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THE AGRICULTURAL PROBLEM OF GREAT BRITAIN

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I UNDERSTAND that at your opening meeting Lord Huntingdon spoke to you about our emergency programme, which, of course, is of a short-term nature. What I have been asked to do is to try to give you the economic and historical background of the food problem that is facing Britain to-day, and to try to draw, in very broad outline, the principles of our long-term agricultural policy. That is a big task. I suppose that, to deal with the subject properly, I should have to go back to about 2400 B.C., when the first farmers arrived in this country, and work up from there. I am not going to ask you to cast your minds back quite so far, but I think I ought to say a little about the period that began on the eve of the Industrial Revolution, because a great deal that concerns our position to-day is based on things that happened a long time ago.

Let me try to give you a picture of this little country as it was 200 years ago. The population around 1750 was about 7 millions, and it had been increasing only very slowly for the preceding 200 or 300 years. Historians have argued a good deal as to why the population should have been so small and as to what had been keeping down the rate of increase. It is quite certain that the birth-rate was very adequate. If you look up old family papers of those times you will find that somewhere between eight and a dozen was quite a normal family. And you will find that there are few accounts of major famines. If we had been living in 1750, only the older amongst us would have remembered the last serious dearth, which happened in what we, in Scotland, called 'King William's years' and which fell just before the end of the seventeenth century. The fact was, of course, that the incidence of many fatal diseases was vastly greater than it is now. Smallpox was perhaps the worst, but diphtheria carried away great numbers of children; there was typhoid fever; tuberculosis was very common, and so forth. The population was kept down by a high death-rate and a very high infant death-rate. It happened, however, that medical knowledge began to increase very fast soon after the date that I have mentioned. We got, first of all, a rather crude inoculation against smallpox. Then followed a general

improvement in sanitation, which cut down the death-rate, and more particularly the infantile death-rate, very greatly. The picture that you can piece together for 1750 is one of a very reasonably well-balanced and fairly prosperous economy. We still had between 4 and 5 acres of potential farm land for each head of the population, which, according to all the estimates, is ample to support a good standard of life: and we were more than self-sufficient in all our basic foods. We did import certain things—we were beginning to import substantial quantities of tea, and we had long been importing spices from the East—but our basic foods were produced at home, and in good seasons we had a surplus for export. We had very flourishing domestic or cottage industries—more particularly woollens. For a long time, indeed, we had exported our raw wool to Flanders, to be manufactured, but by 1750 the bulk was being manufactured at home, and we were selling quite large quantities of woollens and other less important commodities for export. The standard of nutrition seems to have been very adequate.

But now the population began to increase very rapidly, and in the next hundred years it trebled; it rose from about 7 millions in 1750 to about 20 millions in 1850. That represented the achievement of medical science, and, as has happened elsewhere, the doctors' success resulted in a challenge to the farmers. On the whole, our great-great-grandfathers rose to the occasion very well. During these hundred years, when the population was trebling, the level of production pretty nearly kept pace with the increase in the numbers of people that had to be fed. It is true that the standard of nutrition, in the scientific sense, deteriorated during the century. But the deterioration was not, in the main, due to a shortage of food; it was partly due to fads and fashions and misunderstandings about food, and partly to the redistribution of population. People were concentrating in towns because of the Industrial Revolution, and many of the new towns were situated in quite barren parts of the country. Obviously, before the days of railways, there were difficulties in the supply of milk, green vegetables, and fresh food to the urban populations. That was one cause of malnutrition. The other one was the very misguided fashion for white bread. The upper classes had long had white bread, made out of pure wheat, and it was the ambition of others to have the same—perhaps largely a matter of pride and prestige. But the rich had a balanced diet, including a very large meat consumption, whereas the working population, having little meat, little milk, little in the way of fresh vegetables, suffered greatly by the change to white flour. There were some bad seasons in the 1780s, and temporary

scarcity, but there was little anxiety about the long-term supplies until the 'hungry forties'. I sometimes think that future historians, if they use the phrase, will have to say just which forties they mean. Anyway, the 'hungry forties' became a proverb. The fact is that British farmers were just beginning to fail to keep abreast with the growth in the demand for food. They had kept up the fight for a long time. We had our inclosure movement, when a great many very inefficient little family farms were swept away to make room for large-scale commercial food production. This change was not universal, but in the grain-growing districts of the east, and later on in the highlands of Scotland, the big fellows came in, producing cereals and meat in the lowlands, wool and lambs in the mountains. We all know that the inclosures caused a good deal of social injustice and a good deal of human misery, but the change was good from the point of view of volume of production.

Next, some of our major improvements were simply copied. In 1750 our farmers looked to Holland and Flanders for improved methods of farming. Red clover was one introduction that had a very marked effect on the fertility of our soil; the cultivation of roots and the proper winter-feeding of stock were learnt from Flanders also.

Another thing that happened after 1760 was that in those areas where wheat was not easily grown—for instance, in the wet north-west of England, the western part of Scotland, and throughout Ireland—potatoes became the staple calorie food. Potatoes took the place of bread as the staff of life.

British farmers, we think, learnt the value of lime from the Romans, but a new and important discovery was made in England about 1820. Our farmers would not have said that they discovered the importance of phosphate in plant nutrition, but they found that bones, on much of our land, had a very remarkable effect. The introduction of phosphate fertilizers was a very notable step of progress. Also we had some quite notable plant selectors, farmers who picked out better varieties of crop plants, cereals particularly. Again we had our Bakewell and the Collings and all the other pioneer livestock improvers. By these various means and others, production more or less kept pace with the growth of population. To take one example of what these improvements meant in terms of yields, the best estimate that can be made of our average yield of wheat, in 1750, is about 15 bushels an acre. And by 1847, when Wilson made a rather careful estimate, the average was about 22 bushels. Our yield to-day, of course, is about 31 bushels, but this is obtained from a smaller

acreage of the better soils. We have no official statistics going as far back as the forties, but MacCulloch's estimate for 1847 approached 4 million acres. This is more than we had in the seventies, when official returns gave about $3\frac{1}{2}$ millions. We are growing 2 million acres to-day. Thus in the forties the emphasis was very largely on cereals and potatoes; the dairy herds were still small. Sheep flocks were large. The output of vegetables and fruit was quite small.

