

WORLD
AGRICULTURE
AN INTERNATIONAL SURVEY

A Report by a
Study Group of Members of the
Royal Institute of International
Affairs

Spes alit agricolam

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Uniform with this Volume

THE INTERNATIONAL GOLD PROBLEM

COLLECTED PAPERS

A Record of the Discussions of a Study
Group of Members of the Royal Institute
of International Affairs, 1929-1931

The suspension of the Gold Standard by the British Government in September 1931 brought home to millions of persons in every quarter of the globe the essentially practical bearing of the problems which are discussed in this volume by distinguished representatives of many schools of thought and of several nationalities.

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FOREWORD

The Preparation of the Report

THE Council of the Royal Institute of International Affairs, having decided to include in the series of reports produced by the Study Groups Department of Chatham House a survey of world agriculture, invited a Group of members under the chairmanship of Viscount Astor to undertake this work.

When the first draft was completed it was sent to a considerable number of authorities, both in this country and abroad, who were invited to comment on it from various points of view. A great deal of extremely valuable material was received from the following persons:

- | | |
|---|--|
| M. Augé-Laribé. | Mr. A. P. McDougall, C.B.E. |
| Mr. D. Barber. | Mr. H. S. Malik. |
| Dr. F. Benham. | Professor de Michelis. |
| Mr. C. I. Bosanquet. | Sir T. H. Middleton, K.C.I.E., K.C.B., C.B. |
| Professor Dr. Karl Brandt. | Dr. Keith A. H. Murray. |
| Lt.-Col. C. Waley Cohen, C.M.G. | The Rt. Hon. W. Ormsby-Gore, M.P. |
| Professor J. B. Condliffe. | Mr. J. B. Orr, D.S.O., M.C. |
| Sir William Dampier. | Dr. G. Pavlovsky. |
| M. Valentino Doré. | Professor Dr. J. Pedersen. |
| Mr. A. N. Duckham. | Professor Dr. Edgar Salin. |
| Mr. Joseph Duncan. | Mr. J. A. Selby-Bigge. |
| Major The Rt. Hon. W. Elliot, M.C., M.P. | Professor Dr. Max Sering. |
| Mr. L. K. Elmhirst. | Sir Josiah Stamp, G.B.E. |
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| Sir Robert Greig, M.C. | Dr. Alonzo Taylor. |
| Mr. C. W. Guillebaud. | Mr. R. J. Thompson, C.B., O.B.E. |
| Mrs. H. C. Harwood. | Dr. V. P. Timoshenko. |
| Dr. Hermes. | Professor A. J. Toynbee. |
| Mr. J. R. Hicks. | Mr. Christopher Turnor. |
| Dr. Milan Hodža. | Dr. A. J. V. Underwood. |
| Mrs. Louise Howard. | Dr. Stephen Varga. |
| Sir A. C. Humphries. | Mr. Karl Walter. |
| Mr. D. Graham Hutton. | Mr. J. Wheelwright. |
| Mr. H. A. F. Lindsay, C.B.E., C.I.E. | |
| Mr. A. Loveday. | |

This material was examined by the Group and, at a week-end conference, substantial alterations to the first draft were made in the light of the criticisms and contributions which had been received. The Council of Chatham House desire to express their deep sense of

obligation towards all the above-mentioned persons. The material received was of considerable volume, and the Group regret that considerations of space make it impossible to print it *in extenso*. In some cases it has been possible to embody in the text of the Report selected extracts from the comments received, but as a rule the value of their contributions lay in the light and guidance they gave to the members of the Chatham House Group on difficult and controversial problems, and the bringing of fresh points to their attention.

Certain contributions of which it was not practicable to make sufficiently full use in the text of the Report have been printed as Appendices.

The membership of the Group to whom the Council are indebted for supervising the production of this report, which was mainly drafted by two members of Chatham House, Miss Margaret Bryant and Miss Doreen Warriner, was as follows: The Viscount Astor (Chairman); Mr. R. R. Enfield; Mr. F. Grant; Mr. E. M. H. Lloyd; Mr. F. L. McDougall; Dr. David Mitrany. (Secretary: Commander Stephen King-Hall; Assistant-Secretary: Miss Heather Harvey.)

In reading this report it should be understood that, as is customary in the Study Group work of Chatham House, the members of the Group invited by the Council to investigate and report on a specific subject do so on the understanding that, though they accept responsibility for the work as a whole as being a useful contribution to the literature on the subject, they do not necessarily subscribe as individuals to every statement in the book. This procedure has been adopted in order to secure maximum freedom of expression and the avoidance of minority reports and dissenting minutes.

CHATHAM HOUSE,
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London, S.W. 1.

November 1932.

NEILL MALCOLM.
CHAIRMAN OF THE COUNCIL OF
THE ROYAL INSTITUTE OF
INTERNATIONAL AFFAIRS.

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CHAPTER I

PRODUCTION AND CONSUMPTION

Importance of Agriculture in World Economy—Relative Importance of Individual Products in World Agriculture and in World Trade—The Upward Trend of Production—Consumption of Agricultural Products—Wheat Production and Consumption—Changes in the Character of Consumption—Adaptation of Production to Changes in Demand—Over-production or Under-consumption.

I. *Importance of Agriculture in World Economy*

THE prosperity of those who till the soil lies at the basis of world prosperity. Why are so many of the 70 per cent. of the world population who produce our food and clothing in dire distress? Even in the great wheat-producing countries overseas there is hunger and destitution; in Great Britain farmers are harassed by the fear of bankruptcy; in the United States thousands of farms have fallen into the hands of the banks; in Japan the distress is intense; in Russia the masses of the people are seriously underfed. There are surplus supplies of wheat, sugar, and coffee, on the one hand, and on the other hand 25 million unemployed without money to buy sufficient food. Shelley's words, written more than a century ago, are truer than ever to-day: 'We have more moral, political, and historical wisdom than we know how to reduce into practice; we have more scientific and economical knowledge than can be accommodated to the just distribution of the produce which it multiplies.' The purpose of this book is to offer some explanation of the why and the wherefore of the disturbing and apparently senseless situation in which producers of essential human requirements are faced with disaster while others starve for want of the produce stored in barns and warehouses. In two years, from the beginning of 1929 to the beginning of 1931, agricultural prices fell by something like 40 per cent. in the non-European countries producing grain, cotton, and other farm products for export. No body of producers can stand up against a sudden fall of this kind, especially in a long-range industry where plans must be made for years ahead. Plantations cannot be scrapped. Even the live-stock farmer looks two or three years ahead for the maturing of a steer, and one year ahead for sheep. The cattle he has fed and cared for during that period have been sold in many cases at a price below the original cost of the young animal. In adding one more book to those which already exist on the subject of agriculture, we do not assume that we can offer any comprehensive

remedy or remedies to a situation in farming which is clearly bound up with the general dislocation in world economy. But each branch of world economy has its own special problems, and its own responsibility for the orderly conduct of its business. What we have attempted is to set out, for the general reader rather than for the expert, (a) the main facts of the production and consumption of farm products, and some aspects of the fall in prices, in the first part of this book, and (b), in the second, the general situation in Europe, in the overseas surplus-producing countries, in the crowded Eastern countries and in the tropics, and the expedients which have been adopted by governments and by groups of producers in the hope of averting disaster.

