

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

these colours on the under-surface; what is strange is that the back is bluish-green, for the male is red here and the female blue, so that the green tint must be due to a return to a coloration ancestral in macaws, most of which are as a matter of fact green, though the more sensationally coloured species are those familiar in captivity. The case is similar to the appearance of a rufous-coloured and more ordinary bird resembling Hume's pheasant when the copper-red, white-pied Elliot's pheasant has been crossed with the Mikado pheasant, which is mostly black, and to the production of sheldrakes showing much smoky-grey pencilling similar to that on the Australasian farms when the rufous South African grey-headed sheldrake was crossed with the mainly-white European species, in both cases a more primitive and plain coloration appearing.

#### Announcements

THE following awards have been made by the Royal Aeronautical Society: Taylor Gold Medal to Dr. G. V. Lachmann for his paper entitled "Control Beyond the Stall", and the Busk Memorial Prize to H. Constant for his paper entitled "Aircraft Vibration".

THE following appointments have recently been made by the Secretary of State for the Colonies in the Colonial Forestry Services: Mr. D. Kinloch, to be assistant conservator of forests, Gold Coast; Mr. P. C. Randell, to be assistant conservator of forests, Nigeria.

THE following is a list of those recommended by the President and Council for election to the Council of the Royal Society at the anniversary meeting on November 30:—*President*: Sir Frederick Hopkins; *Treasurer*: Sir Henry Lyons; *Secretaries*: Sir Henry Dale and Sir Frank Smith; *Foreign Secretary*: Lord Rayleigh. *Other Members of Council*: Dr. J. A. Arkwright, Prof. W. L. Bragg, Prof. C. H. Desch, Dr. G. M. B. Dobson, Mr. A. C. G. Egerton, Dr. J. Gray, Prof. A. V. Hill, Prof. A. Hutchinson, Prof. J. E. Littlewood, Prof. E. Mellanby, Prof. R. Robinson, Dr. N. V. Sidgwick, Prof. A. G. Tansley, Prof. D'Arcy W. Thompson, Dr. W. Trotter, Mr. G. Udny Yule.

THE fourth of the series of exhibitions: "Photography in the Service of Mankind", at the house of the Royal Photographic Society, 35 Russell Square, London, W.C.1, will be devoted to cinematography. The exhibition will be opened on November 14 and will remain open until December 10. Much of the space available will be occupied by apparatus illustrating the historical development of cinematography and the various outstanding achievements on the mechanical side of the science. In addition to the exhibition proper, however, a series of eleven meetings has been arranged. These will illustrate, through the medium of films, the immense variety of ways in which cinematography touches modern life: salesmanship, medicine, natural history, general scientific research and education are among the subjects to be illustrated.

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THE British Social Hygiene Council has arranged a national conference on "The Place of Biology in Education" to be held at the British Medical Association House, Tavistock Square, London, W.C.1, on November 30 and December 1 and 3, under the presidency of the Right Hon. Viscount Chelmsford. During the first morning session, besides the inaugural addresses of the president and patrons, the national and imperial need for a biological outlook will be considered. In the afternoon and on December 3, the promotion of the teaching of biology by local authorities and biology in training colleges, central, senior and elementary schools and in public, secondary and preparatory schools will be discussed. On December 1, a joint session will be held with the Central Association for Mental Welfare to discuss the problem of the social control of the feeble-minded child leaving the ordinary elementary school.

A CATALOGUE of an unusual sort of collection has been issued by Messrs. Dulau and Company, Ltd., 32 Old Bond Street, W.1. It contains lists of old prints in colour and line chosen chiefly for their decorative charm, and includes many items of interest to naturalists and others. Many are plates from standard works by such as Buffon, Levaillant, Pennant, Gould, at prices varying from 1s. to 30s.; hand-tinted sporting prints published between 1805 and 1807, at 35s. each; Loggan's copper-plate views of Oxford (1675) at 5s.-20s.; old maps, old coloured lithographs of the mansions of England by Joseph Nash (1869), portraits by Bartolozzi (1793-99), and sundry other prints making an interesting series of 353 items.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A junior assistant in the Museum and Art Gallery of the County Borough of Reading—The Curator (Nov. 12). A second engineering assistant in the Waterworks Department of the County Borough of Brighton—The Waterworks Engineer, 12, Bond Street, Brighton (Nov. 16). Examiners in practical mathematics, practical drawing and science of the preparatory senior technical course of the Union of Lancashire and Cheshire Institutes—The Secretary, 33, Blackfriars Street, Manchester (Nov. 21). A full-time assistant for electrical engineering courses at the Crewe Technical College—The Director of Education, Dept. 'C', County Education Offices, City Road, Chester (Nov. 23). Five assistant engineers in the Post Office Engineering Department—The Secretary, Civil Service Commission, Burlington Gardens, London, W.1 (Nov. 24). An assistant lecturer in physics at King's College (University of London)—The Secretary, King's College, Strand, W.C.2 (Nov. 28). An instructor in manual work and engineering at the King's School, Pontefract—The Headmaster. Grocers' Company research scholars in sanitary science—The Clerk, Grocers' Company, Grocers' Hall, London, E.C.2. A lecturer in elementary electrical engineering at the Borough Polytechnic, London, S.E.1—The Principal.