

Difficulty continued to be experienced in meeting the demands for certain types of skilled workers, notably in the building trade, engineering trade and in hotel employees and domestic servants. Reference is made in the report to the popularity of the physical training classes for the unemployed as well as to an increase in the number of areas affected by a shortage of juvenile labour, particularly in the age group 14-15. In many districts the shortage was due not only to lack of supply but also to the reluctance of parents to allow their children to take certain types of employment. Attempts made by employers to overcome the shortage included the employment of older juveniles, substitution of girls and young adults for boys and the creation of new opportunities for boys to be absorbed into the adult branches of trades. Although some trades in which apprenticeship is a common method of recruitment showed an increase in numbers, notably engineering and shipbuilding, there was no sign of a general revival of the system of apprenticeship.

Science and the Soviet Fisheries

THE progress of the Soviet fishing industry and the part played therein by science are graphically illustrated at an exhibition opened in the new building of the All-Union Institute of Sea Fisheries and Oceanography in Moscow. Various exhibits show the means by which the catch of sea fish has been almost doubled in recent years, reaching 1,650,000 tons in 1937. A big modern fishing industry, equipped with up-to-date canneries, cold-storage facilities, refrigerator vessels and a fleet of trawlers, has been built up in the last twenty years. The production of tinned and frozen fish during the first and second five-year plans has been trebled, while the output of smoked fish is twenty-three times its former figure. An important feature in the development of the Soviet fishing industry is its extension to new regions. Before the Revolution, the Caspian and Azov Seas were the main fishing centres. To-day, an extensive fishing industry has been built up in the Far East and in the White and Barents Seas. The Far East has 41 canneries, with an annual output capacity of 150 million tins, as well as large floating crab canneries and a whaling fleet. The growth of the fishing industry in the White Sea is illustrated by the fact that the catch in the Murmansk Region last year was nearly 280,000 tons, as compared with 13,000 tons in 1913.

THE development of the Soviet fishing industry has called forth a corresponding development of scientific research in this field. Before the Revolution, there were only three scientific stations to serve the industry. To-day, scores of scientific institutes, stations and laboratories are studying problems relating to fishing. The All-Union Institute of Sea Fisheries and Oceanography, which directs all the scientific work in this field, is an institution the annual budget of which runs into 16 million roubles. Special interest is attached to a section of the exhibition showing the work of Soviet men of science beneath the surface of the sea. For two years, scientists,

descending to the bottom in divers' suits, have been studying the delta of the Volga, the northern part of the Caspian and of the Sea of Azov, determining the location of schools of fish and their movement and observing the working of the nets. A bathysphere for the study of sea bottoms at great depths, a model of which is on display, is now under construction. Soviet men of science are introducing new methods in the processing of fish. The time required for salting has been reduced from two days to just a few seconds by the introduction of a method whereby brine is injected into the fish.

Phenology of 1937

THE Royal Meteorological Society has produced its annual phenological report at a welcomed early time this year, and Major H. C. Gunton, who is responsible, for the first time, for it, has not only made this issue to observers in April (which enables a convenient comparison with the following year upon which observations are beginning) but also considerably improved and altered the arrangement of the mass of details in the report, a number of very detailed and somewhat complicated graphs producing a better comparison between meteorological events and plant, insect and bird records than was hitherto possible without considerable detailed study. The records of the report chiefly show the lateness of wild-life in the colder and early-wetter and later drier-than-usual weather of 1937. The sudden departure of swifts in early August is of importance, for whatever the reason, it was true that the majority of swifts left the country during a rise in temperature, and the same thing happened in the last drought year; they left before the hottest day of the first heat-wave in early August. Because of the mildness, seed and berry-eating bird winter visitors, like redwings and fieldfares, were few early in the winter; the March cold caused an influx of waxwings in the north and siskins in the south. After a south-west gale, a wave of incoming migrants was noted on May 23, and on the whole, summer migrants left early.

Royal Meteorological Society: Phenological Studies

THE Royal Meteorological Society has circulated its 500 odd phenological observers in the British Isles a description of a new organization for phenological-ecological research, so that the observations will have an increased specialized value for the various subjects undertaken. The organization consists of the Royal Meteorological Society, Royal Entomological Society, British Ecological Society, South-Eastern Union of Scientific Societies, the Natural History Museum, Ministry of Agriculture and Fisheries, Bureau of Animal Population, Rothamsted Experimental Station, Society for British Entomology, British Ornithologists' Union and the British Trust for Ornithology. An executive committee will have power to co-opt additional specialists and set up panels to deal with separate branches of observational work, as migration, etc. It is hoped to explore locally as well as nationally the possibility of further collaboration of botanist, ornithologist and entomo-

logist for the more accurate observation of the different subjects under identical climatic conditions. H. Fairfield Smith, of the Galton Laboratory, University College, London, also makes his report of the preliminary statistical investigation of the flowering dates of plant records in the Phenological Reports of the Royal Meteorological Society (*Quart. J. Roy. Met. Soc.*, Jan. 1938) showing the standard deviations in restricted localities appear to be about 5-7 days for late spring and summer plants, rising to 13 days for early spring and autumn flowering plants. The country-wise standard deviation of locality means for hazel and hawthorn in 1933 was about 4-5 days, and regression of flowering date on altitude about 1.3 days per 100 feet. Temperature appears to be the dominating meteorological factor determining flower dates, which vary within a locality as a function of climatic as well as of individual plant and environmental factors.