There is no shortage in the world of food products, or of the cotton, wool, and fibres which are the raw material of clothing—quite the reverse. But there does come a point when falling prices, by ruining the producer, may bring about a collapse which definitely lowers the standard of living which has been so laboriously achieved.

The supreme importance of agriculture in the provision of the necessaries of life needs no emphasis. But it is worth while to stress the fact that the great majority of mankind are employed in tilling the soil, and that there can be no general prosperity while they are suffering from acute distress.

In only seven countries of the world (the United Kingdom, the United States of America, Germany, Belgium, the Netherlands, Switzerland, and, somewhat surprisingly, Australia), are the numbers engaged in agriculture, fishing, &c., less than those classified as engaged in the manufacturing and extractive industries. In the United Kingdom alone do those occupied in commerce outnumber those in agriculture. In Russia and Bulgaria over 80 per cent., in India and in several countries of Europe over 70 per cent., of the population are classed as agricultural.

The published statistics¹ are more or less adequate for almost the whole of Europe, together with Russia, North America, Australia, and New Zealand, but they cover only two countries in South America, two in Africa, and one in Asia. Brazil, Colombia, and Peru in South America, the countries of Central America, China, and the Dutch East Indies in Asia, and the whole of Africa, are predominantly agricultural, although there are no occupational censuses to show it.

On the basis of the figures available, and assuming that the dependence of the entire population upon the various occupations is in the

¹ See *Statistical Year Book 1931-2*, League of Nations, 1932.

same ratio to those 'gainfully employed'¹ (except in Europe, where a rather lower basis for dependants is adopted), it is possible to make a very approximate calculation of the importance of agricultural activity as a source of livelihood in the world as a whole. Our estimates include with agriculture the comparatively small population relying on forestry and fishing, and they include also, and more legitimately, workers in plantations.

TABLE I²

Estimated Populations and estimated Agricultural Populations in 1930

| | Total Population. | Agricultural Population. |
|-------------------------------------|----------------------|-----------------------------|
| | Millions. | Millions. |
| Europe (excluding Russia) | 379 | 139 |
| Russia | 161 | 140 |
| North America | 134 | 31 |
| South and Central America | 117 | 76 |
| Africa | 142 | 107 |
| Asia | 1,070 | 805 |
| × Oceania | 10 | 3 |
| Total | 2,013 | 1,301 |

¹ An exact calculation of the number of people employed in agriculture throughout the world is not possible. In relatively few countries outside Europe are figures available to show the occupations of the people. Where figures do exist methods of classification vary. In some countries the occupational census relates to the entire population above a certain age, and in others only to persons 'gainfully occupied'. As it may be assumed that the 'gainfully occupied' in industry covers those actually employed, while in agriculture the gainfully occupied may cover only the heads of families whose dependants are also engaged in agricultural production, it is evident that there is a tendency to under-estimate the numbers occupied in agriculture if the 'gainfully occupied' classification is taken. The differences which exist in methods of classification have been eliminated so far as possible by the Economic Intelligence Service of the League of Nations, and the results published in the *Statistical Year Book for 1931-2*. The differences in classification still remaining are not wide enough to invalidate the broad general conclusions which may be drawn from the figures. In the large number of countries for which no adequate occupational statistics are available the population is overwhelmingly agricultural.

² Some of these figures, especially those relating to South America, Asia, and Africa, are highly conjectural; indeed, they cannot be otherwise in the complete absence of any occupational census. But in India 70 per cent. of the population are classed as agricultural, and in China the proportion is estimated at 77 per cent. (*The Agricultural Crisis*, vol. ii, League of Nations, 1932, p. 25), so that the adopted figure of 75 per cent. for all Asia is unlikely to be above the mark. Similarly, in Africa, 70 per cent. of the Egyptian and 75 per cent. of the South African population (excluding white races) are classified as agricultural, and the adopted figure for the whole continent, 75 per cent., is possibly an understatement, since the peoples of tropical Africa are almost entirely dependent on agriculture for their existence. In South America the estimate of 65 per cent. is unlikely to be excessive.

These figures, approximate as they are, suggest that some two-thirds of the world's population is agricultural. Industry and commerce are estimated to account for about 14 and 6 per cent. respectively, and the remaining 13 per cent. is made up of those dependent on transport, mining, the professions, and domestic occupations. In spite of the rapidity of industrial and commercial development in the nineteenth century, agriculture is still the occupation of the greater part of mankind.

The agricultural classes, as they are the most numerous producers, are also the largest body of consumers in the world. In exchange for the products of the soil, industry undertakes the labour of converting the farmer's products into highly finished articles of food and clothing; the supply in the more advanced countries of the means of light and heat and shelter;¹ the task of conveying his products to the world's workshops and transporting back again the finished goods, and of bringing to his door the foodstuffs and raw materials he needs or desires, but cannot himself produce; and the provision of a multitude of services in a world in which such services grow steadily in numbers and complexity.

Were farmers on a purely subsistence basis—if they ate the food they produced and clad themselves with the wool, flax, or cotton they raised—the fall in world prices of agricultural produce would not affect them. But even the smallest producer usually aims at producing something beyond his own immediate requirements, for sale in a neighbouring town or village market where his produce is needed, or, through various channels, on the world market. The small peasant farmer is nearer than the large farmer to a subsistence basis, and if he is not burdened with debts he can weather a period of low prices to some extent by increasing his reliance upon his own farm for his needs.

There are very few farmers, however, who have not annual charges to meet for taxes, interest on loans, rent, and similar purposes; and there are few, even in Asiatic countries where the basis of life is simple, for whom the purchase of manufactured goods is not almost a necessity. When agricultural prices are depressed, the farmer can attempt to meet his difficulties in two ways: he is driven back more and more to his own holding for his own needs, and tends to consume a greater proportion of the products of his own labour; at the same time he is compelled, because of these low prices, to offer an

¹ Over large parts of the world the farmer builds his own hut from materials at his door; and, even in Japan, builds his own house; in India his fuel is cow-dung and in China grass and the stalks of cereals.

increased volume of his output for such goods and services as he cannot forgo.

The question of the comparative ability of large-scale and peasant farming to withstand the strain of a rapid and substantial decline in prices is an important one. Public attention is apt to concentrate upon those products which figure most conspicuously in international trade, and especially upon those—wheat is the outstanding example—in which speculative activity is most highly developed. But mixed farming, not monoculture, is the basis on which the great majority of farmers rely, and the importance to the farmers of the world of other commodities than those which figure most prominently in the market reports is frequently overlooked.

II. *Relative Importance of Individual Products in World Agriculture and in World Trade*

No great degree of precision can be expected in any calculations designed to indicate the relative importance of the several products of world agriculture. Figures of production for some products are unsatisfactory, or almost entirely lacking. Nor, if complete production figures were available, would a basis for comparison be readily agreed. But from the standpoint of farm income (that is, the cash value of sales off farms, together with the quantities consumed in farm households, at market prices) there is little doubt that, contrary to popular belief, milk and milk products and eggs are the two most important products to the farmers of the world.¹ Both are produced almost everywhere, and there are few temperate countries where they are not among the leading farm products, but no estimates of aggregate world production are available.

