

help which they have already given. The Admiralty provided a submarine on two occasions for gravity observations at sea, and lent a kite balloon and personnel for research on the feeding habits of swifts. The War Office lent equipment to a geological expedition to Spitsbergen. The Air Ministry provided: a helicopter fitted with a large net for collecting insects, photographic cover for an archaeological expedition to Tripolitania, flying-boats of Coastal Command for two flights to observe the breeding grounds of seals and sea-birds, six cameras to the International Committee for Bird Preservation for use in a wildfowl census, and a considerable number of aerial photographs of specific areas required by men of science from time to time; in addition, arrangements were made for the Royal Air Force to fly photographic plates at high altitudes in connexion with cosmic-ray research. In another instance, the co-operation of the Ministry of Supply was obtained in the development of an airborne magnetometer. Men of science wishing to submit proposals for consideration by the Committee should communicate their suggestions to the Assistant Secretary of the Royal Society, Burlington House, London, W.1.

25-Inch Telescope Disk for the University of Michigan

A LARGE telescope disk for the University of Michigan has just been completed by Chance Brothers, Ltd., of Smethwick, Birmingham. Now that work is finished on the moulding and annealing of the disk, which is of dense flint optical glass, 25 inches in diameter and almost 4 inches at its thickest edge, it will be dispatched to the Perkin Elmer Corporation in the United States, where it will be ground and polished for use in the objective of a new Schmidt-type telescope now being built for the University of Michigan by the Warner Swasey Co. of Cleveland, Ohio. The sequence of operations necessary for the production of this disk occupied eight months. A special melting of glass of the required composition to give the necessary refractive index was rendered homogeneous by stirring and then cast into a large block weighing about half a ton. The surfaces of the block were polished to detect any portions containing defects. Finally, a portion weighing about 250 lb. (approximately a quarter) was selected, heated to softening point and moulded to the required circular shape. The surfaces of the moulded disk were then polished for further inspection; after which it was annealed in an electric furnace, this operation taking four weeks. Finally, the disk was tested in the Chance Laboratories, first on an interferometer to prove the perfection of optical homogeneity, and, finally, in polarized light to detect any abnormal mechanical stresses which might affect its performance. A second disk, similar to the one described, is also being manufactured for the Warner Swasey Co. It is of interest to note that Messrs. Chance Brothers are now celebrating the hundred and twenty-fifth anniversary of their foundation.

Exhibition of Physics Instruments in Paris

THE annual exhibitions of scientific instruments held in London by the Physical Society are well known, and the printed catalogues of these exhibitions, containing as they do a wealth of information which is handy for reference and not easily accessible in any other form, have proved most useful to many research workers and institutions, even many years after the particular exhibitions of which they form a

record. The annual exhibitions of scientific instruments and materials of the Société Française de Physique deserve to be equally well known. The 1949 exhibition was held at the Sorbonne (University of Paris) during June 4-9, and for the first time a detailed printed and illustrated catalogue of the exhibits was issued. To those who were unable to visit the exhibition this catalogue should prove valuable as an introduction and guide to the resources and state of development of the research institutions and instrument manufacturers in France. Of the 200 pages of the catalogue, 137 are devoted to descriptions of the apparatus exhibited by the eighty-five different exhibitors, and forty to advertisements. As is explained by P. Jacquinet, general-secretary of the Société, in the introduction to the catalogue, the usual troubles in compiling the catalogue were experienced, and the descriptions given of the various pieces of apparatus vary in length from just a brief title, which conveys almost nothing to the reader, to detailed technical expositions of construction and method of use. However, even a brief glance through the pages of the catalogue is sufficient to assure the reader of the diversity and high standard of the apparatus exhibited. Further, the excellent alphabetical indexes with which the catalogue is provided afford easy reference to any piece of apparatus or to its manufacturer.

Air Transport and Insects of Agricultural Importance

CONSIDERABLE attention has been given in recent years to the risk of spreading disease-carrying insects by the agency of air transport. Almost no consideration has been given to the possible introduction of new agricultural pests by the same means, although the development of new routes and the short time taken to traverse great distances are unquestionably adding greatly to the risk of such invasions. The Commonwealth Institute of Entomology has recently published a small pamphlet (pp. 12, price 1s. 6d.) on this subject by Dr. W. A. L. David. Up to the present time, although many disastrous introductions have occurred both in Europe and in the United States within the past fifty years, there has been no authenticated case of air transport having been responsible. But insects of many kinds are found surviving in aircraft, and the danger will increase. Tolerably efficient methods of freeing aircraft of flies and mosquitoes are being worked out; but these are certainly not lethal to more resistant insects—even when they are properly applied. Perhaps the deposition of a lasting film of insecticide is the most promising line of development. Some modifications in the planning of the interior of aircraft could reduce the number of lurking places for insects and thereby make disinfection easier.

