State Intervention in Agriculture.*

THE Address of Mr. J. M. Caie has called attention to certain important aspects of the problem of State Intervention in Agriculture. He has first of all examined the part played by agriculture as producer in the economic structure of the State, that is to say, the contribution of the products of agriculture and animal husbandry to the total food consumption of the people. His comparison of the figures relating to an industrial country like great Britain with those of agricultural countries like Denmark and Norway is very interesting as they disclose that while in Britain the number of persons per acre of cultivated land is about 1·5, it is 0·45 per cent. in Denmark and 1·1 per cent. in Norway while the percentage of the population engaged in agriculture is 6 per cent. in Britain as against 29 and 30 per cent. respectively, in the other two countries. The value of the products of animal husbandry including therein meat, dairy and poultry produce, is nearly 2½ times that of the crops raised in Britain while the corresponding ratios in Denmark and Norway are 8 and 3 respectively. It is very important to note that the value of eggs produced in Britain exceeds the value of cereals produced in the country. The interesting line of study suggested by Mr. Caie, namely, the extent to which the products of a country's agriculture and animal husbandry contribute to the total food consumption of the people is very vital in shaping the agricultural policy of a country.

Mr. Caie has dealt with the question of State Intervention in Agriculture in regard to (1) Statutory Control, (2) compulsion of the minority to conform to the wishes of the majority and (3) assistance, financial, advisory or protective. He has briefly surveyed by way of illustration several Acts passed from time to time to show that intervention of the compulsory kind was effectively enforced for centuries. The Contagious Diseases of Animals Acts, the Insects and Pests Acts, the Horse-Breeding Act, the Milk and Dairies Acts are instances of Statutory Control of Agriculture. The Acts relating to marketing and grading are instances of State Intervention to compel the minority to conform to the wishes of the majority. Instances of protective intervention are the Acts relating to import tariffs and quotas designed to raise or maintain the prices of agricultural produce.

After careful comparison with Denmark and Norway, Mr. Caie rightly lays emphasis on the defects in British agriculture, namely, that it falls short of producing as much home-grown food as possible and of affording employment on the land to as many as practicable and points out the effect on employment and food production by the shrinkage of the cropping area in Britain by two millions since before the War. Mr. Caie very ably advocates the aim of economic independence of the country as the key-note of agricultural policy of the State.

* Summary of the Presidential Address of J. M. Caie, M.A., B.L., B.Sc. (Agr.). Agricultural Section, British Association for the Advancement of Science, Nottingham, 1937.

Economic Research and Industrial Policy.*

THE main aim of the Industrial Policy, of rationalisation of planning, is to promote economic efficiency, *i.e.*, to increase income, output or satisfaction at the least cost, monetary, physical or real. The three main categories of industrial policy are concerned with problems of industrial structure, administration and industrial technique. This paper is concerned with the problem of industrial structure, again sub-divided into problems of site, size and scope.

The problem of site is of great importance to any business organisation, as a good choice of site would ensure the earlier attainment of the optimum location of resources and would eliminate much confusion and waste. A wisely conceived State-direction of location would ensure for the community the optimum distribution of its resources. A Royal Commission has been appointed in England this year to enquire into the causes which have influenced the present geographical distribution of the industrial population of England and to report what remedial measures should be taken in the national interests. A measure of the concentration of any particular industry in any given area is obtained by comparing the proportion of all persons occupied in that industry in the given area with the corresponding proportion for industry as a whole. But for purposes of State policy the fact of the general diffusion of the given industry everywhere is more significant. If a depressed area is to be developed by the introduction of new factories it is essential for the State to know which are the industries whose units can be artificially shifted. Some industries such as aerated waters are widely diffused wherever the population presents consumers, others such as cotton are narrowly concentrated where skilled labour is found. But there is probably a middle grade of industries that need be neither completely diffused nor completely concentrated, some of whose units can, within limits, be sited anywhere without loss of efficiency. To this class belong industries like artificial silk, spinning, cocoa and chocolate, mining machinery, toys, games and sports requirements, rubber, biscuits, electrical apparatus and sugar confectionery which offer the best hope of large development in the depressed areas. In England at the present day the forces that determined the present localisation are changing and the market is becoming more important than fuel. Therefore, there should be a halt in the progress of localisation. Areas seem to be depressed to-day largely because there industries were too self-centred and too far from the centre of the country's population. De-localisation may soon be taking place in the sense that there will be a smaller proportion of men employed in an industry where that particular industry used to be localised. The scarcity and high

* Summary of the Presidential Address of Prof. P. Sargant Florence. Economic Science and Statistics Section, British Association for the Advancement of Science, Nottingham, 1937.

rents of urban sites and new transit facilities urge labour and factories to suburbs. In the last thirty years the trend of American manufactures as a whole is found to have been away from large cities.

