

Dunlop, from the beginning, had the hope that a permanent organisation would grow out of the first World Power Conference. But it was not his intention himself to make a proposal to this end. In the event, all the countries which participated united to demand that the work begun in 1924 should continue and, as is well known, during the past eleven years the second plenary World Power Conference has been held in Berlin and sectional meetings in Basle, London, Barcelona, Tokyo and the Scandinavian capitals, while the Chemical Engineering Congress of the World Power Conference will take place in London next year.

The World Power Conference has, under Dunlop's guidance, become a highly important international body with forty-nine member-countries and a central office in London. But from the beginning he envisaged something much more than a technical organisation of the producers and consumers of power and fuel.

He saw in it the meeting-place between scientific workers and engineers on one hand, statesmen and economists on the other. He placed an even higher value upon the opportunities for personal encounters which the World Power Conference provided than upon the great technical results already enshrined in more than forty volumes of transactions.

WE regret to announce the following deaths :

Colonel W. C. Blackett, past president of the Institution of Mining Engineers and of the North of England Institute of Mining and Metallurgical Engineers, on June 13, aged seventy-five years.

Mr. W. S. Franks, who, for twenty-five years, was in charge of the Brockhurst Observatory, East Grinstead, known for his work on the colours of stars, on June 19, aged eighty-four years.

### News and Views

**Award of the Albert Medal to Sir Robert Hadfield, Bt., F.R.S.**

THE Albert Medal for 1935 of the Royal Society of Arts has been awarded, with the approval of the president, H.R.H. the Duke of Connaught, to Sir Robert Hadfield "for his Researches in Metallurgy and his Services to the Steel Industry". The Society's Albert Medal, its premier award, is given annually "for distinguished merit in promoting Arts, Manufactures or Commerce". It commemorates the work for the Society of the Prince Consort, who for eighteen years was its president, and to whom the success of the Great Exhibition of 1851, organised by the Society, was largely due. Awards are made irrespective of nationality, and the list of former recipients of the Medal includes the leading men of science, inventors and other benefactors of humanity. Seventy-five awards have now been made, of which nineteen have been to workers outside Great Britain. The first Albert Medal (1864) went to Sir Rowland Hill, for his reform of the postal system of Great Britain. In 1866, Michael Faraday was the medallist, and later recipients have included forty-one ordinary fellows of the Royal Society and nine foreign members. The other metallurgists of the distinguished company which Sir Robert Hadfield now joins are Bessemer, Siemens, John Percy and Sir Isaac Lowthian Bell.

#### The Abbotsbury Swannery

HOWEVER patriotic and air-minded we may be, however much alive to the urgent necessity governing the general policy of the Air Ministry at this particular moment, the proposal to set up an aerial machine-gun practice ground in the very middle of the "Fleet" alongside Chesil Beach in Dorset, was bound to call forth the protests which it has already done in consequence of the near neighbourhood of the famous Abbotsbury Swannery. Not unnaturally, those informed members of the community who are

well qualified to realise the very regrettable consequences which are bound to result, have attempted to make their influence felt. One of the most important would be the all too frequent disturbance of the swans on their very localised winter feeding ground. Founded in all probability in 1044 by the monks of the Benedictine Abbey of Abbotsbury, Lord Ilchester has stated recently in *The Times* (June 18) that the first references to the swannery which he has been able to discover are to be found in the Court Rolls of the Manor, 16, Richard II (A.D. 1393); and there are many others, including disputes about ownership in the time of Queen Elizabeth. The actual number of swans forming this *perfectly natural colony of wild birds* varies around eight hundred. It is, therefore, not only historically and biologically of very considerable interest, but also in all probability it is the largest swannery in Europe at the present moment. Associated with it there are other birds and plants. It has been stated in defence of the proposed target practice ground that birds soon get used to aeroplanes and noise. That is no doubt true; but is not the point. The vital objection is the ploughing up of their feeding ground by missiles. If the choice of such a locality is really a matter of urgent necessity, it seems altogether deplorable.

#### Maintenance of Life in Isolated Animal Organs

To study the functions of an organ under well-controlled conditions frequently necessitates its removal from the body in order to avoid influences reaching it from other tissues, which it may not be easy to control. It is difficult, however, to maintain the isolated organ in a condition even approximating the normal. One of the greatest advances was made by Knowlton and Starling in 1912, with the introduction of the 'heart-lung preparation'. This consists of the lungs—artificially ventilated—and heart

of an animal, and pumps oxygenated defibrinated blood round an artificial circuit, which may include one or more different organs: the latter are thus perfused with blood under conditions approximating the normal. The preparation, however, only lasts for a few hours. It is reported in *The Times* of June 22 that Dr. Alexis Carrel and Colonel C. A. Lindbergh, the well-known American airman, have devised, at the Rockefeller Institute for Medical Research, New York, an apparatus by means of which isolated organs can be kept alive, even growing, for prolonged periods.