What finally upset the precarious balance between food supplies and requirements was the weather and the sudden appearance of potato blight. 'The rain rained away the Corn Laws' and Late Blight was the prime cause of the Irish famine. The Corn Laws had been based on the assumption that we could remain substantially self-supporting. When we had great abundance in this country, plenty of cheap wheat at home, then the duties automatically went up and thus shut out foreign wheat. When we had short crops and prices rose, the duties automatically fell. It has often been said that the Corn Laws were imposed by the landed interests, and it is true that most of the members of the House of Commons in those days had their main stake in agriculture. But it is also true that in the forties there was no really considerable source of grain imports. It was argued at the time that, if you allowed an occasional flood of imported grain to swamp the market, then low prices would deter farmers from expanding their production, so that the country would, in the long run, be worse off. But the Corn Laws were repealed and we became a free-trade country. It is worth noting that Europe split on this question of tariffs. We and Holland and Denmark and Belgium went (not all at the same time but ultimately) the same way. We admitted grain duty-free and, in the long run, we got the advantage of cheap imported feeding-stuffs, and were able to expand our livestock industry. France and Germany never took that course. They went on as we had been doing before the 1840s, with Corn Laws based on the idea that they must remain substantially self-supporting, and that they must not depend on cereal imports from the low-cost producers in the new countries. Incidentally, after all the bitter controversies and all the predictions of ruin to British agriculture that would follow the abolition of Corn Laws, the Corn Laws were abolished, and no disaster followed. The volume of imports remained quite small, and prices remained high for another generation. Agriculture was extremely prosperous—indeed, we reached the very hey-day of our prosperity in the sixties and early seventies of last century, after a quarter of a century of free trade. That period, the sixties, we still look back to as the Golden Age of

farming. And certainly the big-scale tenant farmer, producing grain and meat, had a very good time. In areas of large arable farming like Lincolnshire the farmer drove his carriage and pair, ate late dinner, and cracked his bottle of port. His old grandfather must have turned in his grave. Anyway, high rents were paid, high profits were made.

Prosperity lasted until about 1875, and then things took a different turn. Really large areas of virgin land of one sort or another began to be broken up, and wheat was abundant. Rather earlier Australian wool had begun to arrive in quantity, and imports seriously affected the incomes of sheep-farmers. Farming took a very heavy knock in the eighties and nineties. It was difficult to adapt the industry to the new conditions, and those who were stubborn, and refused to change their ways, broke. If you go down into Essex and talk to the old people, they will tell you about the old gentlemen-farmers who dined late and had their bottle of port and drove their carriages and pairs, and determined, in the eighties and nineties, that they would go on growing wheat in spite of the Americans. They went bankrupt, one after another. Some of the farms lay derelict for a year or two, but very few went out of cultivation altogether, even on the very strong clay land which had been very largely devoted to wheat. What happened was that my hardy countrymen from Scotland came down in droves, with a very few hundred pounds in their pockets, told a story to the bank and a story to the landlord, took over the farms and lived in the kitchens of the big farmhouses, did two men's work themselves, and gradually built up Essex farming on new lines. The new lines involved a major change of emphasis, away from grain-growing on to milk production, away from the basic food crops to fruit and vegetables, and, with cheap imported feed-grain, a marked development of poultry- and pig-farming. Such adaptation was getting along fairly well by about 1900, and the worst of the depression had passed. My own recollections go back to that time, on a tenant farm in eastern Scotland. Only the very best corn-land was left under corn. Pastures were being improved, milk production increasing, and there was a return of confidence. That lasted up till the First World War. Then we had a short burst of wild inflation, and then a crash. Those who had speculated mostly went bankrupt, those who had not mostly survived, though often by a very narrow margin and by severe sacrifices of their living standards. The depression was, on the whole, less severe in this country than in the food-exporting countries, but things were bad enough. By this time our population had reached 45 millions, and our potential farm-land had long ago been fairly completely exploited. Indeed, it had been

over-exploited, because a good deal that had been brought in during the forties and fifties had become submarginal by the nineties. In the period between the wars we were producing in terms of calories about 34 per cent. of our food. In terms of money values the percentage was higher—about 40 per cent. This was because we were concentrating on the high-value commodities and importing chiefly the cheaper sorts of foods.

Despite the obvious difficulties, we expanded production very considerably during the war. It is difficult to put this expansion in terms of a simple figure because the make-up of our dietary changed considerably. But the physical volume of output, at pre-war prices, may have risen from 34 to 45 per cent. The increase in terms of calories was greater. Some of the calculations that were made during the war were in terms of shipping tonnage saved, which had little to do with nutritional or money values. At present, of course, we are thinking of money values, and particularly of our balance of payments. In this respect our position has greatly changed.

During the long period when Britain was the leading industrial country in the world we not only shipped abroad large quantities of what you might call consumption goods—textiles, pottery, and what not—but also vast quantities of capital goods. For example, we built the Argentine railway system and retained the ownership quite largely in British hands. By such means we built up very large overseas investments, and during the present century we were living, to a considerable extent, as *rentiers*. We have been obliged to sell most of these investments during the war or since. That is one important point.

A second point is that we had, up till 1914, a very large share in the world's carrying trade. But we lost the great bulk of our tonnage during the war; that source of income is therefore largely gone for the time being. Again, we did a very large insurance, banking, and financial business; that has declined very much.

We are, then, in a very great difficulty; we have lost a very large proportion of our overseas income, whereas we are still dependent on other countries for a very large proportion of our essential foods.

The plan that Lord Huntingdon put before you is a four-year plan. It is a matter of necessity under present conditions, but it is, in its very nature, an emergency programme.