Flightless Birds of New Zealand

IN Dominion Bulletin, No. 15, Mr. W. R. B. Oliver has summed up the available information concerning that remarkable group of flightless birds, the moas, some of great size, that formerly inhabited New Zealand and parts of Australia, but have all vanished, being only known to us through their remains. It appears that the birds, unable to fly, were liable to get engulfed in bogs, in which marshes their bones have been preserved, often in surprising numbers. It is to such remains that we owe our knowledge, though the birds must have survived up to comparatively recent times, because Maori camp

sites have yielded charred and broken bones. Mr. Oliver sums up the reasons for the disappearance of what was once a considerable population, embracing many species of these specialized birds, in these words: "Man has been a great exterminator of species in all parts of the world; and so it seems with great probability that in New Zealand man contributed most to the disappearance of the moa. . . . We know by numerous finds that man killed the moa for food and collected its eggs for the same purpose and for making utensils for water. . . . The fact that the moa disappeared when man arrived points very strongly to these events being related, so whatever the causes for the decrease of the moa population during the Pleistocene period its final extinction was due to man."

Population Distribution in England and Wales

THE Registrar General for England and Wales has recently issued a booklet entitled "Estimates of the Sex and Age Distribution of the Civilian Population in Regions and Administrative Areas of England and Wales on 31st December, 1947" (London: H.M. Stationery Office, 2s. 6d.). This publication fills a gap which has been felt by all those who have had to work on local populations. Great changes have taken place in the distribution of the population and its age-composition since the last national census in 1931; the National Register of 1939 is also out of date and was taken at a time when evacuation and call-up distorted the picture. The present estimates are based on the maintenance files of local national registration offices, and the figures have been adjusted in the General Register Office. The civilian population only is covered; conscripts away on national service are therefore excluded, as are members of the mercantile marine. The omission of conscripts, who are away only for relatively short periods, is unfortunate, and it would have been desirable if an estimate of their numbers in different regions and localities could have been given. Figures are available for all local government areas down to district-level, and for the geographical regions of the General Register Office, as well as for the standard regions generally adopted for regional organisation by government departments. There are twelve age-groups for males and fourteen for females. It is to be hoped that a similar publication for Scotland will be issued, so that the whole of Great Britain will be covered. It is satisfactory to see that the much decried system of national registration can yield this valuable statistical by-product.

International Colloquium on Rheology in Biology

AN international colloquium on biological topics that involve problems in rheology has been arranged to take place in Scandinavia during July 1950. It will last for approximately four days, during the interval between the International Congress of Botany (Stockholm, July) and the International Congress of Physiology (Copenhagen, August). The colloquium will include papers and addresses by workers in such fields as the circulation of blood, the mechanical properties of muscle, the movements of sap in plants and the rheological behaviour of protoplasm. It has been arranged under the auspices of the Joint Committee on Rheology of the International Council of Scientific Unions, by an organising sub-committee consisting of Prof. H. Eyring (Utah), Prof. A. Frey-Wyssling (Zurich), Prof. G. van Iterson (Delft) and Dr. P. Eggleton (Edinburgh). Further

details can be obtained from Dr. P. Eggleton, Department of Physiology, University, Edinburgh.

Course on Forestry in Scotland

A COURSE on forestry in Scotland will be held during September 11-23, 1950, under the auspices of the British Council and arranged by the Forestry Department of the University of Aberdeen, in conjunction with the Forestry Commission. This course is intended for staffs of State forest services and of academic and research institutions in Commonwealth and foreign countries; the number of participants will be limited to twenty, and they must be proficient in English. Topics on the course will include the research which is being conducted at the University of Aberdeen on Scots pine (*Pinus silvestris*) and the so-called Scottish race of European larch (*Larix decidua*). The re-forestation work of the Forestry Commission and the working of the Government scheme for the dedication of British woodlands will also be considered. Altogether four days will be spent in the University of Aberdeen and nine days on a tour through north and central Scotland. The estimated total cost, including return fare from London, will be £28 per person. Accommodation will be reserved in hotels. Further information, including method of application, can be obtained from the Area Officer, British Council, 22 Bridge Street, Aberdeen.

Institute of Biology: First General Meeting

THE first general meeting of the newly proposed Institute of Biology (*Nature*, 164, 776; 1949) will be held in the Great Hall, King's College, Strand, London, W.C.2, on January 5, at 6 p.m. The meeting is open to all biologists interested in the founding of this Institute.

The following have consented to serve on the first Council of the Institute: Dr. E. Hindle, F.R.S., Prof. T. A. Bennet-Clark, Prof. G. E. Blackman, Mr. L. J. F. Brimble, Prof. J. F. Danielli, Dr. D. G. Davey, Captain C. Diver, Dr. J. W. Evans, Prof. A. Graham, Prof. J. Gray, F.R.S., Prof. A. Haddow, Dr. J. Hammond, sen., F.R.S., Dr. C. Horton-Smith, Prof. W. H. Pearsall, F.R.S., Mr. N. W. Pirie, F.R.S., and Wing-Commander F. S. Russell, F.R.S.

Paper for Periodicals

REPLYING to a question in the House of Commons on December 15, Mr. H. Wilson, president of the Board of Trade, stated that from March 1, 1950, existing magazines and periodicals would no longer be limited for their home sales to a percentage of their pre-war consumption of paper, but would be allowed to use all the paper they could obtain. The restrictions on new publications would also be withdrawn.

Announcements

THE Faraday Lecture for 1949-50 of the Institution of Electrical Engineers will be given by Dr. R. A. Smith at the Central Hall, Westminster, London, S.W.1, on January 18, the subject being "Radar".

THE Council of the Royal Society has made a grant of £1,000 towards the establishment of a Great Barrier Reef Marine Biological Station, probably on Hepon Island. This grant is being made from a fund left to the Society by the late E. T. Browne to aid marine expeditions and marine biological research.