In this apparatus, the organs are removed aseptically from the dead animal together with surrounding tissues, arteries, veins, nerves and lymph vessels: all are kept constantly protected with gauze pads soaked in Dakin's solution. The perfusion fluid consists of blood serum or of solutions containing protein-split products: a small amount of phenol red is added to act as an indicator of the metabolic activity of the organ or of the occurrence of bacterial infection. The air supply, kept in contact with the perfusion fluid, contains 40 per cent oxygen and 3-4 per cent carbon dioxide. The apparatus is kept in an incubator at body temperature. The organs so far kept alive in this manner have included thyroid gland, ovary, adrenal, spleen, heart and kidney, obtained from adult fowls or cats; an ovary actually grew in size and weight by the addition of new cells and tissues. It is hoped to use the method for the study of the production of hormones by the glands of internal secretion, for the isolation of substances essential to the growth, differentiation and functional activity of these glands and for the discovery of the laws of association of organs. It is also hoped to study diseases in isolated human organs. The success of the method depends principally upon maintaining complete freedom from bacterial infection, and secondly on the use of suitable nutrient fluids, difficulties which Carrel and Lindbergh appear to have overcome.

#### Antiquities from Tell Duweir, Palestine, 1934-35

THE annual exhibition of antiquities from Tell Duweir (Lachish), Palestine, found by the Wellcome Archaeological Research Expedition to the Near East under the leadership of Mr. J. L. Starkey in the course of the excavations of 1934-35, opened on June 24 at the Wellcome Research Institution, 183-193 Euston Road, London, N.W.1. The objects exhibited again illustrate details of culture in the various periods represented on the site, beginning with the extensive prehistoric settlements of the copper and bronze ages and ending with the later Jewish kingdom, when the city suffered the successive onslaughts of Sennacherib and Nebuchadnezzar. Further light is thrown upon the early cave dwellers, and the possible line of development of the localised art reminiscent of Tell el-Amarna, of which evidence was found last year, is suggested by a bone inlay in the form of a head, which seems to be a copy of an ivory original. Another interesting find is an Iron Age burial, which included among its grave furniture

a short-handled iron fork with three long prongs. It is reasonable to conjecture that this implement served the priest to extract joints from the offerings-bin of the sanctuary discovered last year. Culturally and historically, however, the outstanding finds are a further example of the early script, resembling that from Sinai, which adds three characters to those known from last year's find, and a series of letters on ostraka, dating from shortly before the fall of the city, now to be identified with certainty as Lachish. This discovery, long eagerly awaited, alone makes the excavation notable. An instructive commentary on the work of the expedition is afforded by a cast of the bas-relief of the siege of Lachish, now in the British Museum, which, coloured and skilfully flood-lit, can be seen in full detail for the first time. The exhibition is open daily from 11 a.m. until 5 p.m., and on certain evenings until 8 p.m., until July 27. A lecture on "The Lachish Letters found at Tell Duweir" will be given by Dr. Harry Torczyner, professor of Hebrew philology in the University of Jerusalem, on Tuesday, July 9 at 5 p.m. Admission to the exhibition and lecture is free by ticket.

#### The Quetta Earthquake

A CORRESPONDENT of *The Times* (June 24) gives some interesting details about the great earthquake of May 31. The zone of destruction extends from Surab in Kalat State to a few miles north of Quetta. Its length is 130 miles and its width 15-20 miles. Even within this area, its effects were variable. In some parts, they spread over the whole width; in others, they were confined to a narrow line, some villages being untouched, while others were destroyed. Quetta lies in an upland valley, 5,500 ft. above the sea, in which earthquakes are rather frequent. The recent shock, however, differed from its predecessors. Though the loss of life was much greater, road and rail communications were not damaged, trees, lamp-posts and most of the telegraph poles remained standing, and electric current was available from the first hour of the shock. The great destruction in Quetta City is traced to the poor quality of the buildings, the erection of earthquake-proof houses having been generally neglected. In the areas of excessive damage, the few buildings that were earthquake-proof remained intact, and not even their chimneys fell.

#### Tercentenary of the Muséum National d'Histoire Naturelle

THE tercentenary of the Muséum National d'Histoire Naturelle in Paris has been celebrated during the past week, and included a *séance solennelle* on June 25 in the presence of the President of the Republic. Sir Arthur Hill, director of the Royal Botanic Gardens, Kew, was the principal delegate from Great Britain, and delivered an address in the name of the foreign delegates who were present. In view of the number of delegations attending the gathering, it was decided to select representative men of science to deliver addresses; Sir Arthur Hill spoke on behalf of the foreign delegates and also as a botanist;