For most of the other important products it is possible to arrive at a very rough estimate of total world production. To make a comparison of the relative importance of the different products we must convert them to some common basis, and the only satisfactory basis is clearly one of price, since it is the comparative importance to the farmer that we are trying to measure. In the table on p. 6 are shown average production figures, based on statistics for the years 1927-30, and including the best estimates available for China.² The total cash value of each product, calculated at the United Kingdom average import values for 1927-30³ is also shown; this considerably

¹ See Empire Marketing Board's *Dairy Produce Statistics, 1932*, E.M.B./C./1.

² *The Statistical Year Book, 1931-2* (League of Nations, 1932), gives estimates for China of many products.

³ In a few instances the average value of one or more particular descriptions

overstates the cash value of each product to the world's farmers, but for comparative purposes the error is immaterial, as it applies equally to all. The final columns show the average exports in the same years, with values calculated upon the same basis, and the proportion of the world's production which enters into international trade. The commodities are arranged in order of gross value of production.

TABLE II

Estimated Volume and Value of World Production of Agricultural Products, Quantities, and Values entering into International Trade and Proportions exported of each Product

| <i>Product.</i> | <i>Estimated world production.</i> | <i>Aggregate value at U.K. prices 1927-30.</i> | <i>Quantities entering inter-national trade.</i> | <i>Aggregate value at U.K. prices 1927-30.</i> | <i>Proportion of world production exported.</i> |
|---------------------------------|------------------------------------|--|--|--|---|
| | Million tons. | Million £ | Million tons. | Million £ | Per cent. |
| 1. Milk and milk products . . . | .. | .. | * | 117 | .. |
| 2. Eggs . . . | .. | .. | 0.55 | 48 | .. |
| 3. Wheat . . . | 142 | 1,480 | 22.20 | 230 | 16 |
| 4. Rice (cleaned) . . . | 85 | 1,200 | 6.56 | 92 | 8 |
| 5. Pigmeat . . . | 14.5 | 1,020 | 0.75† | 51 | 5 |
| 6. Beef and veal . . . | 16.5 | 850 | 1.04 | 52 | 6 |
| 7. Maize . . . | 117 | 740 | 8.84 | 57 | 8 |
| 8. Potatoes . . . | 206 | 720 | 1.28 | 4 | 0.6 |
| 9. Cotton . . . | 6.2 | 630 | 3.03 | 306 | 49 |
| 10. Oats . . . | 69 | 520 | 1.34 | 10 | 2 |
| 11. Barley . . . | 47 | 390 | 3.73 | 34 | 8 |
| 12. Sugar . . . | 28 | 336 | 12.13 | 144 | 43 |
| 13. Rye . . . | 45 | 320 | 1.38 | 10 | 3 |
| 14. Tobacco . . . | 2.4 | 280 | 0.55 | 63 | 23 |
| 15. Wool . . . | 1.8 | 280 | 0.89 | 136 | 50 |
| 16. Mutton and lamb . . . | 4 | 260 | 0.29 | 19 | 7 |
| 17. Wine . . . | 17.1 | 220 | 1.77 | 22 | 10 |
| 18. Coffee . . . | 2 | 190 | 1.45 | 136 | 73‡ |
| 19. Silk . . . | 0.08 | 180 | 0.05 | 108 | 59 |
| 20. Soya beans . . . | 15 | 170 | 3.06 | 34 | 20 |

* 300,000 tons of cheese, 480,000 tons of butter, 300,000 tons of condensed milk, and 25,000 tons of milk powder.

† Including bacon in terms of fresh pork.

‡ Stocks were accumulating in Brazil from 1927 to 1930.

These figures are admittedly very rough approximations, and are of very little value except to give a broad general indication of the of a product has been chosen, owing to the special character of the United Kingdom import trade.

relative value, on a money basis, of the different products of the world's farms. For milk and milk products and eggs¹ no estimates can be attempted, but they may be placed tentatively at the head of the list. Nor can the world production of the millets be estimated, and these, the main staples of food in large areas, might come fairly high in the scale. Their importance is considerable, especially in China, Africa, and India.

There is, it should be noted, some duplication in the above table. A considerable part of the produce of agriculture is not grown for direct consumption by man, but for the feeding of domesticated animals. Grass, the chief raw material in the production of meat and milk, is excluded from the table, and as far as grass crops (including hay) are concerned there is therefore no duplication. But the bulk of the maize and oat crops are fed to animals, as are a large part of the product of oil-bearing nuts and seeds in the form of cake and meal; they are thus converted into meat, dairy, and poultry products.

Some of the omissions from the above list of the twenty leading agricultural products are surprising. Such important commodities as tea, ground-nuts, and cotton-seed are crowded out, with values, on the same basis, of between £100 and £150 million. Rubber is yet lower in the list, and would need to be valued at 2s. 3d. per lb. to bring it even into the twentieth place. Jute, linseed, olive-oil, flax, hemp (including Manila and sisal) fall between £50 and £60 million, while cocoa, rape-seed, sesamum, palm kernels, palm oil and copra are each below £50 million. Beef, mutton, pork, and bacon do not represent the whole value of cattle, sheep, and pigs. Wool is separately shown, but there is a whole range of by-products, hides, skins, glue, tallow, bone, &c., which are not shown.

The proportions of the various commodities entering world trade are generally small. For certain tropical products in demand in temperate regions the proportion is high, and by far the greater

¹ In the United Kingdom the output of eggs is now considerably greater in value than that of wheat; in Canada production of poultry and eggs was valued in 1931 at over one-half the gross value of the wheat crop, including the wheat which is not sold but is used on the farm for further production; in Australia production of poultry and eggs in 1929-30 was worth 25 per cent. of the wool clip and practically as much as the output of mutton and lamb; in the United States the contribution of poultry and eggs to the gross farm income (i.e. sales off farms, together with the market value of consumption in farm households) is exceeded only by the contributions of milk, pigs, and cotton, and thus takes precedence over both beef and wheat. China contrives to furnish eggs for a population of about 475 million people, and in addition exports eggs and egg products to a value in 1930 of £4,000,000, which is exceeded by only two commodities—silk and beans. (*Dairy Produce Statistics*, 1932, p. 2.)

part of the world's output of such products as cocoa, palm kernels, and rubber is shipped out of the country where it is grown. But of the twenty leading agricultural products given in the foregoing table, only two, and those among the lowest in the list, silk and coffee, are produced more for export than for domestic consumption, while for only three others—cotton, wool, and sugar—do exports represent more than 25 per cent. of the total production. For most agricultural products the home market is of vastly more account than foreign markets, except in certain countries producing largely for export.

Countries dependent upon foreign markets for the bulk of their sales of grain and meat are few in number. Argentina finds a foreign outlet for the greater part of her wheat, maize, barley, oats, and linseed. Canada's and Australia's wheat exports, and Chile's oats, constitute more than half their total production of these grains. But no other country exports as much as half its crop of any one grain. Indo-China and Siam, whose rice exports constitute from 60 per cent. to 70 per cent. of their total export trade, ship to other countries only about one-quarter of all the rice they produce.

