

Dr. Hrdlička in 1936 and 1937 have been directed more particularly to the study of the problem whether racial migration from Asia, in addition to the Bering Sea route, may have made use of the more southerly passage by the Aleutian Islands—a suggestion which on a general line of argument would appear to have much to support it, but for which until recently positive evidence has been regarded as inadequate. In the expedition of 1936, it may be remembered, evidence was obtained which was held to support Dr. Hrdlička's view. Skeletal material and a large quantity of archaeological material accruing from the expedition's excavations in 1937, and now awaiting further detailed examination in Washington, Dr. Hrdlička holds, confirm his previously formulated theories, and afford him a basis for the racial classification to which reference is made above. "The finds," he states, "make more probable than ever the hypothesis of a 'race nursery' in the Far North for the aboriginal population of the New World."

BRIEFLY, Dr. Hrdlička's preliminary conclusions are that the present-day Aleutians, a broad-headed people, who do not fall precisely into either an Indian or an Eskimo classification, were preceded by an oblong-headed race, who had a much longer occupancy. This race he regards as the same as that which he discovered in the deepest parts of his excavations on Kodiak Island in 1931-35; while a similar type has been found in the lower layers of a mound at the mouth of the Frazer River, British Columbia. There are indications that this stock may have spread so far south as California. The Aleuts cannot be regarded as descendants of this people, and may, in fact, represent a backward migration from Alaska towards Asia. Dr. Hrdlička is now prepared to recognize in the North-West, not one or two racial types, as previously held, but five distinct, though basically related strains, as follows: (1) the long- and high-headed Eskimo of the Seward Peninsula, Barrow, and eastward along the arctic coast to Labrador and Greenland; (2) the broad-headed and medium-vaulted Eskimo of the Bering Sea coast and along the interior rivers from the Yukon southward; (3) the Aleuts with broad heads and low-vaulted skulls; (4) the Alaskan Indians; (5) the oblong-headed pre-Aleuts, whose remains were found by the expedition in the exploration of the past season. The archaeological finds included a new stone industry belonging to this people.

"Minnesota Man"

FURTHER investigations by Prof. A. E. Jenks in the northern lake area of Minnesota, from which were obtained the skeletal remains described elsewhere in this issue of NATURE (see p. 596) have brought to light evidence of what would appear to be an extensive camping ground of early man. From a kitchen midden buried some three feet under a bog of grasses and marsh weeds in Itaska State Park, Prof. Jenks has excavated some two thousand knife-marked bones, with knives of stone and other implements of both stone and bone. The bone bed varies in

thickness up to about four feet five inches. Associated with the bones of bear, elk, caribou and other big game animals in the kitchen refuse are the remains of an extinct form of bison (*Bison occidentalis*), confirming the early character of the site and the early date of its occupation by man. Prof. Jenks states in *Science* of September 10 that of five stone artefacts recovered from the bone bed, three are flake implements with retouch, while two are chopping tools, chipped to rough parallel faces, and retouched on the cutting edges.

Roman Jerusalem

THE discovery of an interesting and important relic of the Roman occupation of Jerusalem is reported. The Department of Antiquities, it is stated by the correspondent of *The Times* in the issue of September 28, while conducting excavations in connexion with the plan of the municipality for clearing away buildings from the Damascus Gate, has brought to light a Roman moulded plinth ten feet high, of which the top was found at a depth of thirteen feet below the surface. The plinth consists of massive blocks of stone, which, it is said, recall the finest work of the Roman period. The site has been identified provisionally with the city gate beside the "Women's Towers", mentioned by Josephus. It is hoped that excavation will be carried further in the expectation that it will throw light on the much-discussed problem of the Third Wall of Jerusalem.

Brood Diseases of Bees Investigations

EARLIER in the present year an appeal was made to beekeepers and beekeeping associations to support financially the continuation of the research on brood diseases of bees at Rothamsted Experimental Station. This work had been carried on for three years by Dr. Tarr with funds half of which were provided by the Government and half by the British Beekeepers Associations. The results of the first three years' work were so promising that it was unanimously decided by the Bee Research Advisory Committee at Rothamsted to continue for a further period of three years if possible. The estimated cost is £550 per annum, of which the Agricultural Research Council has promised £300, if £250 per annum can be raised from other sources. As the result of the appeal a sum of £226 has been received for the current year, which leaves a balance of only £34 to be made up. For the two following years, there is only at present a guaranteed fund of £103 per annum.

