Fur-trade in Northern Manchuria

THE predominance in the news of political activities in Manchoukuo tends to obscure the fact that it supports an active Institute of Scientific Research, the latest publication of which describes one of the staple industries of Manchuria, the fur trade (*Rep. Inst. Sci. Res., Manchoukuo*, 3, 227; July 1939). In a lengthy paper W. N. Schernakow describes very fully, from his own journeys in Manchuria and from the contributions of other writers, various aspects of the extensive fur-trade. The majority of the fur-bearing animals are captured by means of snares, traps, pits, as well as by firearms and poison, but sometimes hunting dogs and birds of prey are employed, and one of the illustrations actually shows a hunter in the Barga using bow and arrow. The furs are collected locally, and ultimately most find their way to the fur-market at Harbin. Here in the season 1937–38, 1,217,169 furs were sold, an increase of more than a quarter million over the sales of the previous year. The greater number represents five relatively common species: Tolai hare (*Lepus tolai*) 500,000; rat (*Rattus norvegicus caraco*) 200,000; Sansing squirrel (*Sciurus vulgaris mantchuricus*) and yellow ermine (*Mustela alpina raddei*) 100,000 each; and kolinsky (*Mustela sibirica* of various subspecies) 130,000. The rare skins represented by ten or fewer individuals at the fur-market were wolverine (*Gulo gulo*) and bear (*Ursus mantchuricus*) 10 each; leopard 5 and Manchurian tiger (*Tigris tigris coreensis*) 4. The author regards the preservation of woodland as the surest way of preserving the fur-bearing animals, and he points out that the Chinese destroy not only woodland but even brush-wood wherever they settle.

Recent Archæological Finds in Staffordshire

A NUMBER of discoveries of interest are recorded in the report of the archæological section of the North Staffordshire Field Club for the period 1938–39 (*Trans. and Ann. Rep. N. Staffs. Field Club*, **73**, 1939). Among these may be mentioned a disk barrow, hitherto unrecorded, which was discovered by G. J. V. Bemrose, chairman of the section, on a hill slope overlooking the stream at Oakley. Further examination, in the course of which several well-patinated flints were found on the surface, confirmed the view that it was of the central monolith type, the site of the monolith being clearly discernible. The proximity of the Devil's Ring and Finger is considered significant, while it is pointed out that it is probable that Oakley Park drive is the site of a Romano-British road linking Chesterton (Mediolanum) with Rutunium and Uriconium. Further evidence of a Romano-British road comes from Madeley Old Manor Park, where a half-mile stretch of a 'way' has been identified. It forms part of a way, on which on a length known as Longford, between Wellington and Newport, an air photograph has shown a Roman 'castra' near Wall, superimposed on a British hill-fort and other earthworks, hitherto unknown. A Romano-British residence site at Park Springs, of which the excavation was begun by W. L. Hind in 1927, now shows that the corridor and rooms were paved with hard fired tiles, measuring 5 inches square by 1 inch thick. They had been surfaced by red slip before firing. The walls were plastered and decorated in fast colour-wash, which is still bright after sixteen centuries in damp, loamy soil. One room was decorated in various shades of green and yellow. Evidence points to more than one period of occupation.

Hot Spraying of Shellac

THE high viscosity of whole shellac when liquefied, and the difficulty of maintaining it fluid for any considerable length of time, were responsible for the failure of the original experiments to melt and spray it under steam pressure. We have received from the London Shellac Research Bureau, India House, Aldwych, London, W.C.2, a pamphlet describing the work done by K. E. Lalkaka in the laboratory of chemical engineering of University College, London, on behalf of the Indian Lac Cess Committee and under the supervision of Prof. H. E. Watson. The later experiments described were directed towards using pulverized shellac and causing the powder to fuse by passage through a flame, the fused particles being projected upon a surface to form a well-bonded coat. The various means tried for securing a steady supply of the pulverized material to the flame are described and also the development of a simple apparatus for carrying out the process effectively. A study has been made of the operating conditions.

MATERIALS used in protective and decorative coatings are generally used in solution or emulsion forms applied by brush, spray or pad. It is found that a small amount of the solvent is invariably retained by the film even after prolonged drying. This residual solvent is responsible for the poor water resistance and the comparatively short life of the protective coat. In particular, shellac varnish gives films which 'blush' when immersed in water, but a flake of shellac remains clear and unaffected even after several months of immersion. The technique of a new method is described and the following surfaces have been satisfactorily treated by the process: wood, paper; tin, aluminium and copper sheet; concrete, glass, asbestos board, plaster castings and porous stoneware. The results are published for the information of all interested in this novel field of application of shellac.

Electricity on Board Ship

THE Institution of Electrical Engineers has just published the third edition (September 1932) of the "Regulations for the Electrical Equipment of Ships" (3*s*. 3*d*., cloth; and 2*s*. 2*d*., paper. E. F. and N. Spon, or the Institution of Electrical Engineers). These regulations enumerate the main requirements and precautions for ensuring safety from fire and shock, in connexion with the generation, storage and distribution of electrical energy for all purposes in sea-going ships of all descriptions with the exception of warships. The book will be essential to manufacturers, navigators, and marine architects, and will