As regards animal products, it is probable that the greater part of the hides and skins, as of the wool, is exported from the large producing countries. New Zealand exports the greater part of her lamb, Denmark most of her pigmeat, and Uruguay and the Irish Free State¹ most of their beef (the latter country in the form of live cattle), but Australia consumes the greater part of her beef output. No country, except Denmark, the Netherlands, and New Zealand, exports as much as half of its milk production in any form, none except Denmark as much as half its eggs.

The figures in Table II show broadly the comparative aggregate value of world crops, calculated admittedly by a very rough and ready method, and they also show the aggregate values of international trade in the same products, estimated on the same basis. Yet neither calculation gives us precisely the comparison we need, which may be described as the output value of the various products—that is, the value of the sales off farms together with the value at market prices of the quantities consumed in farm households, products which are used for further production being disregarded. If we regard the farms of the world as one large unit, products sold by the farmers in one area to be used for further production by those in another may be looked upon simply as transfers from one part of the unit to another. It is true that to the maize-growers of Argentina,

¹ This was written before the economic dispute between Great Britain and the Irish Free State arose.

growing their crops for sale, the price of maize is of the first importance; it is equally so, but in a different manner, to the Danish dairy and poultry farmer who buys the maize; what the former loses by a fall in prices is, at any rate partly, balanced by the gain of the latter. High prices paid to some producers for ground-nuts or cotton-seed or copra mean high prices paid for cattle-cake by farmers in other parts of the world. The grain crops, in varying degrees, and the oil-bearing seeds and nuts, are the crops particularly affected by this consideration.

III. *The Upward Trend of Production*

Man's desires for food and clothing have never been completely satisfied, and where unsatisfied desires exist there is incentive to further effort, to experiment, to the opening up of new resources and the development of those already existing. As supplies of the staple products approach nearer to the limit of effective demand, the attention of producers is directed more towards the provision of luxury or semi-luxury products, which are still enjoyed only by the few but desired by all. But not even to-day, in spite of accumulated and accumulating stocks, is the supply of any agricultural product anywhere near the limit of potential demand. Effective demand is a very different matter.

All the evidence tends to show that the post-War increase in production as a whole has not been abnormal, or if it has been more rapid than in the pre-War period, has only been making good the set-back in production during the War. Extremely interesting calculations¹ made by Dr. Carl Snyder of the Federal Reserve Bank of New York, suggest that the world's physical volume of production (exclusive of Asia and Africa) of all commodities was experiencing a normal annual increase of 3.15 per cent. in the three years before the War, although this is, of course, no proof that the pre-War 'normal' rate of expansion was not itself over-rapid. Let us see how post-War production compares with that of the pre-War period.

The Economic Intelligence Service of the League of Nations has published each year a *Memorandum on Production and Trade* providing certain statistical data, necessarily incomplete, of population, production, and trade. World population was about 5½ per cent. greater in 1925 than in 1913, and 10 per cent. greater in 1929; and the present rate of increase is about 1 per cent. per annum.²

¹ *Proceedings of the Academy of Political Science, New York, February 1932.*

² Varying estimates of extra-European populations account for the divergence between these estimates and those in Table III.

The figures of population extracted from this annual publication¹ are shown below :

TABLE III
World Population

| | Estimated for 1913. | Estimated for 1925. | Estimated for end of 1929. |
|--|------------------------|------------------------|-------------------------------|
| Africa | 130,700,000 | 137,100,000 | 144,400,000 |
| North America | 105,000,000 | 125,300,000 | 132,500,000 |
| Central America | 30,100,000 | 105,900,000 | 34,200,000 |
| South America | 55,900,000 | | 81,300,000 |
| Asia | 968,600,000 | 1,028,000,000 | 1,058,000,000 |
| Europe (including Asiatic Russia) | 488,200,000 | 506,100,000 | 530,500,000 |
| Oceania | 7,600,000 | 9,000,000 | 9,700,000 |
| Total | 1,786,100,000 | 1,911,400,000 | 1,990,600,000 |

The Economic Intelligence Service also compiles, and publishes annually in the *Memorandum on Production and Trade*,² indices of world production of the principal agricultural crops. The basic period upon which these indices are calculated is varied from time to time, but, adjusted to a 1913 base throughout, the figures in Table IV give the following results over the two triennial periods 1924-6 and 1927-9.

The excess of production in 1924-6 as compared with 1913 was relatively small for all the grains taken together. None of the five cereals showed an increase as great as the estimated increase in the world population, and the apparent increase of 11 per cent. in the production of rice would no doubt be considerably modified if figures were available for China, for it is very doubtful whether Chinese production has kept pace with the increasing population.

The general order of increase between 1913 and 1924-6 was from 10 to 20 per cent. Grain crops, as we have seen, increased but moderately, and moderate increases were also recorded in potatoes and meat. The only increases of more than 20 per cent. were in cane sugar, due to the War-time reduction in beet-sugar production, which even by 1926 was only at about the pre-War level; cocoa and tobacco, continuing their very rapid pre-War increases; raw materials for the production of vegetable oils, reflecting the increasing demand for vegetable fats for human consumption and feeding stuffs for cattle (but the striking development in soya bean

¹ *Memorandum on Production and Trade*, League of Nations (1929 and 1930).

² In 1932 the place of the Memorandum was taken by the *Review of World Production, Review of World Trade, and World Economic Survey*.

TABLE IV
Index Numbers of Agricultural Production

| | Average 1924-6 (1913=100). | Average 1927-9 (1913=100). | Percentage* increase 1927-9 over 1924-6. |
|--------------------------------------|----------------------------------|----------------------------------|--|
| <i>Cereals and other food crops.</i> | | | |
| Wheat | 104 | 113 | 9 |
| Rye | 97 | 106 | 9 |
| Barley | 86 | 100 | 16 |
| Oats | 100 | 107 | 7 |
| Maize | 103 | 105 | 2 |
| Rice | 111 | 113 | 2 |
| Potatoes | 112 | 129 | 15 |
| Sugar, beet | 103 | 116 | 13 |
| Sugar, cane | 171 | 185 | 8 |
| <i>Meat.</i> | | | |
| Beef and veal | 116 | 117 | 1 |
| Pork, &c. | 111 | 125 | 13 |
| Mutton | 91 | 101 | 11 |
| <i>Colonial Produce.</i> | | | |
| Coffee | 118 | 159 | 35 |
| Cocoa | 216 | 226 | 5 |
| Tea | 112 | 125 | 12 |
| Hops | 76 | 87 | 15 |
| Tobacco | 147 | 158 | 8 |
| <i>Vegetable Oil Materials.</i> | | | |
| Cotton-seed | 121 | 115 | -5† |
| Linseed | 130 | 128 | -2† |
| Rape-seed | 88 | 74 | -16† |
| Hemp-seed | 117 | 140 | 20 |
| Sesamum | 86 | 97 | 10 |
| Soya beans | 239 | 307 | 28 |
| Copra | 190 | 227 | 19 |
| Palm oil and palm kernel oil | 164 | 173 | 5 |
| Olive oil | 114 | 166 | 46 |
| Ground-nuts | 186 | 241 | 30 |
| <i>Textiles.</i> | | | |
| Cotton | 121 | 115 | -5† |
| Flax | 75 | 73 | -3† |
| Manila hemp | 121 | 122 | 1 |
| Hemp | 97 | 99 | 2 |
| Jute | 115 | 119 | 3 |
| Wool | 99 | 111 | 12 |
| Raw silk | 163 | 197 | 21 |
| Artificial silk | 524 | 996 | 90 |
| Rubber | 510 | 668 | 31 |

* To nearest unit.

