

tion, especially the hope that all England's hedgerow trees and clumps and so forth are not doomed to disappear.

Omitting several other technical articles, reference may be made to four papers from a foreign source. These are: "A General Review of Post-War Forestry in Central Europe," by Dr. Ing. Franz Heske; "Some Recent Forest Research in Norway," by Erling Eide; "Recent Forest Literature in Denmark," by Carl Mar Møller; and "Forest Research in Finland," by Lauri Ivessalo. Space will not permit a consideration of these papers, but the first calls for a brief remark. "The War and its consequences," says Dr. Franz Heske, "have changed Central Europe in many important points. Forestry being a well-developed and most essential part of the economic life in the respective countries, naturally could not escape the great transformations which have taken place." The writer deals with the changed conditions in Germany and the old Austrian monarchy. Immediately after the War, it appeared that forest policy and political conditions were the two items which required the most urgent revision. Later on, however, says the writer, the problems of reform in silviculture and management came more and more to the front, and the question of increasing the productivity of forestry became dominant. He contends that these two directions of evolution can be clearly distinguished in the German countries; whereas in others, e.g. Czecho-Slovakia, political reforms have so far remained the chief interest. In this extremely interesting paper the author depicts the pre-War conditions of his subject and then deals with the post-War ones, as at present envisaged. The article is not, however, complete. It is "To be continued." Since at present the journal is only to appear once a year, it is a pity that the whole could not have been included.

Reviews of some seven books are dealt with. This is the weakest section of the journal. A far larger series of important forest publications could have found a place within the space allotted if some of the reviews included had been drastically cut down. If the high efficiency with which *Forestry* has been started can be maintained, all foresters in Great Britain should welcome and value such a professional journal.

The Danish Lobster Fishery.

MR. ERHARD FOUlsen has published an interesting survey of the Danish lobster fishery compared with that of Norway, Sweden, and other countries. "Om Hummeren og Hummerfiskeriet i de Danske Farvande." *Skrifter udgivne af Kommissionen for Danmarks Fiskeri—og Havundersøgelser* No. 10. Copenhagen, 1927). Lobsters in the Danish seas are found along the coast from a depth of a few metres to about 40 metres, on a stony or gravelly bottom. They are commonest on a stony bottom such as is found in the Northern Kattegat and Jammerbugten. Below a depth of about 40 metres they rarely occur, being replaced in the deeper waters down to about 300 metres by the Norway lobster (*Nephrops norvegicus*). The scarcity of newly hatched young in the upper water layers is remarkable, the author attributing this fact to the probable natural habitat being near the bottom even in the free-swimming stages, and after the third moult it apparently lives actually on the bottom.

Lobsters from the Danish Skaggeak coast are not merely larger than those from the Kattegat, but they are also distinctly larger than those from the Norwegian and Swedish Skaggeak coast as well as from the south-west coast of Norway. The reason for this is attributed to the difference of salinity and temperature, a high salinity and high temperature being

agreeable to the lobster, a low salinity setting a limit to its distribution.

Marking experiments by the method used by Appelhöf in Norway and Trybom in Sweden were undertaken, small triangular pieces being cut away from the edge of the telson and tail fin which were easily recognisable. In this way even if the skin be cast the cuts are still visible. Out of one lot of 200 lobsters set free, only one made a long journey, nearly ten sea-miles; the others only went about one to three sea-miles. In a different lot a few journeyed ten to fifteen sea-miles. They are inclined to pass the summer in shallow water and the winter in deeper water, and this applies not only to the breeding females but also to others of a certain size which seem to need different conditions in the summer. The abundance of food in the shallower waters near the coast seems obviously an advantage for the newly hatched young. The author does not mention the hatching and rearing experiments made at Port Erin, Isle of Man, which prove conclusively that the newly hatched lobsters, and also those in the first few stages, feed on small planktonic organisms, especially copepods.