I would therefore like to talk now about our long-term agricultural policy, bearing in mind not so much the immediate crisis as the long-term future, based on the idea of trying to do what is reasonable from the world standpoint.

Part of this new policy is embodied in our Agriculture Act, which you can study. But before that Act was passed we had settled certain rather important matters of long-term policy. The first question we asked ourselves was how to make British agriculture more efficient. That, as we see it, is a question of more education, more research, and a better extension service. We have planned a considerable expansion of our farm institutes, colleges, and university departments. We have set ourselves an immediate target of providing some 10 per cent. of entrants to the industry with, at the least, a year's technical education. On the research side we have, at one time or another, played a notable part. But during the latter half of the nineteenth century, from seventy-five onwards, nobody seemed to care very much about British agriculture. It was a side-line. We were bound, we thought, to depend on other countries for our food; we could get our food cheaper by exchanging manufactures for food. From the seventies onwards we definitely fell behind in provision for research. We have been doing better lately, and we have a considerable plan of expansion—a vegetable research station, an animal breeding research organization, a major expansion of our grassland research work, and various other schemes. Indeed, we have, for the first time, thought out a comprehensive research organization.

Thirdly, we have reorganized our extension service; that has been my particular job and perhaps you will excuse me if I speak in a little detail about it. We have had an extension service of a kind, in certain counties, for about fifty years. About 1891 several counties appointed what you in America call county agents, part of the cost being borne by the central government. Twenty years later we came to the conclusion that these field-men—all-round useful agriculturists—required support in the way of a laboratory service from soil chemists, entomologists, mycologists, &c. So we set up, in a number of universities, little teams of advisory scientists. Next, during the Second World War we made the discovery (which has been made in many countries) that extension services can be made much more effective if the salaried officer can have the support and co-operation of the progressive farmer. The point is that the inefficient farmer will accept from a successful farmer advice that he would not have accepted from a paid extension worker. The third major step was therefore to set up our present committee system.

We have now reorganized the Advisory Service on a national scale. We have done so partly because we found it impossible to provide, county by county, the service that was needed so long as we depended on local funds. Some counties are rich and progressive,

others are poor or unprogressive or both. We tried, indeed, various means of encouragement, but we were driven to the conclusion that it would be better that extension should become a state service, paid for entirely by the central government.

Another consideration was this. Farming is becoming more and more complex and more and more scientific, and the time has gone by when one man can act as a know-all adviser and tell every farmer all that he needed to know. We have therefore increased the degree of specialization in the service, and have created posts for pasture specialists, machinery experts, and many more. Our county advisers and district officers are now in very much the same position as the general practitioner in medicine; they can deal personally and immediately with certain problems. But in a great many cases they must call in the specialist.

This co-operation of the Advisory Service with local committees, this increase in the degree of specialization, and the placing of the service on a national basis, are three of the main changes that have been made.

The fourth is the setting up of a number of what in America would be called 'out-stations'—what we are calling Experimental Husbandry Farms. We have in the past been restricted to a few main experiment stations, like Rothamsted, and to experiments carried out on the ordinary commercial farm. We are setting up about a dozen experimental farms to test out, under a variety of soil and climatic conditions, new varieties and strains of plants, new fertilizers and systems of manuring, new methods of grassland husbandry, and so on. One way and another we believe that, in time, the Advisory Service will greatly help to raise the efficiency of our agriculture.

Now what more do we need? Of the various principles underlying the Agriculture Act I can mention only three which I think are fundamental. The one is that agricultural efficiency depends very much on security of tenure for the good farmer. We have been struggling with this question of the tenure of agricultural land since the seventies, and many people, including visitors from overseas, have said that we had found a solution even before this last Act. As things stood before the Act the tenant had the right to have his rent fixed by arbitration; if he was farming the land with reasonable efficiency he could not be evicted without being given compensation for disturbance. All the improvements that he made in the way of liming, applications of phosphates, sowing of pastures, and so forth were paid for when he left the farm. Security of tenure, with compensation

for improvements for the good tenant had long been the basis of our law. But there were one or two remaining difficulties. Let me just mention one. A farmer goes to the landowner and says: 'I am very anxious to turn over to dairying, and therefore I want a cow-shed and a water supply, in order to be able to produce good milk.' But the landlord says: 'I do not want this to be a dairy farm', which may be reasonable or it may not. Under the old law there was nothing more to be said. The farmer could indeed put up the cow-shed, but if he did so without the landlord's concurrence he sacrificed his right to compensation when he left the farm. Under the Act there is an appeal, in such matters, to the County Agricultural Executive Committee. It is for the committee to say whether or not the cow-shed is a reasonable proposition. If they decide that it is reasonable, the tenant can erect it, and the landowner is bound to take over and pay compensation when the tenancy ends.

The second new provision is security of price. I assume that you know our scheme of price-fixing, with its four-year forward guarantee of floor prices in the case of livestock products. The object is to ensure price levels which will provide a margin of profit to the efficient producer. It is not very difficult to establish the cost of production of a particular commodity by the reasonably efficient producer. What is more difficult is to predict the quantities of various commodities that will be produced under a given price schedule; we may, for reasons that have to do with seasonal conditions, get too much of one commodity and too little of another. And there is an admitted risk that we may encourage high-cost production, in this country, of things that we ought, in reason, to import. But I think most of you would agree that, in the past, untold harm has been done, to consumers and producers alike, by periodic depressions in farming, and that it is sound, in principle, to try to ensure that needed food-stuffs should command prices that will enable the farmer to maintain his soil and his plant in good productive condition. We must, I suggest, take long-term views about this long-term business of food production. Anyway, that is the philosophy behind this scheme of guaranteed prices we are planning to keep the farming business reasonably profitable, in order that we may keep our land in good condition.

