

allowed in Great Britain at present is home-grown. The application of electric power was discussed and its extension urged, with a suggestion that town dwellers and industrialists should be charged an overriding percentage so that supply companies would be able to distribute current to every agricultural holding at the low prices available to town dwellers.

Agriculture To-day and To-morrow

THE Royal Society of Arts has arranged a special series of ten lectures on "Agriculture Today and Tomorrow", beginning on November 11. In organizing these lectures, the Society is carrying on what was for nearly a century one of the most important branches of its activities. At the time of the Society's foundation—1754—the methods of agriculture were practically those of the Middle Ages. Until the inauguration of the Royal Agricultural Society in 1838, the Society's Committee of Agriculture under Arthur Young was the most important body in Great Britain concerned with the welfare of agriculture. Under its auspices many improvements were made in agricultural practices. The Society also opened to the public its "Repository of Inventions", which contained an excellent collection of models of agricultural implements, and in 1761 it held an exhibition of agricultural machines. Although the present lectures are intended mainly for those actively engaged in agriculture, it is emphasized that the series will be of interest to laymen. A syllabus of the series can be obtained from the Secretary, Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2.

Utilization of Rural Waste

FOLLOWING on the article by Mr. Bransby Williams on the manufacture of fertilizer from urban wastes (NATURE, Sept. 5, p. 299), it is interesting to note that an experiment in rural sanitation is being conducted by Dr. A. T. Westlake on his estate at Sandy Balls, near Fordingbridge. The estate is used as a holiday centre, and a large number of visitors, living in huts, caravans, and tents, pass through it in the course of the year, in addition to a resident population of about forty persons. The Poore method was at first tried, but later Dr. Westlake adopted the Indore composting system of Sir Albert Howard with good results. All the night soil and other refuse on the estate is composted in heaps. There is separation of solids and liquids. By the use of specially dried earth and leaf mould, the collection and handling of the material is rendered efficient, easy, and hygienic. In winter the method so far adopted has been the use of small composting pits. The matured compost is used to manure what was formerly barren ground, but which has now become a healthy and flourishing kitchen garden. Plant disease has been very largely eliminated. It is clear from the experiment that the methods used here might well be tried in other rural communities.

Engineering Cadetships

THE Government announces the foundation of engineering cadetships, open to youths of sixteen to nineteen years of age, inclusive, and leading to technical commissions in the fighting services. The Government will pay the necessary educational fees and allow each cadet a maintenance grant. Youths of 16–19 are invited to apply if (a) they left school

before October of this year; (b) are not employed in any branch of engineering; and (c) have obtained at least the school certificate with a credit in mathematics or general science or physics or an equivalent examination. The length and character of the training, which will be at a technical college, will be adjusted to age and educational qualifications, and may extend to two and a half years. Boys of sixteen will have preliminary instruction at a technical college or other appropriate institution. The training courses will cover the basic engineering science required in the associate membership examinations of the Institution of Mechanical Engineers or the Institution of Electrical Engineers. In the case of the Institution of Mechanical Engineers, cadets who successfully complete their course will be exempted from sections A and B of the associate membership examination. Youths of eighteen who have been called up may apply for cadetships, and boys born in 1924 and still at school may also be accepted. Applications will be received by local appointments offices of the Ministry of Labour and National Service or by the Appointments Department, Sardinia House, London, W.C.2.

Russian-English Technical Glossaries

As a result of the appeal by Sir John Russell, chairman of the Anglo-Soviet Scientific Collaboration Committee, for Russian-English technical dictionaries, sixteen glossaries of Russian technical and scientific terms have been collected and placed in the Science Library, South Kensington, London, S.W.7, where they are available for consultation. Most of the glossaries, which cover a wide range of subjects—military and naval terms, metallurgy, medicine, botany, fuel technology and bacteriology of fish—have been compiled by individuals during the course of their work in a special field. Some are printed, others are typed or in duplicated form, while others are in manuscript or on cards. A list of these glossaries giving the name and address of the compiler or donor can be obtained from the Secretary of the Anglo-Soviet Scientific Collaboration Committee, British Council, 3 Hanover Street, W.1. A location list of Russian technical glossaries has also been compiled by the Anglo-Soviet Scientific Collaboration Committee. This list, which incorporates the glossaries collected for the Science Library, also indicates the libraries in which copies of the chief Russian scientific and technical dictionaries may be found. Copies of the location list may also be obtained upon application to the Secretary of the Anglo-Soviet Scientific Collaboration Committee.

Map of Europe and Middle East

A MAP of Europe and the Middle East on a scale of 1:11 million has been published by the Royal Geographical Society on behalf of the British Council. The map is drawn on Murdoch's third conical projection and extends from Western Europe, the British Isles and Iceland east to Rangoon and south to Abyssinia. It will fit obliquely with two adjoining sheets, North America to Britain and the Far East, which are now published in outline only but are to be completed later. Land relief is shown by contours and layer colouring in tints of brown and hill shading in lavender grey corresponding to a light thrown from the top left-hand corner of the plate. Contours are at 50, 100, 200, 500, 1,000 and subsequent 1,000

metres, which is fully as many as the scale can bear in some areas. Principal railways are shown as red lines and selected roads as red dotted lines. Political boundaries as in 1938 are marked and there are also shown oil fields, pipe lines, ancient sites, deserts, marshes and glaciers. No submarine relief is shown: water is blue. Names of countries and principal rivers and towns are in black. An edition with names in Arabic is to be published. The present sheet (No. 1), flat or folded, costs 5s., or, flat, with the outline edition of No. 2 and No. 3, which are not sold separately, 8s.