In determining the size of factories there are economic factors at work common to all industrial countries rather than factors particular to any country. On the whole, facts in Great Britain, U.S.A. and Germany seem to justify the generalisation that the higher the mechanisation of an industry the larger is the size of its constituent plants or factories. Where however the costs of transporting material or product are much greater than the economies of mechanised concentration, their plants will be scattered that is unlocalised and small. It is these conditions that probably keep industries like furniture, baking, printing and clothing small scale, *i.e.*, small plant industries.

The policy of the rationalisation movement is to increase the area under one planning and central authority, irrespective of whether that area consists of one or a number of plants. And the policy of planning goes so far as to advocate that this area under one control shall be a whole industry. In England we have a Big five in Banking, a Big four in Railways and a Big one in Chemicals. Where profits and costs are used as measures of efficiency, it is of course the size of the firm that is being tested. The view of most theoretical economies has hitherto been that after a certain size is passed, in spite of marketing and financial economies, and plant decentralisation, the firm becomes too large to be manageable. Employing the same number of men or producing the same value of goods, a firm may reduce the number of its lines and though not changing its size, may thus narrow its scope. Such a policy would increase the scale of production of the standard lines retained. Rationalisation schemes often combine a policy of increased size and scope for the firm or combine, together with diminished scope for constituent plants.

Economic research must help current industrial policy in determining the optimum or the most efficient site, size and scope of industrial policy. Different industries have vastly different sorts of site, size of firms and plants and scope. Thus electrical engineering has predominantly large plants, associated with high mechanisation; pottery has predominantly medium sized plants and high localisation; the dealing or distributive trades, small plants and low localisation. Many industries follow these three examples, in Britain, America and Germany that we may speak of three types to each of which a common policy can perhaps be applied. The prevailing efficiency limit of size in manufacturing plants in Great Britain, America and Germany is in many manufactures one employing over five hundred men and for nearly all manufactures the prevailing size is increasing.

The enlargement of the size of firms and combinations of firms so often involved in rationalisation and planning has often been opposed on the ground of the unwieldiness and the difficulty of any one brain managing huge organisations. Statistical evidence that has been offered of lower profits among larger firms is not easy to substantiate. The manager's brain is, after all, just one factor determining the curve of return. The optimum, most efficient, pattern may be specialised narrow scope productive plants, sited in selected places, controlled by a wide scope integrated firm or combine which also does marketing and financing.

The Pleistocene History of the West Midlands.*

AS a field of activity for the amateur, geology is unique among the sciences; for its laboratory is the countryside, and the equipment required for many sections of the subject is simple and inexpensive. Before the amateur can be of real value as an observer, recorder and interpreter of geological phenomena, the most essential thing is that he should acquire a broad foundation of basic principles; and for securing this, it is necessary to have small text-books each dealing with the attainments of some section of the subject and written in language that should be understandable by any intelligent person who has a good school education. Side by side, there should also be small general treatises written from various angles, demonstrating the multiplicity of the lines of approach, the recognition of which might well induce a man to take an active part in some section of the subject in which he is interested.

The main body of the Address of Prof. Wills deals with "The Pleistocene History of the West Midlands"—a study which owes nearly all its data to the work of amateurs. After giving an account of the different types of drift and their distribution in this area, Prof. Wills points out that a study of the sub-drift surfaces and of the river terraces makes it abundantly clear that the whole river system of the Severn and Avon was then at a considerably higher level than it is to-day. A thorough appreciation of the vast extent to which erosion has gone on, and of the enormous length of time involved, at once helps us to understand the apparently anomalous distribution of glacial drifts in this region. If we are right in claiming a former far wider distribution of the drifts than the areas where they now occur in force, the river valleys should provide a great deal of evidence concerning the way in which their destruction has been brought about. In the present case, this is certainly so; for we have in the Severn and its tributaries a wonderfully developed system of river terraces and of deposits that originated under the rigorous conditions of glacial climates, the so-called tale gravels and melt-water flood gravels. A study of these has thrown much light on our problem. Prof. Wills, however, points out that the actual interpretation of these drifts is extremely difficult for several reasons, and any conclusions that can at present be drawn are only tentative. He has illustrated his own ideas of the Pleistocene history of this area with maps, which though only diagrammatic and speculative, still serve to give a good picture of the general distribution of the ice and of the main drainage lines at successive stages in the melting of the glaciers, as deduced from the composition and distribution of the drifts in this area at the present day.

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* Summary of the Presidential Address of Prof. Leonard J. Wills, D.Sc. Geology Section, British Association for the Advancement of Science, Nottingham, 1937.