Next we come to the medicine inside this sugar-coated pill. The outside is security of tenure and security of prices; the inside is composed of sanctions against bad farming. This is only fair. Another point is that, in a country like ours with a very limited amount of land and a considerable number of people who want to

use land for other purposes than food production, we must, as we see the matter, ensure that good farm-land is used to grow food. Obviously the operation of these sanctions presupposes that committees will have the courage to deal faithfully with bad farmers and bad landowners. I hope they will, and I believe they will be encouraged to do so because they are not the final authorities; there is the right of appeal to a tribunal; so that they will not feel that they themselves will be finally condemning farmers to lose their land. Much, however, does depend on the spirit with which the Act is operated by the committees.

I have attempted to sketch our long-term policy. Meantime we must do our utmost to restore our balance of payments, and we must continue to guide and encourage our farmers into dollar-saving forms of production. Our goal must be increased production of things for which we have, at present, to pay in hard currency.

As I said, we were producing before the war 40 per cent. of our food, reckoned in money values. We want to do 50 per cent. better than that by 1951. But we have certain fairly clear ideas as to what we ought to do in the long run. For instance, how much wheat ought we to grow, in a world where normal trading has been restored? Several people have made estimates, and most have got an answer of the order of 2 million acres; in the seventies, before there was much in the way of overseas wheat, we were approaching $3\frac{1}{2}$ million acres. Our four-year programme of $2\frac{1}{2}$ millions goes beyond what we think is good farming. We would rather, as farmers, grow 2 millions than $2\frac{1}{2}$ millions. We are growing more potatoes than we should grow if good farming were our sole object. On the other hand many of our small men would very willingly continue to produce pigs and poultry at the full levels envisaged by our four-year plan.

We have no doubt that our emergency measures are essential to our survival. Our plan is not, I assure you, a piece of economic nationalism. We shall be willing, when conditions permit, to co-operate in framing an overall plan which will provide, in the most efficient way, the essential food that the people of the world require.

Professor McBride: I would like to ask to what extent your agricultural advisory system goes into the problems of marketing with the farmers.

Scott Watson: Well, our marketing policy is not really drafted yet. It is not certain whether the Ministry of Agriculture or the Ministry of Food will have the job of taking care of post-war marketing. At

present marketing in the old sense is almost non-existent. Beef steers are sent to a grading centre and graded; they are then weighed, and the cheque for payment is sent from the Ministry of Food. Wheat can only be sold through an authorized merchant who is acting as the agent of the Ministry of Food. Thus our home marketing position is something that we would have regarded before the war as quite abnormal. What the future is nobody knows. Our advisory officers are, of course, prepared to handle matters of grading and packing—i.e. they give advice on preparation of material for the market; but marketing policy is still very much in the air. We have, as you know, certain producers' boards like the Milk Marketing Board, but they are at present working as parts of the Ministry of Food.

Norton: I understood Mr. Watson to say that before the war you were producing one-third of your food, and it was stepped up during the war. Now this new plan aims at producing 50 per cent. How much increase is the 50 per cent. over the present position?

Scott Watson: It is 20 per cent. If 100 is taken as the pre-war level our goal is 150; if 1944 (which was our peak year) is 100 our goal is 115; if 100 is our present level our goal is 120.

Renne: I got the impression you are going to pay the agricultural advisers entirely from state funds, and I wonder if you would comment a little further on that. Some of us feel that one of the strengths of agricultural education services over a long period of time is to have the counties or the local authorities pay a proportion of the total cost of services, the feeling being that where something is got for nothing there is not the full appreciation or effectiveness.

Scott Watson: Well, that argument was put to the Luxmore Committee which first made the recommendation that the Advisory Service should be nationalized. There is something in it; there are numbers of people who really appreciate a thing only if it costs a bit of local money; but it did seem to this committee that there was a balance of advantage in nationalization, and in meeting the whole cost from the state. We had tried the other way; for a long time the state was paying 60 per cent. of certain items and 75 per cent. of certain other items, and asking the county to do the rest. But there were one or two counties which did just nothing; and we feel that we cannot afford to have any counties doing nothing in the way of extension work.

Schmidt: I am not entirely satisfied with your statement that you are going to cover about 50 per cent. of your demand by the production of your own country, compared with about 30 per cent. in

pre-war times. I am very anxious to know how the proportions will work out for the different foods, particularly bacon, eggs, butter, and some other animal products that you used to import. I have calculated that my country, Poland, would be able (if our agricultural policy does not prevent the farmer from expanding production) in about two years to cover all your demands for bacon, calculated in pre-war figures. I do not think it would be possible with eggs and butter, as we will still be short of them. But as in our case with bacon, some other countries may be able to do it with butter and eggs.

Scott Watson: I hope I made it clear that this goal of 50 per cent. of our food requirements is a special effort to meet special circumstances. We cannot see at present how we are going to be able to buy more than 50 per cent. of our food from overseas—how we are going to pay for it. I had this same problem put to me in Canada. I happened to be up in western Canada at the time when we were trying to persuade the Canadian farmer to go into bacon production on a bigger scale; I said how good the Canadian bacon was, which happened to be very true, and how very important it was during the war, when we were cut off from Danish supplies, which was also very true; and they listened very respectfully. But somebody said: 'Well, this is all very well. We are very happy to let you have bacon just now, but we would also be very happy to know that we are building up a permanent market for bacon.' What could I say to that? The best that I could say was that we like their bacon very much; we would gladly eat twice as much as they were sending then, but how, after the war, were we to pay for it? That is my answer to Poland also. If you can think of goods that we can supply to you and which you would take in exchange for the bacon, we will be very happy indeed to eat Polish bacon.

Lee: You said that the Agriculture Act gave powers to eject inefficient farmers from their farms. In that case would the farmers if they were also owners consider it an infringement of their rights of property.