Sir Robert Kane

UNDER the auspices of the Chemical Society of University College, Cork, Mr. D. Ó. Raghallaigh has recently issued an interesting booklet of forty-three pages dealing with the life and work of Sir Robert Kane (1809-1890), a pioneer of chemistry and of industry in Ireland. Kane studied medicine at Trinity College, Dublin, and became professor of chemistry at the Irish Apothecaries' Hall at the age of twenty-two. After his appointment to the chair of natural philosophy at the Royal Dublin Society in 1834, he published his important work on ammoniacal compounds of mercury, copper and zinc. This was followed in 1840 by a research on the colouring matter of lichens, and soon afterwards Kane was elected F.R.S. His "Elements of Chemistry", completed in 1843, achieved fame as a standard text-book. He took far-sighted views of Irish industries and agriculture; for example, he directed attention to the chemical potentialities of Irish peat and potatoes, and depicted the Shannon Valley as the future industrial centre of Ireland. In organic chemistry he accomplished the first synthesis of a cyclic compound (mesitylene) from an open-chain one (acetone). In 1845 Kane became the first president of the new Queen's College, Cork, and in the following year he was knighted for his services to science and Irish industry. After his resignation of the presidency in 1873 he became first dean of the Royal College of Science for Ireland, and later he was appointed vice-chancellor of the Royal University. One of Kane's sons commanded H.M.S. *Calliope* in the historic escape of this ship from Samoa Harbour during the hurricane of March 15, 1889.

Wood-Pigeon Investigation

THE third Bulletin of the Wood-pigeon Investigation, issued by the Edward Grey Institute of the University of Oxford, covers some of the findings of the past nesting season, and the expansion of the investigation to have 500 observers recording 250 birds a month next breeding season, thus recording more than a million birds. In some parts of Great Britain during 1942 the birds were very sparse with only one or two nests in a hundred acres, and in others their nests were sufficiently concentrated to show definite breeding colonies with preference for certain areas. The most densely populated haunts were young spruce plantations. At the peak of the breeding season in August (it is much later than with most birds) these dense haunts had as many as twenty nests in four acres. At the end of September there were still 10-20 nests occupied in some plantations. Many districts had more occupied nests in July than in June.

It is hoped to gain a better knowledge of the distribution of the nesting colonies throughout Great

Britain in order to understand how they came to exist. The life of a wood-pigeon is long, but it is desired to know how long and how it varies with different types of woodland. The breeding season of the wood-pigeon does not necessarily coincide with that of other woodland birds. The possible connexion between late breeding and the formation of colonies is to be investigated. In the winter countryside, as in the nesting season, the wood-pigeon population is not evenly distributed. The filling in of record cards of winter flocks can give their distribution month by month, as well as their autumn, winter and spring movements, and a seasonal guide to feeding-grounds and flock sizes, favourite feeding hours and the relative number of stock doves feeding in the flocks. A collection of photographs is also being built up of nests, crop damage, and 'colony' woods.

Biology of Oysters

THE oysters of Australia are being thoroughly investigated by the Division of Fisheries, Council for Scientific and Industrial Research. In the first of the series of pamphlets on the biology and cultivation of oysters in Australia, G. A. Kesteven wrote on some economic aspects (Pamphlet No. 105; 1941). A more recent publication, in two parts, is by G. Humphreys (2. A Note on the Calcium Content of Some East Australian Waters; 3. Biochemistry of the Proximal Constituents. Commonwealth of Australia. Council for Scientific and Industrial Research, Division of Fisheries. Report No. 7. Pamphlet 111. Melbourne, 1941). The calcium content of a number of oyster-growing waters has been investigated and the relation between condition and the fluctuation in the proximate constituents of the oyster, namely, carbohydrate fat and protein. It is concluded that there is no essential difference in calcium content between waters where oyster growth is normal and waters where only stunted growth appears. Opinions differ as to the role of glycogen in the oysters, some maintaining that it determines fatness, others that it is a reserve food material. The author shows that the latter view is correct, for the fattest oysters occur just before spawning when the glycogen percentage is at its minimum. The idea, supported by recent investigators, that glycogen is stored as a reserve food material and is used for the formation of gonad products which do not consist of glycogen is borne out by the figures presented, in which it is seen that for healthy oysters the glycogen percentage is in the range 3-7 during most of the year, but that just when the oysters are about to spawn, the value is below 2. It is found that oysters can be dried with no loss of glycogen or protein.

Impregnating Varnishes

W. J. KIERNAN points out in a recent article (*Bell Lab. Rec.*, 20, No. 12; August 1942) that until the recent development of synthetic resins and drying oils the impregnants applied to coils contained linseed or china-wood oils and natural resins, and that they 'set' by surface oxidation, leaving the interior in a semi-fluid state. Fatty acids were usually present in the unset portion, sometimes in sufficient strength to corrode copper. Varnishes made with synthetic resins of the phenol-aldehyde type polymerize on drying rather than oxidize, and produce a solid state throughout their mass. Corrosive tendencies are negligible or entirely absent