators in India

THE India Meteorological Department has set out a complete account of the arrangements in force for the supply of reports on existing weather and of anticipated weather to aviators flying over any part of an immense area which includes not only India but also the Persian Gulf coast east of Bushire, Baluchistan and Burma (India Meteorological Department. Meteorological Organisation in India for the Supply of Weather Information to Aviators. Pp. iii+27. (Calcutta: Government of India Central Publication Branch, 1932.) 12 annas; 1s. 3d.) There are five main forecasting centres, at Karachi, Calcutta, Poona, Peshawar and Quetta. The first three centres are organised with a view of issuing reports and forecasts to civil aviators, and the last two deal mainly with the requirements of the R.A.F. The local centres also number five, namely Rangoon, Akyab, Dum Dum, Allahabad and Jodhpur. There would normally be available at such local centres information about the force and direction of the wind up to a height of 10,000 feet. There is another type of distributing centre—the pilot balloon station—of which there is a relatively large number. These are aerodromes or landing grounds with observers who make soundings of the upper atmosphere with pilot balloons, and are able to supply the information about upper winds so obtained to aviators on request, and presumably are also largely responsible for supplying such local information on this subject as is required at the more important centres. The information given in this pamphlet appears to include everything that can possibly be required by aviators, including the times of issue of the regular broadcasts, all necessary codes, and the wave-lengths, together with detailed instructions as to the procedure for obtaining special reports while in flight.

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#### Galvanometer Mirrors for Sound Recording

IN the variable width method of recording sound on film, a galvanometer is used in which a loop of metal ribbon, 0.005 in. broad and 0.0005 in. thick, is placed between the poles of a permanent magnet, a small mirror being cemented across the two arms of the loop. When speech currents from the microphone and amplifiers pass along the ribbon, the mirror vibrates and causes the reflected beam of light to traverse a narrow slit at right angles to the direction of motion of the film, and thus trace a graph of the sound waves. Since the upper limit of reproduction from the ordinary talking film projection apparatus is about 6000 cycles per second, the natural frequency of oscillation of the galvanometer must be at least as great as this. The inertia of its moving parts must, therefore, be low. The mirror must be as light and small as possible. It should also be accurately surfaced and silvered in order to ensure uniform reflection. The production of such mirrors is an interesting piece of optical work involving manipulative processes on a different scale from that employed for the usual products of the manufacturing optician. Mirrors made by Messrs. Taylor, Taylor and Hobson, Ltd., Stoughton Street Works, Leicester, specially suitable for these galvanometers, are rectangular in shape and measure 0.032 in. by 0.018 in. by 0.004 in. The glass from which they are made is first cut to the correct size and then optically worked on both sides. The back surface is silvered by cathode sputtering and is protected by a suitable varnish. The finished mirror weighs 0.0001 gm.

#### Memorial to Laplace

*L'Astronomie* for September contains a panegyric on Laplace, delivered by Dr. E. Esclançon, director of the Paris Observatory, on the occasion of the unveiling of a statue of the famous astronomer at Beaumont-en-Auge on July 3. Dr. Esclançon observes that Laplace is justly called the French Newton; while basing his work on Newton's law of universal gravitation, he carried the results of this law very much further than any of his predecessors. Special mention is made of his detection of the cause of the lunar acceleration arising from the diminution of the eccentricity of the earth's orbit. He also made useful researches on the theory of the tides; and his famous nebular hypothesis, though no longer held in its original form, at least as regards the solar system, was a valuable contribution to cosmogony, and formed the starting-point of many other theories.

#### Reversion in a Hybrid Macaw

WHAT appears like a very striking case of reversion in a species-hybrid is related, in the *Avicultural Magazine* for September, p. 220, by A. Anderson, who describes a hybrid macaw bird in New Zealand this year between a male of the red-and-yellow and a female of the blue-and-yellow species. As one parent is red and the other yellow below, it is not surprising that the hybrid young bird shows both