Scott Watson: Not all farmers, of course, do accept the position, because we have quite an association of dispossessed farmers. I believe they claim more than a thousand members, and certainly they could claim that number because far more than a thousand farmers have been dispossessed during the war. Also we have a minority of people who are continually saying that we are going to the dogs in this country, that we have got a dictatorship, and that these committee members, decent fellows as most of them are, have

a lust for power, and like throwing their weight about and telling farmers where they get off. I do not think that is a true picture. If in the opinion of a district committee a farmer is not doing a good job—is falling far short of the possible production from his farm—they report him to the county committee. The county committee send down, perhaps, their chairman and two other members to have a good look round. They may agree that the state of affairs is very bad; in that case (unless the man had been warned before) they would place him under supervision for a year. If there is some improvement at the end of the year, he may be supervised for another year. But he would be warned that if there was no improvement at the end of the year his tenancy would be terminated, whether tenant or owner. There is, however, an appeal to a tribunal, in order to avoid any risk of local jealousies or local spite having had some bearing on the decision. These appeal tribunals consist of good technical people, with a legal man as chairman, and the farmer or the landowner has a right of appeal to these before his notice becomes effective. I do not think that it can be fairly said there is anything dictatorial about the procedure; there are sanctions, but there are also reasonable safeguards.

DeGraff: We have been hearing something about an expanded rural housing programme, and I find myself a little bit uncertain about its relation to the long- and short-term aspects of your drive for efficiency. You point out that you do not know just how much of the current programme is going to be a long-time affair. In the States we have found that with expanding efficiency in our agriculture we had more than enough rural housing. That is true over most of the States although not in all areas, of course. I am further impressed by the fact that a house in England is a pretty long-term proposition. We surely have seen that in the short time we have been in England. Further, as we were told this afternoon that the amount of lumber to be used in a house is very limited, I presume the house for the most part will be constructed of masonry, again indicating that it will be a rather long-term affair. We further saw on a farm in Hampshire that with economy in the production operations the amount of labour used was very materially less than I gather that it is on many English farms. One of the things that has impressed me, and I think some others of the Americans, is that labour is still used much less efficiently in English agriculture than it is in agriculture in the States.

Now, as you follow a programme of long-term efficiency aiming at a 20 per cent. increase in your agriculture, how much additional

manpower are you going to need in English agriculture? How many of these additional cottages now proposed around the countryside are going to remain there as a permanent asset to English agriculture, to the British economy? Perhaps the same effort of labour and materials for construction of farm cottages might better go into export industry with which to buy Polish bacon, if not American eggs.

Scott Watson: This housing business is very difficult. It is true that on many farms the manpower requirements have been cut down very largely by the introduction of tractors, combine harvesters, and so forth, and you will find farms that formerly employed 10 or 12 men now running quite satisfactorily with 4 or 5. That must be kept in mind quite clearly in relation to housing policy. I think the answer is this: we have a great number of extremely unsatisfactory workers' houses in the country; let us make do with these for the time being; let us put up some good houses which are going to last; and let the old wretched little cottages fall to pieces in due course. Some decent new houses will attract the sort of men we want to work on the land, and later, if we find that our labour requirements are going down, knock the old cottages down, or we might take them down, stone by stone, and send them to America!

Norton: This question is purely for my information. I understand that these county agricultural committees consist of farmers and have administrative responsibilities. You also have local county advisers who are the general practitioners of your Advisory Service. What is the relationship between the local county advisers (not the specialists at the regional centres, but the local men) and these county agricultural committees?

Scott Watson: The arrangement is quite simple. Our district officer, who takes care of about a thousand farmers, works with the district committee. In certain matters he is their servant. They have certain work to do, and he acts as their secretary and their executive. The neighbourhood committee, as you would call it in America, is served by our district officer, who is a member of the National Advisory Service. Similarly the chief general adviser in the county is at the same time the executive officer of the county committee. You may say that all our people will be serving two masters; the fact is there is one man only in each county who has to serve two masters. He has to serve the executive committee and also his provincial director in the National Advisory Service. The rest of the county staff take orders from this one man. The provincial director attends the meetings of the county committee, and so we get co-ordination there at committee level.

This man combines education and administration, and the balance between the two is important. Given a proper balance the arrangement should work well. Suppose your district officer is giving perhaps 20 per cent. of his time to administrative work, checking up acreages and that kind of thing—he has an administrative reason for going to a farm. As he walks round with the farmer, some advisory question crops up, and he has an opportunity to gain the farmer's confidence. One of our great difficulties before the war, when we were purely advisers, was that about two-thirds of the farmers never asked us along at all. They did not think we could help them. We got our flood of inquiries from the really progressive men, who always wanted to know the very last word about everything, and we made no contact at all with the fellows who really needed the advice. We believe that the moderate amount of administrative work which we hope our fellows will do in the long run will be an advantage rather than otherwise, because it will give them a reason for visiting every farm every so often.

Jesness: The question I am about to ask is not one to which a specific answer can be given, and in that sense it is not a fair question. I ask it for the sake of trying to explore the longer-run situation we find ourselves in. I would like to preface the question by a brief explanation of some of the things that lead to it. I find myself disturbed to the point of pessimism over some angles of the past few days. So many of us have been very ready to give prompt explanations of why we are doing certain things and of the conditions that have led to doing those things. We have shied rather consistently away from exploring the longer-run consequences of some of the things we are doing. I am not asking you to indicate to us what the longer-run consequence is going to be, but what I would like you to do, if you are so inclined, is to indicate any line of thinking that may have been going on about how we are going to get back into a situation in the world when it may be possible for Great Britain to operate in a way which we might regard as more normal with respect to meeting its agricultural requirements. It is a very important question from this angle. I suspect that I probably have employed more hortatory efforts than any member of the American group with our farm people at home to impress them with the tremendous interest they have in world problems, and the tremendous responsibility they share in doing their utmost to find a way out of the world's difficulties. But I come face to face with the problem: am I going back to farm people and tell them that the United States must follow a policy of long-run investments; or at least temporary investments

for a longer run which will help restore the world, and then be faced with the prospect that most of the countries of the world, including Great Britain, are following policies which are inherently nationalistic in nature, which are going to make it extremely difficult for our nation—if we can get our people to accept the point of view—to follow out that line? It seems to me, in this case where we are becoming kind of interested in assuring everyone's security, that we are not giving all the weight we should to utilizing resources, or developing the most efficient sources of supply, for the satisfaction of human wants. Unless we do the latter we are definitely working in the direction of lowering the levels of living in the world. Could you indicate any line of thinking that may be going on to see how this programme which Great Britain has now embarked upon can be made to shift effectively over the longer run, that of building the better world that I think you and I would like to see?