Interesting notes are given on the methods of catching lobsters, traps being chiefly used, the bait being flat fishes (plaice and dabs), small haddock, and fishing-frogs.

University and Educational Intelligence.

Oxford. The new Rockefeller School of Biochemistry will be opened by the Lord Chancellor, Viscount Cave, on Friday, Oct. 21, at 3.30 P.M.

THE City and Guilds of London Institute has received from the Corporation and City companies since its formation forty-seven years ago contributions amounting to £1,156,094. Its report for the year 1926 deals with the affairs of the City and Guilds (Engineering) College, the Finsbury Technical College (finally closed in July 1926), the South London Technical Art School and the Department of Technology. The first-mentioned college was in 1907 merged in the Imperial College of Science and Technology, but the Institute continues to contribute to the cost of its maintenance. Of the two thousand degrees in engineering awarded by the University of London since 1903, nearly half have been won by students of this College. In 1926, for the first time, the degree was awarded on the College examinations, and the results show, says the Dean, that there is very little difference between the standards under the new and the old system, and he concludes that "whatever system of examination be applied to young men, provided they are properly trained, the result is substantially the same." The Department of Technology examined 13,985 candidates for its certificates, including 1788 at places outside the British Isles. The report suggests a doubt as to whether the movement in favour of demanding a more definite knowledge of elementary science (especially physics and chemistry) as forming the ground work of the main technical subject, has not been pressed too far.

THAT the teacher should never cease to be a student is, perhaps, a platitude. In few places, however, are there such opportunities for the teacher-student as are available in London. Lectures and classes for teachers, specially arranged by the London County Council, make it easy not only to follow up special subjects, but also to obtain a view of the wider background which gives significance to those subjects. Facilities are provided at fees which average less than 1s. per lecture for any one engaged in teaching in London, Kent, or Middlesex (other teachers are admitted at fees 50 per cent. higher),

and are designed to bring London teachers into touch with the latest developments in educational methods and to enable them to hear leading authorities on current questions of importance. The recently published Handbook to the Lectures for 1927-28 contains details of arrangements made to cover a vast number of subjects. In the science section are courses of lectures and lecture demonstrations on the application of physics to everyday life; light, with special reference to artificial light and its measurement; the Science Museum (intended to give a fuller acquaintance with the contents of certain of the Museum's engineering collections); science for elementary schools and for girls' schools; nature study, with special reference to the open spaces in and near London; nature study in infants' schools. By the courtesy of certain scientific societies, provision is also made for the disposal by the L.C.C. of a number of tickets of admission to their ordinary meetings. Domestic and health subjects include a single lecture on sunlight and health, and ten lectures on dietaries in relation to health. The geography section includes a course dealing with the relation between geography and agriculture. Experimental psychology and its bearing on education is to occupy five lectures. Particularly important is a course on modern thought and education, the purpose of which will be to consider the background of instructive ideas which controls the activities of this generation and is expressed in the contemporary attitude towards education. In most cases the Handbook gives, in connexion with the courses, lists of books recommended for study.

EDUCATIONAL BOARDS and Foundations in the United States are described in Bulletin, 1927, No. 10 of the Bureau of Education. The General Education Board since its foundation in 1902, appropriated 137 million dollars for the promotion of education in the United States. For the year 1925-26 appropriations amounted to 15 million dollars, half from principal and half from income. The Rockefeller Foundation spent 9 million dollars on health projects and medical education, including expenditure through its International Health Board and China Medical Board. The Laura Spelman Rockefeller Memorial appropriated for educational, charitable, and scientific purposes nearly 8 million dollars, including nearly one million dollars for the promotion of child study and parental education. The Carnegie Corporation of New York made grants amounting to 6 million dollars, of which more than 4½ million dollars went to library service, 600,000 dollars to activities in the fine arts, and 300,000 dollars to the newly formed movement for adult education. The Carnegie Foundation for the Advancement of Teaching disposed of an income of 1½ million dollars, devoted mainly to retiring allowances and pensions. Other important foundations described are the John F. Slater Fund for teacher training and other schools in the Southern States; the Jeanes Fund for the improvement of negro rural schools; the Phelps-Stokes Fund for improving New York slums and the education of negroes, Indians, and needy whites; the American Field Service Fellowships for French Universities; the Belgian Fondation Universitaire; the Julius Rosenwald Fund for charitable, scientific, educational, and religious purposes; the Baron de Hirsch Fund for aiding Jewish immigrants; the Kahn Foundation for foreign travel of teachers; the Commonwealth Fund for child welfare, rural hospitals, and education; and the Engineering Economics Foundation. The Commonwealth Fund maintains 23 fellowships, amounting to 125,000 dollars, for graduates of British universities for two years' study in American universities. Three are earmarked for British overseas dominions students.