† Decrease.

production refers to Manchuria only—no information is available as to the growth in production in China proper); raw silk (here again the increase would perhaps be greatly modified were adequate Chinese figures available); artificial silk, derived from cellulose, not a strictly agricultural product; and rubber, which in 1913 was in the early days of its expansion as a plantation industry.

On the whole, then, production in 1924-6 showed no abnormal advance from the point which it had reached in 1913, and producers at this period were perhaps not unprosperous, in spite of the adjustment to lower prices after the slump of 1920-2. If there is any substance in the contention that over-production is at the root of the fall in prices of the past two or three years, it is between 1924-6 and 1927-9 that an abnormal increase in yields must be sought.

There was, indeed, an advance in each of the foods included in the League of Nations index, varying from the 1 per cent. in beef and veal and the 2 per cent. increase in rice and maize to the 35 per cent. in coffee. Some of the oil seeds and nuts showed appreciable increases, but others fell, and the textile group advanced only moderately, apart from the continued increase in silk and artificial silk production. The interdependence of the different products within the groups may mean that a price fall in one may spread to others in the same group, but interdependence should be equally a source of strength to the whole structure, since the production of so many commodities has increased only sparingly.

The course of world production in 1930 and 1931 has been downward, though less steeply for agriculture than for other forms of production. In contrast with a rise of almost 6 per cent. between 1925 and 1929 in crude foodstuffs, and of 7 per cent. on industrial materials of agricultural origins, production in these groups declined by 4 and 2 per cent. in the next two years. Industrial raw materials of non-agricultural origin rose by 20 per cent. between 1925 and 1929, and declined by 1931 to below the 1925 level.¹

IV. *Consumption of Agricultural Products*

Though consumption cannot for long outrun production, it may lag behind, with consequent waste or the accumulation of surpluses. This has been happening during the past year or two. Stocks have been built up through lack of a market at even the extremely depressed prices of the present day, and these accumulations represent an impediment to recovery, when each year brings forth a

¹ *Review of World Production, 1925-31*, pp. 21 and 23.

new supply as great as the world has been accustomed to consume. Mr. R. J. Thompson writes:¹

‘In considering the causes of the slump in prices since 1929, the influence of over-supply, particularly in the form of accumulated stocks, is frequently overlooked or unduly minimized. It may be true that over a long period the increase in production has not been abnormal, if account is taken of the increase in population, but it seems equally true that in the short period since 1929, an entirely exceptional and unprecedented position has arisen owing to the world’s markets being burdened with enormous stocks, with the result that the supply offered for sale on the international market has been continuously in excess of any possible demand.

‘Wheat, sugar, coffee, cotton, tea, wine, olive oil, silk, and rubber, all show this characteristic in varying degrees. In some cases demand declined, but the essential factor was that stocks, having once been accumulated, could not be reduced because annual production continued to be approximately equal to current demand. These stocks dominated the market, and produced a condition of *over-supply* which was a major influence in the fall in prices. . . . Prices in the international markets depend on the total supplies actually on offer or known to be available, and when current supplies combined with large stocks are more than sufficient to meet any anticipated demand, prices must necessarily be forced downwards.’

The accumulation of stocks is, however, a symptom of the sickness of agriculture rather than a cause. It may be fairly argued that food surpluses are almost wholly the result of restricted purchasing power in the great industrial countries of Europe. That is to say, the problem is mainly one of ‘under-consumption’. Sir T. H. Middleton writes:²

‘I am certain that there is an immense unsatisfied demand for foodstuffs, even in this, the richest European country, and that the inhabitants of the United Kingdom would eat and drink more (milk) if they could.

‘I estimated that in the pre-war period (1909–13) the *per capita* consumption of food in the United Kingdom was about 1,092,000 calories per annum. Raymond Pearl’s estimate for the United States was 1,305,000 calories or nearly 20 per cent. more. In Germany consumption was at about the same rate as in the United Kingdom. In both the United Kingdom and the United States I think the post-War consumption was higher for a time, but it has recently fallen and at present in both countries must be near the pre-War level. In Germany and most European countries it must now be below pre-War level. It may be taken as certain that every Western country would readily absorb the pre-War United States quantities if it could.

¹ In a note to the Study Group. For Mr. Thompson’s further development of this subject see Appendix, p. 263.

² In a note to the Study Group.

'Examination of the *per capita* consumption of animal products,¹ beef, mutton, bacon, milk, in different countries shows how large the scope for increased consumption would be if there were purchasing power, and this bears on the whole cereal problem, for the natural animal product is the natural "granary" in which farmers of meat-eating countries store their surplus cereals.'

If the estimates of production given in Table II are accepted as reasonably accurate, the supply of wheat represents about 156 lb. per head per annum of the world's population, equivalent to about 2 lb. of wheat flour each week; but the necessary reduction to allow for the use of wheat for seed and for feeding to poultry and other live stock would reduce this average considerably. Similar calculations show the world's rice production as equivalent to about 1 $\frac{3}{4}$ lb. per week per head. It is probably only in the two principal food grains—wheat and rice—that world consumption has reached anything near the saturation point.

V. *Wheat Production and Consumption*

It is perhaps worth while to examine the question of cereal production and consumption in general, and that of wheat in particular, in greater detail than has been possible when dealing with the world's agricultural produce as a whole. Wheat has great importance in international trade; a sharp rise or fall in its price affects the stock markets of the world, and may affect the prices of other staple agricultural products. According to the criterion of price, which (in the absence of any artificial interference) provides an index of over-production of a commodity when its price shows a relative fall over a considerable period in comparison with the general price-level, cereal production would appear to have been excessive. But an examination of the cereal situation throws doubt on this conclusion.

Agriculture as a whole suffered a serious set-back during the War except in certain special commodities. In 1921 the indices of world production, on the basis 1909-13 = 100, were wheat 89, rye 71, barley 78, oats 78, maize 105 (but in 1924 only 93), rice 111, and potatoes 83.² Recovery since that date has not been excessive from the statistical point of view. Other reasons must be sought for the fall in price. The Imperial Economic Committee, reporting on *The Wheat*

¹ The annual consumption of beef, mutton, and pork in Asia probably averages well under 10 lb. per annum as compared with 250 lb. in Australia and New Zealand, 150 lb. in North America and the United Kingdom, 110 lb. in Germany, 90 lb. in France, and 75 lb. in Europe as a whole.

² Figures presented by the International Institute of Agriculture to the World Economic Conference in 1927.

Situation,¹ say that the many economic impediments—largely the outcome of the War—which have obstructed the full development of the world's economic life during the last thirteen years and the setback in economic progress brought about by the depression of 1930 and 1931, are factors at least as important as the expansion of production in accounting for the low level of wheat prices. The demand for wheat is relatively inelastic, and good or bad harvests cause sharp fluctuations in price. But in pre-War days the great importing countries, the United Kingdom and Germany, accumulated stocks in periods of plenty and so evened out supplies and prices. Probably English importers have exercised a certain stabilizing influence in post-War years, but Germany and France have been mainly concerned with keeping imports at a minimum by heavy protective duties.