Scott Watson: This raises a lot of very fundamental questions; such questions as: Should a little country like this have a population of 45 or 47 millions at all? I notice that an Australian immigration man has been saying that we ought to cut down our population to the extent of 10 or 15 millions by spreading them about other Empire countries. That is one thought about the future. Another one is that this economic jam that we are suffering from at present—I mean our particular crisis in Britain—is due to over-enthusiasm on our part. It is very hard, you know, to get the general run of people to believe, with all the money that there is about, that we are so very much poorer than we were ten years ago. That is one fundamental difficulty that we are up against. Everybody's wages are going up. Everybody thinks we now have an opportunity to work shorter hours and to get all the money we want by working these shorter hours. The bulk of our people have only quite recently begun to realize the fact that we are very much poorer than in 1939. Then, in this world everybody has his or her own particular schemes that they want to see carried through. I happen to have been a member of the Central Advisory Council on Education and most of my colleagues were professional educationists. We drew up a marvellous report containing a brave new educational plan; we said how essential it was that all the grubby old schools in this country should be knocked down and replaced with beautiful, well-lit, airy buildings. At the same time we said to people: 'You've had your houses knocked down and you've had your furniture destroyed, and we are going to see to it that your houses are rebuilt and you are supplied with lovely new furniture as soon as possible.' And we say that the

railway companies which have allowed their tracks and their rolling-stock to get into a deplorable condition should have their railways reconditioned as soon as possible; and we say that we lived pretty hard during the war and it is very important, from the point of view of morale, that we should get our few luxuries like pineapples and peaches as soon as possible, and so with other things. All that is the matter with this country is that we have been trying to do too much all at once, and we have landed ourselves in this muddle as a consequence.

If we had fully realized how poor we were, how hard we had got to work, and how bare we had to go on living for a few more years, I believe that we should not have been in this jam to-day. I do not think it is too late now. I believe we shall come back to a situation where we shall not be burdened with these fears of imminent starvation. I believe in time we shall restore our industry and build up our export trade. We are building shipping very rapidly, and I think we shall want to trade with the world at large as soon as possible. There are different explanations of the mess that we find ourselves in at this moment. I am only giving you my own personal one. We have attempted far more than was possible with our available resources. We have spent our dollar loan; people have to some extent lost confidence in our pound. But I do think the great majority of the people are realizing the situation now. We are not counting on any more help from anybody. We are going to see this thing through, and I believe not only that we can regain a reasonable standard of life but that we shall do so sooner than many people believe. I know that that is not answering your question, but I thought I would like to convey my own personal view about the position.

Bartlett: I want to raise one specific point about what was told us here about the purchase of farm supplies. We were told that nitrogen and potash were monopolies, likewise superphosphate, feeding-stuffs, and farm machinery. We had those same monopolies in the United States in the sense that there is an inherent tendency towards monopoly. The question is whether we tackle it or whether we dodge it. On the farm where I grew up, in a predominantly dairy section in north Vermont back in 1916, my father joined another group of farmers and organized a farm supply company for the purchase of feed, fertilizer, and seed. It nearly failed in 1920, and the board of directors of nine had to find their personal notes and were liable for the bills received. But out of this emerged the larger co-operative, the Eastern States Farmers' Exchange, which sells in that area now about one-fifth to one-quarter of the total supplies and

acts as a pace-setter in breaking up the fertilizer monopoly, the feed monopoly, the seed monopoly, and so forth. Then when I went to Illinois the big problem was oil and petroleum; farmers went into the co-operative purchase of oil supplies. At the present time in Illinois about 50 per cent. of all the farm supplies of petroleum and the like are purchased through the farm co-operative and about 50 per cent. are handled by Standard Oil, Texaco, Shell, and so forth. We have rigorous competition between those two groups, the co-operatives versus the private trade. In my studies of milk marketing which three years ago covered the country, among the things that we found was the large amount of inefficiency in the retail distribution of milk. In one large city we found that the largest dealer (one of the five largest in the country) used 3.09 hours of labour per 100 gallons of milk for plant operation, and in the same city a dealer handling one-fifth the volume used 1.46 hours of labour for handling the smaller volume of milk. The question which comes to me as I see this process of confiscation (you can call it what you wish) of the inefficient farmer is this: On grounds of equity on the one hand and of productivity of the economy on the other, are equally strong measures being suggested and followed through with your fertilizer monopoly? Are these other channels being explored so that the inefficient in the fertilizer business, in the feed business, in the farm machinery business, and among the milk distributors, are squeezed out in the same way as you are squeezing out the farmers? I recognize that your objective is food, but it seems to me that the problem is just a little larger than squeezing out the inefficient farmers.

Scott Watson: That raises several very distinct questions. One is, how far are farmers' co-operatives competing with merchants and manufacturers in this country? This varies a good deal from place to place; for instance, in Wales you will find a farmers' co-operative in almost every small village. There are reasons for that, partly that there is a large majority of small farmers who are really driven to co-operate. For example, the marketing of milk and the delivery of small quantities of fertilizers could not be handled successfully without co-operative societies. I happened to farm for my college in Oxford, and we were members of two co-operative societies, one of which had a feeding-stuffs mill and the other was just a trading concern. We bought fertilizers through one co-operative and the bulk of our feeding-stuffs through the other. I think the co-operative societies are very useful, if you put it no higher than that, in keeping the ordinary traders up to the mark. I am not quite sure about what

we mean by a monopoly. For instance, in the feeding-stuffs trade we have too many small merchants competing one with another. If you had gone around to small markets in the days when feeding-stuffs were abundant, you would have found that the number of people who were trying to sell feeding-stuffs was quite obviously wasteful. There was no question of monopoly. The thing was rather the other way—too many people competing for the available business. One or two of our farm requirements are getting into rather a small number of hands. For instance, the bulk of our compound and concentrated fertilizers are now manufactured by two large industrial firms.