Calendar of Discovery and Invention.

September 11, 1822.—Copernicus asserted the daily rotation of the earth on its axis, and showed that it accounted for the apparent diurnal revolution of the stars. He also showed that most of the known motions of the planets could be explained by assuming them to revolve round the sun, with the earth as one of them. The teaching of the Copernican theory was forbidden by the Church in 1615. On Sept. 11, 1822, the Pope repealed this decree, and permitted the Copernican views to be taught—nearly three hundred years after they were first published.

September 12, 1891.—A scheme for the electrical transmission of power on the three-phase system from Lauffen to Frankfurt a.M. in Germany was prepared by Michael von Dolivo-Dobrowolsky; the system was erected and put into operation on Sept. 12, 1891. The distance covered was 175 km., three copper wires of 4 mm. diameter being used. The alternator voltage was 55, and this was raised by transformers to 8500. The efficiency of transmission was 74 per cent.

September 13, 1850.—After years of labour, the engineers lowered the last of the tubes of the Britannia Bridge, over the Menai Straits, to its permanent resting-place on Sept. 13, 1850. The bridge has two spans of 460 ft., and two of 230 ft., at 104 ft. above high water. The official return of the cost was £601,865.

September 14, 1899.—The *Times* of this date reports that "for some weeks past experiments of great interest in wireless telephony, as distinguished from Signor Marconi's wireless telegraphy, have been carried on by Sir William Preece near Carnarvon. . . . Sir William has succeeded, without any intermediary other than the ether, in transmitting the sound of a series of taps. . . . They were distinctly heard at the receiving station by placing the newly invented ethereal telephone to the ear. . . . So far, it is stated, the system yields much more rapid results than Marconi's, although the sounds are not quite so distinct as desirable."

September 15, 1830.—A number of routes for a railway between Liverpool and Manchester had been proposed and surveyed before a final scheme was authorised in 1826. George Stevenson was the engineer, and the line, which was 31 miles in length, was opened for public traffic on Sept. 15, 1830. In 1845 it was amalgamated with the Grand Junction Railway, and in the following year these became part of the London and North-Western system. The gauge was 4 ft. 8.5 in., and the ruling gradient 1 in 89. There were 63 bridges on the line.

September 16, 1911.—Edward Whymper is most popularly associated with the tragic first ascent of the Matterhorn in 1865. He was the pioneer climber of many other peaks of the Alps, the Andes, and the Rockies. More than a successful mountaineer, he was a keen observer of geological phenomena, a student of glaciers, a first-rate collector, and a good wood-engraver. He died suddenly at Chamonix on Sept. 16, 1911. A plaque to his memory was unveiled at Zermatt in 1925.

September 17, 1607.—Thomas Harriott first saw the comet of 1607 (Halley's) from Ilfracombe on Sept. 17. He made observations upon it with a 'cross-staff,' giving the distances of the nucleus from the various stars. Harriott had been to Virginia as a surveyor with Sir Richard Grenville's expedition in 1585. He virtually gave to algebra its modern form, and applied the telescope to celestial purposes almost simultaneously with Galileo. With its help he studied the moon, "the new-found planets about Jupiter," and sunspots.

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