THE work carried out up to the present has already cleared up many difficult points. Dr. Tarr has shown that European and American foul brood are two distinct diseases caused by different organisms. He has confirmed that American foul brood is due to a bacterium, *Bacillus larvae*, and that its incidence is independent of the strength of the colony. European foul brood, on the other hand, is a disease of weak stocks and is probably caused by *Bacillus pluton*, in association with other organisms. He has also shown that a third condition known as 'addled brood' is

very prevalent in Britain; it constituted about one third of the cases of so-called foul brood sent in for examination. It is liable to be mistaken for foul brood, but is really due to a defective condition in the queen, and once it is recognized can readily be cured by requeening. The work in the next three years will be concentrated on tests of control measures for both European and American foul brood and further work on the organisms causing European foul brood. It is to be hoped that further support will be forthcoming to supply the small amount still required for this year's work, and that as many contributors as possible will continue to subscribe for the three years.

Regional Planning in the United States

A broadsheet issued by PEP (Political and Economic Planning) describes some developments in regional planning in the six New England States of the U.S.A. which are of some interest in relation to the Special Areas Bill in Great Britain. The broadsheet is based on a report prepared by the Commission on Regional Planning for New England, issued last year by the National Resources Committee, a progress report, "State Planning, Vermont", issued by the State Planning Board of Vermont, and on general reports on "State Planning (Review of Activities and Progress)" and "Regional Factors in National Planning", both issued by the National Resources Board. While the population of the United States as a whole increased by more than 140 per cent between 1880 and 1930, that of New England increased by little more than 100 per cent and that of the State of Vermont by less than 10 per cent. Seventy-seven per cent of the New England population is now urban, and only 6 per cent remains on farms. Simultaneously, the occupied population has declined to 42 per cent (as against 47.2 per cent in England and Wales), the long established shrinkage of employment in agriculture, forestry and mining being accentuated by contraction of employment in manufacturing and mechanical industries. These contractions are balanced by expansion of employment in trade, transport, professional, public, clerical, domestic and personal services.

A SIGNIFICANT feature is the large increase in part-time farmers, and about one third of the area is still in farms. Attempts are being made to classify farms in relation to their suitability for profitable agriculture. It is anticipated that expansion of milk production on the better farms, for example, would more than make good any loss through winding up uneconomic holdings. The problem of the hill districts is also being tackled by a programme of woodland development and especially in planning for recreation. In building up a recreation industry, whether in relation to preservation of scenery and amenities, alliance between recreation and forestry, sports, improved communications, New England developments have perhaps most to teach Great Britain, and especially in regard to planned instead of piecemeal development. The Planning Boards in the

six States only date from 1935 and the six chairmen with an independent chairman and two co-opted citizens, make up the New England Planning Commission, which is assisted by consultants, a small staff of technical assistants, and an advisory committee of 546 members distributed throughout New England and representing all types of activities—housing, transport, town planning, industry, etc. This Committee does not meet as a whole.

Future of Air-Conditioning

IN the July number of *Water Works and Sewerage* the editor makes some timely comments on the future of air-conditioning. Apparently water supply managers have little definite information as to the probable demands on local water supply facilities that will be made in the near future. Another important problem that has to be considered is the question of sewerage facilities capable of handling the increased loading to be imposed in the form of spent water discharged from the cooling equipment into sewers that have not been designed for this load. At the recent convention of the American Water Works Association some interesting data were given. During the year 1935-36, the air-conditioning capacity installed had increased 35½ per cent in Chicago. During the same period, the water sold to air-conditioned premises had increased 38 per cent. The figures also show that the peak demand for a district which is now only 16 per cent air-conditioned is 130 per cent above the daily average demand. In July and August also, the demands per 24 hours in the districts most densely air-conditioned reached 170 per cent of the annual average. The average over non-conditioned districts during the same two months was only 10 per cent. In a block of buildings containing theatres, hotels and restaurants all using air-conditioning the maximum per cent of the daily average was 250. Chicago is in the happy position that its major mains and pumping capacity seem sufficient for ten years more at this rate of growth. On the other hand, deficiencies of sewers will have to be made good, unless wasteful evaporative type cooling devices are installed in air-conditioning plant.

Earthing the Metal Sheathing of Electric Cables

A DIFFICULTY in connexion with electric supply when metal sheathing of electric wiring and apparatus is employed is how to connect this sheathing to earth in such a way that, in the event of it becoming electrified owing to a fault developing between the sheathing and a main, the faulty circuit may be disconnected at once and consequently the pressure between the sheathing and the earth cease to be dangerous. To secure this it is necessary that the sheathing be a continuous conductor of small resistance and that it is maintained in good electrical connexion with the earth. The Wiring Regulations of the Institution of Electrical Engineers stipulate that the electrical resistance of the metal sheathing or tubing must not exceed one ohm between any two points of its length. In practice this can easily be measured by testing. The connexion of this metal