The next question was: if you are going to demand efficiency from the farmer do you make a similar demand on everybody who is in any kind of trading or manufacturing business related to agriculture? It is not merely that food is the first essential for life; it is rather this: We are adopting a very special measure with regard to farming. We guarantee prices four years ahead. We give the good farmer security of tenure. Surely, in return for these benefits, we ought to insist that the land is not misused. You cannot put up that argument about a man who is trading in feeding-stuffs, or even manufacturing fertilizers. We are not going to guarantee his margin of profit four years ahead, and tell him that nobody is going to turn him out of his works. We cannot do that in general, and therefore we cannot in reason make the same demand for a standard of efficiency.

As regards milk marketing in this country, the consumers in the early days of the Milk Marketing Board said that the producers were running a monopoly. Producers under our marketing scheme did have complete control of the liquid milk supplies, and consumers were apt to say that the farmer was working a ramp and running a monopoly in the milk business. If there was room for complaint, it was not with the distributors, because great numbers of distributors were in competition, whereas the original suppliers, the farmers, were organized into a solid bloc. We have inefficient milk distributors, there is no doubt about that. We have also some very efficient distributors. But we have not yet got to the stage in this country where every single business and every single business-man is going to be subject to inspection by officials, and is going to be put out of business unless he reaches a certain standard of efficiency. However far we carry planning, I do not believe we can carry it as far as that.

Ihrig: There is in this plan one point I would like made clearer. Who will bear the final burden? I use the word burden rather than

cost, because if you produce goods which you could buy abroad at a cheaper price, that means some burden on the national economy. Is it consumer or taxpayer that bears the burden? If it is the consumer, the level of consumption must be curtailed, and the consumers, who form as far as I know 80 per cent. of the population in this country, will not be at all satisfied with this kind of planning. Or if the consumer can only meet the cost-cover by increased wages, that will endanger the export competitiveness of British industry. If, on the other hand, the taxpayer has to bear the burden, how do you think it can be prevented that at least part of the burden will not be shifted from his shoulders?

Scott Watson: How this last increase in prices is to be borne has not been decided. My Minister's reply last week was that it was a matter for the Chancellor of the Exchequer. But it is true that we are preventing a rise of prices to the consumer by very large food subsidies. The food subsidies are about evenly distributed between imported products and home products. That is to say, of a subsidy of something approaching £360 millions a year, which is being paid by the taxpayer in order to stabilize the prices of food, roughly £180 millions is being paid on our home-produced food and the other £180 millions on imported food. It is not a question affecting our home production alone. It is a question of stabilizing the cost of living by making the taxpayer carry the rise in costs of imports as well as higher prices to our own farmers. Actually, at the moment, our wheat from the United States has been costing us more than the wheat which we are producing at home. That may probably be a temporary situation. But then the prices which we are offering now to our own farmers may also be temporary. We have guaranteed for livestock, it is true, floor prices for 1950 and 1951, but the floors that are guaranteed are substantially lower than the prices that are being paid now. We commit ourselves to a price-level for this year, and we say to the farmer who is producing beef, which is a long-term process: 'You shall get not less than £x four years hence', but the floor price is normally a good deal lower than the existing price. There is no guarantee that existing prices will be kept in force for an indefinite length of time.

Whether it is a wise policy that the taxpayer should subsidize the consumer, by means of subsidies on food, I just do not know. It is not a question for a plain farmer like myself. I do agree that there is a very great danger that, if the cost of food gets too high, we shall have to raise wages. We shall then be high-cost producers of the things which we want to sell, and we shall not compete successfully in world markets. Some of our economists, I think, take the view

that we did a very wise thing when we went for free trade in 1847, and that France did a very foolish thing by sticking to high import duties on food; they raised farm prices because they wanted to obtain high production. This is the basis of a very nice argument, and I am certainly not competent to deal with it, but I do very clearly see your point that if we raise prices of home-produced food too high then we shall create a handicap for ourselves as high-cost producers of industrial goods.

Sherman Johnson: A 20 per cent. increase in production on top of your war-time increase seems quite a large increase. I am wondering how you are planning to bring it about?

Scott Watson: There are certain conditions attached to it. For instance, the plan assumes that we are going to import 4 million tons of feed, and about 20 per cent. of the target is to be obtained by converting imported feed into bacon and eggs in this country. That is one section. Another section is to be produced by raising the acreages of certain crops. Linseed, for instance, at the moment is costing us a tremendous price. If we can push up our output of linseed to 400,000 acres, as we plan, there is an addition to the total. Then the acreages of barley, wheat, and so forth are going up, and, of course, the value of these is, generally speaking, higher than the value of the output from an acre of grass. But nearly half the increase is based on the assumption that we can get a 2 per cent. increase in all-round efficiency each year for the next five years. Now is that possible or is it not? I went round five farms on the Scottish Border and in Scotland last week, and I had this idea in my mind all the time. Could this farmer increase his efficiency at the rate of 2 per cent. per annum for the next five years, making a 10 per cent. increase in all? From two of the farms I came away with the feeling in my mind that I could not do a darn thing about it. These farms were already so very intensively and very efficiently managed that if I had concentrated the whole of my 1,200 advisory officers on them I could not have raised the output by 1 per cent. But there is such a wide spread between the most efficient and the least efficient of our farmers. To take one particular commodity, milk is our most important in this country. We have had large numbers of farmers producing about 8,000 lb. per cow per annum on ordinary dairy land, and we know from our cost accounts that that is something near the most profitable level. You do get increasing profits up to about the 8,000 lb. mark, but it is very doubtful whether you get higher profits beyond that point. But our average in this country is 5,100 lb. If we can increase that 5,100 lb. to 5,600 in four years, that is the answer. I believe it

can be done. We want to get our county committees to concentrate on these poorer farmers, to get proper advice for them, and to wave the big stick (in a tactful manner) from time to time. You can say the same thing, I believe, about potato production or egg production or almost any other thing; there is a great gap between the achievement of the best 20 or 30 per cent. of farmers and the general average. If, then, we can concentrate on the poor end and really make a drive, I do not think our 2 per cent. per annum is impossible. We were improving at the rate of about 1 per cent. (Professor Ashby, if he is here, will put me right if I am wrong), that is, we were increasing our output per man at the rate of 1 per cent. per annum even before the war. Further improvement is not impossible.

