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

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