Smithsonian Archæological Expeditions

Two expeditions of the Smithsonian Institution of Washington, it is announced, have taken the field for the operations of 1938. Dr. F. H. H. Roberts, jun., has left for the Lindenmeier site in northern Colorado, where he will continue his work of excavation on the camp site once occupied by Folsom man; and Dr. Aleš Hrdlička is on his way to the Aleutian Islands, where he will carry further the archæological and ethnological investigations on which he has been engaged on behalf of the Smithsonian Institution in each year since 1926, with the object of determining the character and course of the early migrations of man to the American continent. It will be remembered that Dr. Hrdlička, after devoting several seasons to the Eskimo problem, and the succession of cultures in the far north, has in his recent expeditions turned to the Aleutian islands, which he regards as one of the original migration pathways into North America. Here he has found in the craniological material excavated evidence of two distinct types of man, of which the later is distinguished from the earlier by an increase in the breadth of the skull, just as he had found two forms of Eskimo skull, also differentiated by an increase in breadth in the later type. The evidence as a whole, he maintains, points to the fact that all this north-western region of the continent was a "nursery of peoples", constituted by several related strains of Asiatics, from which either the pronounced Eskimo or the typical Indian could easily have developed.

DR. ROBERTS'S problem is also concerned ultimately with the question of the character of early man in North America, for one of the main objectives of the fourth season's excavation on the Lindenmeier site will be an intensive search for the skeletal remains of Folsom man, of which no trace has as yet been found on any of the several sites which have been investigated by various explorers. Further, a change in orientation in the study of the Folsom culture may be necessary. Hitherto it has been

accepted that Folsom man followed the bison which in turn, followed the retreating glaciers northward to take advantage of the pasture which sprung up behind the melting ice. The recent discovery of what are believed to be relics of the Folsom hunters so far north as Saskatchewan, and of the same date as the Colorado culture, is difficult to reconcile with the hypothesis most generally held that at this period the region in which these northern relics have been found was covered with glacial ice some hundreds of feet thick. This discovery would appear to lend support to the theory of some geologists that an ice-free corridor extended from Alaska southward, in which vegetation was probably dense, and in which men and animals migrated freely.

Studies of the Later Iron Age

ALTHOUGH it is a commonplace that archæology is a 'young' science, this can be appreciated in its fullest implication only when a comprehensive survey is made of some one department of archæological studies such as that of the La Tène culture in Mr. J. M. de Navarro's Sir John Rhys Memorial Lecture for 1936 before the British Academy ("A Survey of Research on an Early Phase of Celtic Culture", Humphrey Milford, pp. 42, 1937. 3s. net). The La Tène culture, especially in its artistic manifestations, has so high a place in the development of protohistoric studies, and has been the subject of so much detailed investigation, which is recorded in a considerable literature, that it is difficult to realize that La Tène, the later of the two type stations or rather sites which have given their names to the principal divisions now recognized in the Iron Age, was first investigated so recently as 1856, though sites and objects now regarded as belonging to that civilization were being discovered for some years before.

The credit of recognition of the full significance of La Tène belongs to Sir A. Wollaston Franks, whose contribution to John Kemble's "Horæ Ferales" (1863), discussing a series of La Tène objects, was the first to envisage the ethnical aspect of that civilization in its true light, although Thurnham in "Crania Britannica" (1857) had already grouped together certain La Tène metal types as 'Late British' and assigned them to a bronze and iron transition period. It was, however, Franks who first recognized the geographical extension of the La Tène culture and identified it with the Celts. Among later contributors to the archæological aspect of Celtic studies, to whom Mr. de Navarro refers, three names stand out—Sir Arthur Evans, for the account of his excavation of the Late-Celtic urnfield at Aylesford, Kent (1890), and Paul Reinecke, to whom is due the first comprehensive survey of La Tène culture (1902); but in the remarkable recent development of archæological study of the later Iron Age, of which Mr. de Navarro takes account, the influence is pre-eminent of J. Déchelette, whose "Manuel d'Archéologie Celtique" appeared in 1914, and whose untimely death in the Great War is still mourned as one of archæology's gravest losses in that struggle.