Norton: I want to follow up a question which Jesness put, and in doing so I would like to confirm that, when he said he had talked more on this subject than any others of the American delegation about the importance of world trade to American agriculture, he was absolutely telling the truth. For a long time in the Mid-West part of the United States, and in a state where you might say that export trade is not particularly popular with the rank and file of questioners, Jesness and his whole staff have carried out a very active programme. I also want to state that I personally have tremendously enjoyed this evening and this very clear exposition of the British position by Professor Watson. I had the pleasure of being on the same programme with Professor Watson once in Chicago, and I would like to tell the English people here how ably he represented your government in the United States during a very critical period.

The question I wanted to ask was in line with your optimistic answer to Professor Jesness's question that you believe that world trade and British trade could be restored more quickly than most people thought. Could you sketch out what you thought the long-run position in agriculture should be, what sort of things you would produce, and what sort of products you would buy?

Scott Watson: Let us run through a few commodities. I think it is right and reasonable that we should produce the whole of our liquid-milk requirements. There is something to be said for marketing milk quickly, and for having it produced in your own country and under your own control of hygiene. We are not interested in producing butter or cheese because we believe that these things can be very much more cheaply produced in other countries—New Zealand, for example. As regards wheat, as I have already said, several people have looked into this question from the point of view of what is reasonable. There are all sorts of complicated considerations. For

instance, as long as we use our present method of storing potatoes, the fen farmer wants to grow wheat-straw to cover them. If, on the other hand, he builds American-type potato stores he will not want wheat-straw. But we have in this country a limited amount of most extraordinarily good wheat land. Let me just give you one example. It happened quite lately that I was in a particular district in Lincolnshire looking at a particular farm and a particular field of wheat. I said: 'That's a very remarkable crop of wheat for this year. I shouldn't be surprised if it went 64 bushels.' The farmer said: 'Well, I'll be disappointed if it doesn't go more than that. Of course, this is a difficult year and I admit the wheat is not up to normal, but I have grown 84 bushels an acre on that particular field.' Well, it is no good saying that we have not got some land which is good wheat land. This is a very small island, and the climatic and soil conditions vary tremendously. We have a limited amount of land which is extremely suitable for wheat, and, as I say, most of the guesses which have been made, as to the reasonable area of wheat, come out at about 2 million acres. We were down to $1\frac{1}{4}$ million acres in the very depths of the depression when Canadian wheat was landing up in this country at 2s. 6d. a bushel. But we still went on growing wheat at that level. We have been up to $3\frac{1}{2}$ million acres. I agree that taking the long view it is reasonable that we should grow 2 million acres of wheat. Then take barley; we have our own national taste for beer. American soldiers did not like our beer, and we would not like American beer. We want to have this whole brewing process under our own control. We know what sort of barley we need to make the sort of beer our people like to drink. Therefore I feel that our brewing-barley ought to be very largely produced in this country. Our brewers before the war indeed liked about 20 per cent. of Californian or other six-row barley, but, by and large, I think we ought to continue to produce a lot of barley. It is a difficult question to argue how much of this conversion business we ought to do. Before the war we were importing 8 million tons of feed. About half of that was maize, the other half was oilmeals of one sort or another. A good deal of that was merely converted into eggs and bacon in this country and some of it, in certain parts of the country, into milk. Should we then allow other people to convert imported feed into bacon and eggs or should we insist on doing it in this country? That is very largely a question of what we can afford. If we can afford to have other people converting feed into bacon and sending us the bacon all ready made, I think we can take quite a large amount. On the other hand, as long as we are poor, we feel that it is one of the things which we must do

ourselves. It will be difficult to take large supplies of imported bacon in the near future, not because we do not want them but because we feel we cannot afford them. I do not know whether I have answered that question. But I believe there is a logical answer as to how much wheat we should grow, how many dairy cows we should keep, how much we should do in the way of egg production, and how far we should depend on imported eggs, and I believe that, when we are in a position to do the reasonable, logical thing, we shall do it.

Renne: I have been very much impressed with Professor Watson's explanation and analysis. I take it you feel that this is a period in which the emphasis should be upon tightening up the belt. The emphasis is upon meeting only those commitments which can be met within the immediate prospective financing, and therefore I would assume that your government will probably tend to emphasize those items now rather than some of these longer-run improvements or reforms that might be more expedient some other time.

Scott Watson: I think the Government has put it perfectly clearly that we cannot build great bridges and beautiful new schools, and that we cannot even replace all the bombed houses in the meantime. First things have to come first. We must get enough to eat, and everything else has to wait on that. Nevertheless, I think we are trying to build now from the foundation up. We have singled out two things as the foundation. The one is agriculture and the other is coal. A great part of our manufacturing industry is built up on steel, and we cannot increase our steel production, and therefore our manufactured steel goods, until we can get more coal. We are giving priority, in the way of permanent equipment, to more power-plants. We are giving high priority to the farm-machinery makers and to the houses that are really required in order to get the necessary manpower to the coal-mines and on to the land. There are many other things that are extremely desirable but not so fundamentally necessary.