The trade has been dislocated by the change in the volume of exports from the principal exporting countries. This dislocation is shown in Table V below:²

TABLE V

Changes in the Trade in Wheat of Principal Exporting Countries

| Average of crop-years 1909-14. | | | Average of crop-years 1924-9. | | |
|--------------------------------|---|----------------------|-------------------------------|---|----------------------|
| Order. | Net exports in millions of bushels. | Percentage share. | Order. | Net exports in millions of bushels. | Percentage share. |
| Russia | 164.5 | 24.5 | Canada | 309.5 | 38.8 |
| U.S.A. | 110.0 | 16.4 | U.S.A. | 178.5 | 22.4 |
| Danubian countries | 109.0 | 16.2 | Argentina | 154.6 | 19.4 |
| Canada | 95.6 | 14.2 | Australia | 96.6 | 12.1 |
| Argentina | 84.7 | 12.6 | Danubian countries. | 36.7 | 4.6 |
| Australia | 55.2 | 8.2 | Russia | 12.8 | 1.6 |
| India | 49.8 | 7.5 | India | 8.3 | 1.1 |
| Chile | 2.4 | 0.4 | | | |
| Total | 671.2 | 100 | Total | 797.0 | 100 |

Russia, which took the lead in pre-War years, fell back to the sixth place. Canada and Argentina, which between them had about 27 per cent. of world exports, raised that figure to 58 per cent.

Mr. R. R. Enfield, in discussing the question of wheat supplies at the British Association meeting in 1931,³ pointed out that, notwithstanding the great increase in overseas production, supplies available

¹ *The Wheat Situation, 1931* (Imperial Economic Committee, 1932), p. 92.

² *Ibid.*, p. 49.

³ See reprint of his paper on 'The World's Wheat Situation' in *The Economic Journal*, December 1931.

for consumption outside Russia, 'have not, in *any* post-War year, reached a point as high as the line of pre-War trend projected into the post-War period'. In the critical crop-year of 1929-30, when the catastrophic fall in wheat prices began, the world's crop was actually about 12·8 per cent. smaller than that of 1928-9. Even if the carry-over from the big harvest of 1928-9 is added, supplies were smaller than in the year before. Therefore, the cause of the slump in prices must be sought elsewhere than in over-production. It is true that at this point Russia began to recover her position in the world market, but this disturbing factor alone seems insufficient to explain the fall. Mr. Enfield concludes:

'... Other factors which have had a bearing upon the fall in prices are the restrictive policies pursued in regard to imports by the great majority of importing countries on the Continent of Europe; the movement in the prices of rye¹ and maize; variation in the milling quality of successive wheat crops; the influence upon the market of the heavy stocks; the policies of the Canadian Pools, and still more important of the Federal Farm Board of the U.S.A. It is perhaps impossible completely to disentangle the causes of a situation so exceedingly complex as this is. I think, however, that the correct inference from the facts is that an actual decline in consumption has played a much more important part in the fall in wheat prices than has commonly been supposed, particularly during the spread of the economic depression since the beginning of 1930.'

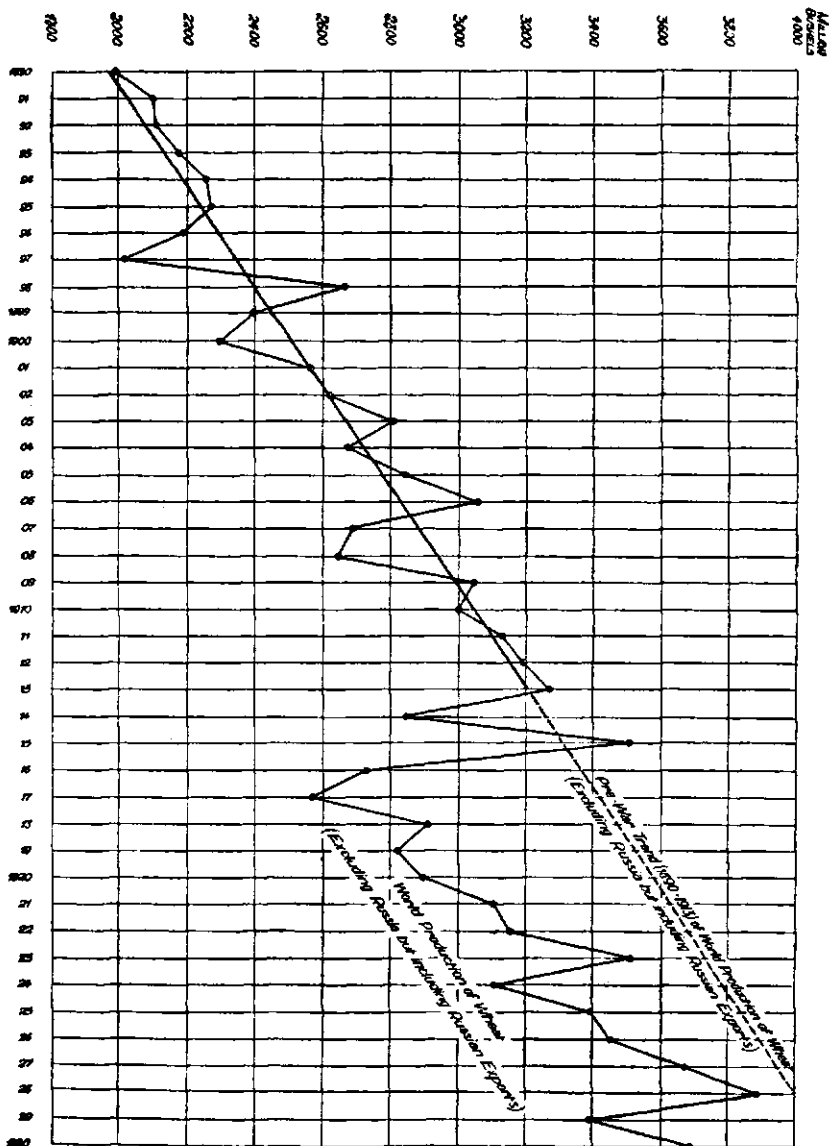
A very striking diagram, reproduced by permission of the Imperial Economic Committee² and the Controller of H.M. Stationery Office, illustrates Mr. Enfield's contention that wheat crops since the War have never reached the level they would have reached if the pre-War rate of expansion had continued, in spite of the increase of acreage in the new countries. The outstanding fact is not the rapidity in expansion of production in the post-War period, but the sudden set-back in production caused by the War, a disturbance from which the world is slowly recovering.

There is considerable divergence of opinion on the question of wheat consumption. According to the Food Research Institute of California, no substantial fall in consumption per head of wheat is taking place in the United States, the United Kingdom, or India, which, with Russia, France, and Italy, are the world's largest consumers of wheat. In Russia, in the Far East, and in tropical countries, wheat consumption is going up. In Russia produc-

¹ In the years 1928-30 Europe—ex Russia—harvested exceptionally large crops of rye, averaging for these years about 22 per cent. above the average of 1922-4.

² *The Wheat Situation, 1931*, p. 18.

