

The Forest Industry of Finland.

IN a recent number (No. 8, 1928) of the *Oxford Forestry Memoirs*, Mr. W. E. Hiley discusses the "Forest Industry of Finland," his brochure being based on a visit to the Finnish forests last year. It has become a curious practice with some of the younger writers on forestry questions to treat pre-War investigations as either non-existent or of little importance. Thus in his paper Mr. Hiley writes: "Much has been written in the English language about Finnish forestry and the timber trade, and English readers can acquire a good general knowledge of these subjects without leaving Britain. But so far, very little information has been available with regard to the economics of Finnish forestry." Mr. Hiley does not define his term 'economics,' but a perusal of his interesting memoir fails to exhibit any marked departures from the lines of articles which appeared in 1911 in the publications of the Geographical Society of Finland. Several of these articles were from the pens of experts such as Prof. A. K. Kajander, P. W. Hannikaiven (then Director-General of State Forests), and A. B. Helander (Inspector of Forests). These articles were dealt with in the English press and in some cases by men who had a personal acquaintance with the Finnish forests.

Although, as Mr. Hiley says, the State forests of Finland are mainly confined to the northern parts of the country, the richer and better forests to the south being largely in private ownership, yet by 1910 the annual receipts from the State forests amounted to £660,000 with an expenditure of £195,000. Under the Czarist regime, however, the policy towards Finland was one of repression in industrial development, and the forest administration was starved. It may be mentioned that the species consist principally of Scots pine, spruce, and white birch, with a little aspen, grey alder, and pedunculate oak.

Since 1917, when Finland freed herself from Russia, there has been a remarkable progress in forest development and timber exploitation on up-to-date lines, with the result that at the present time she is one of our best suppliers of soft woods and has taken a leading place in the European timber markets. This development, and the startling rapidity with which it has proceeded, has proved of high interest to those acquainted with the country and its pre-War position. Mr. Hiley has taken full advantage of the opportunities so kindly afforded him by the Finnish Government

officials, and his memoir will prove of value to all interested in this matter. It will suffice here to indicate some of the main divisions of his subject; namely, ownership of the forests, administration (State forests, joint stock company forests, private forests), silviculture, felling and extraction, sawmills, economics of forest management, costs and prices, and finally a few remarks on the forest policy of Finland. The latter are of special interest, since the author here gives us the present-day forest policy of the Government.

The State recognises that its first duty is to maintain the timber increment (the forests providing the most important of Finnish exports) so as to preserve the great timber industry of the country, whilst maintaining the necessary supplies of wood for home consumption. In 1926 the value of timber and other forest products exported amounted to 85.4 per cent of all Finnish exports. As regards home consumption, all who have visited the country will have been struck by the universal use of timber. Outside the larger cities all buildings are almost entirely constructed of wood. It is estimated that 60 per cent of the wood felled is used in the country, representing a *per capita* consumption of 260 cub. ft. per annum, or about ten times more than the consumption in Britain. Wooden fences replace hedges, and the railway engines are of course fuelled with wood, coal being too expensive. The new policy in the State forests is to take an increasing share in the conversion of timber, whereas formerly the trees were sold standing, or felled and hauled to the rivers. The State now owns a controlling share in two important timber companies and has several sawmills of its own, including a large and modern mill at Veitsiluoto at the mouth of the Kemi River, in the extreme north of the Gulf of Bothnia.

The income from, and expenditure on, the State forests has increased progressively since the country became independent and a more rational policy was introduced, the figures for 1924 being respectively about nineteen and twenty-eight times the amounts for 1910. Some dissatisfaction is being manifested at the State entering into competition with the mercantile community; but in the present stage of this important industry in the country the policy would appear to be a sound one. In conclusion, Mr. Hiley's brochure may be commended as meriting a study by all interested in the soft wood timber trade.

Chemical Analysis in the Public Service.

'SAFEGUARDING'—in a non-political sense; safeguarding of health, of justice, and of revenue—relies to an ever-increasing extent on the services which can, under cautious yet confident direction, be rendered by chemical science. The report of the Government Chemist for the year ending Mar. 31, 1928, abounds in examples of such service to the various departments, and in certain respects to the Government of Northern Ireland, the High Commissioner for India, the Crown Agents for the Colonies, the Dominions Office, the Corporation of Trinity House, the Commonwealth of Australia, and the High Commissioner for Southern Rhodesia. The work for most of the departments is carried out at the laboratory at Clement's Inn Passage, London; the laboratory at the Custom House naturally deals specially with customs samples, some of which, together with excise samples, are examined at chemical stations established at the more important seaports. In addition, the laboratory at the Geological Survey Museum is maintained, and work for the War Office is per-

formed at the Supply Reserve Depot laboratory at Deptford.

The total number of samples examined during the year was 491,039, an increase of 21,397 over that of the preceding year. In addition to this purely routine analysis—if such a term can be properly applied to so heterogeneous a collection of samples, involving the most varied and detailed methods of examination—a considerable amount of work has been done in connexion with the revision of existing methods and the investigation of new methods of detection and determination of substances; moreover, the Government Chemist (Sir Robert Robertson), his deputy, and staff serve on various official committees, and from time to time are called upon to give evidence in legal proceedings.

The report shows, for example, that exceptional care is necessary in the sampling of milk supplied in bottles, the absence of air space rendering mixing difficult; that forty samples of fresh milk in churns imported from the Continent were satisfactory; and