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 5*s*., or, flat, with the outline edition of No. 2 and No. 3, which are not sold separately, 8*s*.

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