World Production of Wheat (excluding Russia but including Russian exports) and Pre-War Trend (1890-1913) of World Production of Wheat



tion has reached the pre-war level, but instead of a large export, as was the case before the War, almost the whole harvest was consumed within the country until 1930, when export on a large scale took

place. The Food Research Institute examined¹ wheat consumption in tropical countries, and found that in Central and South America, the West Indies, Tropical Africa, Tropical Asia, and Oceania the gross consumption had increased from 46.9 million bushels in 1909-13 to 65.6 million bushels in 1923-7, and the average consumption of wheat-flour had advanced from 11.24 lb. per annum to 12.67 lb.

Wheat is not used solely for human food. It plays a large part, for instance, in poultry-raising. Some agricultural economists maintain that whenever wheat falls below a certain unit value in relation to bought cattle-cake it should be used for fodder, and there has been in fact some development in the feeding of wheat to pigs in the United States, especially outside the Corn Belt, fostered by the maize-crop failure of 1930 and the accumulated surplus of wheat. The Agricultural Department at Cambridge have shown that wheat is first-class cattle-food, but English farmers are reluctant to relegate wheat to that purpose.

VI. *Changes in the Character of Consumption*

In the preceding sections we have dealt so far as is possible with the production-consumption question from a statistical point of view. But consumption is conditioned by the age-composition of the population, by general economic conditions, and by changes of fashion and habit and political action. We shall have occasion in the second part of the Report to discuss political influences, but the character of the changes in consumption of foodstuffs must be briefly discussed. There are also changes both in the rate and direction of the consumption of non-edible agricultural materials. For instance, the fact that in 1920 the average motor-tyre in the United States ran 5,500 miles, in 1928 it ran 10,000, and in 1931 it ran 20,000 miles, gives point to the efforts of rubber producers to find fresh uses for rubber.

Though correlation between population and the consumption of food in any given country exists, there are many modifying factors. The distribution of wealth in the community is an important element. Where there are large numbers of persons at and below the poverty-line, consumption of all but the basic necessities is low; where there are large numbers relatively wealthy, the total volume of consumption is unlikely to be appreciably greater and may possibly be less, since a larger proportion of the more concentrated foods, milk, dairy products, and meat, and of the finer kinds of vegetable and fruit, enter into the diet; changes in the distribution of wealth thus entail

¹ *Wheat Studies*, vol. vi, No. 7.

changes in consumption. Moreover, requirements in food-supply vary with the age-composition of the population and with its occupational composition. The very young and the very old require less food than those of full working age. Manual workers require more food than clerical workers, and different food.

But in saying that the distribution of wealth affects the demand for food from the point of view stated above it is perhaps necessary to remark that increased wealth does not mean a corresponding increase in expenditure on foodstuffs. In the United States the official cost-of-living index-calculation allots to food 35 per cent. of the total expenditure; in Great Britain and Europe generally the proportion is 60 per cent.; in Russia it may be put at 80 per cent. People well above the poverty-line do not necessarily spend a greater proportion of their income on food as they grow richer. But the kind of demand for food does change. There are differing rates of expansion, largely based on the distribution of wealth, in the demand for various foodstuffs. Production tends to run in stereotyped channels, but demand is unstable, and may run through many changes in a generation. Generally speaking, a stationary population requires a lower proportion of staple commodities of all kinds and a larger proportion of luxuries and light commodities than a rapidly growing one.¹ The thesis applies to some extent to food-supplies. If the rate of increase of population slows down, the rate of increase in the production of staple food would have to be slowed down, but not necessarily of fruit, vegetables, milk, &c., which are still luxuries to masses of the population.

Another factor in the change of dietary demands is the increased use of machinery in all departments of life, from mining, road-making, and harvesting, to the cleaning of a house. Heavy manual labour is being everywhere reduced, and this reduction carries with it a change in the kind of food required. The manual labourer takes more carbohydrates, the sedentary worker more concentrated food.

'A manual worker engaged, e.g. in some types of farm labour,' writes Sir T. H. Middleton,² 'might easily need food providing 5,000 calories per diem; riding on a machine the physical demand of the same man might be 3,500. Miners on full work (if earning good wages) make the farmer's best customers; their intake of food might average 4,500 calories. If they are in receipt of unemployment benefit their intake might barely reach 3,000 calories. The combined

¹ For a development of this thesis, see Professor Cannan, 'The Changed Outlook in regard to Population', in *The Economic Journal*, December 1931.

² In a note to the Study Group.

effects of enforced idleness in some, and of poverty in many more, by reducing physical needs and purchasing power, must be very great. Wheat and rye are likely to provide some two-thirds of the calories in the foods of workers of the kind here referred to.' Major Walter Elliot¹ emphasizes the same idea: 'A housemaid uses an electric vacuum-cleaner instead of sweeping, a ploughman sits on a tractor-seat instead of walking the furrow, a fisherman starts up a motor-boat-engine instead of getting out his oars. These men and women will eat just that much less starch and fat (bread and butter).'

The present widespread unemployment must have material effects upon dieting, and one correspondent places the consumption of a man on unemployment benefit at a lower figure than that given above.

The actual problem for the agriculturist is to rectify any disequilibrium in the quantities supplied of one agricultural product as against another, i.e. to adjust his production to the kind of demand of his national market, and to the world market as at present organized. At the same time he must press for a readjustment of international trade and international relations which will prevent the necessity of selling on terms which spell bankruptcy to him. The United States Department of Agriculture recently undertook a survey to estimate for the American farmer the possible outlets for the various categories of his production. More work on these lines is evidently required for all countries.

There are indications for various countries which serve to show the changes which have taken place with regard to the character of the demand for food-products, changes based for the most part on an improved standard of living and a decreasing dependence on cereals. In the United States changes in diet² are very marked since the War. There is a decrease, variously estimated, in the consumption of cereal foods; sugar shows an increase of 27 lb. per head per year, due partly to Prohibition; there is a great increase in the consumption of milk and milk products, which sent up the production of milk in the United States by 50 per cent. between 1915 and 1928. The American eats more vegetables and more fruit than he did, but the altered standard of life has not much increased his consumption of meat, and any increase has been in pork and not in beef.

A definite increase in the consumption of vegetables and fruits has taken place during recent years in Germany. Thus, it was

¹ In a note to the Study Group.

² See O. E. Baker, 'Population and Land Utilisation', in *Proceedings of the Second International Conference of Agricultural Economists*, Menasha, Wisconsin, 1930.

estimated in 1931 that Germany consumed 108 per cent. of the quantity of eggs consumed in pre-War years, 121 per cent. of butter, and 125 per cent. of sugar. The consumption of rye had fallen to 67 per cent. of the pre-War level and that of potatoes to 69 per cent.¹ The sales of fruit and vegetables, on the other hand, increased enormously. Imports of oranges have been more than doubled and imports of bananas trebled as compared with the three years before the War.

In Great Britain the changes are also marked. The average supply per head of the population in the pre-War (1905-09) period was barely maintained for wheat-flour² in the period 1924-7. It rose by less than 2 per cent. for meat and potatoes, less than 3 per cent. for fresh milk, 4½ per cent. for eggs, 9 per cent. for cheese, and 7½ per cent. for sugar. On the other hand, the consumption per head of fruit rose by 37 per cent., of margarine by 148 per cent., and of cocoa by 136 per cent.³ During more recent years there has been a further increase of nearly 10 per cent. in consumption of fruit⁴ and a rise of about 30 per cent. in the consumption of butter,⁵ partly at the expense of margarine.

These changes in the proportionate consumption of different food-stuffs may be attributed partly to the constant aim of all classes and communities towards a higher standard of living and a more varied diet, and partly to changing physiological needs due to altered conditions of labour. Of these two factors the former is probably the more important. The urge towards choicer and more varied foods is universal, and there is a general tendency, as prosperity increases, towards substitution of the rarer for the more common, the choicer for the less attractive. There can be little doubt that the consumption of oranges in the United Kingdom, which has nearly doubled since

¹ *Konsumgenossenschaftliche Praxis*, 1 August 1931.

² 'It is true, or at any rate widely believed, that the consumption of bread as such has in this country diminished a good deal, but such a statement is a half truth. There have been very great changes in the form of breadstuffs used; for example, within the last twenty years there has been an extraordinary increase in the tea habit and in the consumption of breadstuffs associated with it. So, although the consumption of bread itself may have diminished greatly, the consumption of flour per head of the population has, according to my calculation, gone down from 227 lb. about 20 years ago to about 218 lb. in the last quinquennium. Further, as the wheats arriving in this country, owing largely to their greater freedom from extraneous matter, yield more flour than the wheats imported 20 years ago, the falling off in the quantity of wheat used as distinct from flour is greater.' (Sir A. C. Humphries in a note to the Study Group.)

³ *The Agricultural Output and Food Supplies of Great Britain, 1929*. Ministry of Agriculture.

⁴ Empire Marketing Board, 49, *Fruit Supplies in 1931*, p. 19.

⁵ Empire Marketing Board, *Dairy Produce Supplies in 1931*.

pre-War days, could be very much higher than its present level of about $1\frac{1}{2}$ oranges per head per week before satisfying potential demand or reducing the consumption of other foods. And the consumption of this one fruit in many countries of Europe is still only a fraction of English consumption.

The increased consumption of the non-staple foods—butter, fruit, vegetables—must, of course, have been accompanied by increased production; otherwise, the world's desires would have remained unsatisfied. Unfortunately, it is impossible, through lack of the necessary statistical data, to measure the rate at which production (and consumption) of these products has been and is growing; but the very moderate fall which has occurred in prices in comparison with the slump in grain suggests that the rate of increase in production is at any rate not excessive.

If there have been marked changes in diet in America and in Europe, there has also been a considerable alteration since the War in clothing. Just as lighter foods are preferred to bulkier articles of diet, so lighter clothing and less of it is the fashion to-day. This change in taste, together with the rapid development in artificial silk manufacture, has affected the consumption of textile raw materials, wool and cotton, produced by agriculturists. The raw material of artificial silk, the basis of which is cellulose, is a forest product. For real silk there has been an increasing demand, especially in the United States, which has hitherto absorbed nearly 90 per cent. of the Japanese export. Sericulture is not seriously threatened by the new textile, though there is a temporary crisis in silk, due to the lack of money for luxuries. Cotton is still the most important textile raw material; production, and the consumption by cotton mills, have increased since the War, after a serious temporary set-back.

VII. *Adaptation of Production to Changes in Demand*

The changes in consumption indicated in the last section are likely to continue, and the extent and speed with which the farmer can adapt his production to meet the change in demand become important elements in the whole agricultural problem. For instance, it is necessary to consider to what extent farmers are able to accommodate themselves to the changes in demand in industrial countries, and to provide in greater quantities the meat, eggs, butter, milk, and cheese for which there is an increased demand. There are many difficulties in the way of change. The wheat-lands of the Canadian West and of Australia cannot suddenly be turned over to other forms of

production; climate, transport, and labour-supply favour this particular crop.

The classic large-scale instance of a turnover from one kind of farming to another is the change from cereal production to dairying undertaken by Denmark in the latter decades of the nineteenth century. The European farmer who attempts the same turnover in production to-day has a much harder task. When Denmark made that change the competition of New Zealand and Canadian dairy produce had not begun to be felt. Refrigeration has changed the situation. Faced with the competition of American grain unloaded in large quantities on the European market, Danish farmers, aided by a high standard of education and the development of the co-operative spirit, turned from grain-growing to the rearing of dairy cattle and the production of high-standard live-stock products, with the success that all the world knows. The leaders of Danish agriculture in that day were led to the resolution to change the whole character of Danish farming, first, because of the fall in the price of grain relatively to that of live-stock products; secondly, because of the farmers' proximity to large industrial markets in Hamburg and London for perishable produce; thirdly, because climatic and soil conditions were actually more favourable to the live-stock industry than to grain growing; and finally, because the Danish farmers rightly believed that animal manures would restore the fertility of their exhausted soil.¹ In the present crisis the wave of depression which fell on other countries in 1929 did not really reach Denmark until 1930. By that time heavy falls in the price of her staple exports of butter, eggs, pork, and beef reduced the income of farmers by 100 kr. per hectare of cultivated soil.² The fall in the price of maize and other feeding-stuffs did not help the Danish farmer to the extent which might have been expected, as Denmark only imports about 20 per cent. of her feeding-stuffs from abroad. Simultaneously with the fall in prices, Denmark suffered from the raising of tariffs against her products in Germany. Danish agriculture has been built up mainly on the open British market, and there has always been the latent danger that, at some period, Great Britain might decide to place a tariff on dairy produce with preference to the Dominions.³

A similar readjustment in agricultural products, though on a less spectacular scale, is in fact continually taking place in the

¹ For a good account of the scientific organization of Danish agriculture see Harold Faber, 'Agricultural Production in Denmark', in the *Journal of the Royal Statistical Society*, January 1924.

² *The Agricultural Crisis*, League of Nations, vol. i (1931), p. 144.

³ See Appendix II, p. 286, for Summary of the Ottawa Agreement.

agricultural world to-day. When the lands newly opened up in areas far from the great cities developed their production of breadstuffs, the older countries and the older settled regions of the new countries shifted more and more to the production of vegetables, fruit, meat, and dairy produce—of perishable goods generally, in which they have an advantage in the proximity of markets. Great Britain, Holland, Belgium, Switzerland, and recently Finland, have followed the example of Denmark. Latvia increased her exports of butter by 25 per cent. in 1930 as compared with 1929, and doubled her exports of bacon. Estonia increased her exports of animal foodstuffs. Live animals and food accounted for 35 per cent. of Lithuanian exports in 1928, for 41 per cent. in 1929, and for 60 per cent. in 1930. Yugoslavia increased her exports of eggs by more than one-third, and trebled her exports of poultry in 1930 as compared with 1929. Bulgaria showed large increases in exports of poultry and eggs in 1930.¹ The limit of the *natural* as opposed to the present effective demand in Western countries for these products is by no means reached. Industrial unemployment in western Europe has temporarily lessened the demand, but with a reasonable degree of prosperity the demand throughout Europe might assuredly be vastly increased.

VIII. *Over-production or Under-consumption*

In the foregoing pages we have endeavoured to sketch an outline of the agricultural world in terms of production and consumption. What conclusions can one draw from the tentative statements in those sections? Certain questions suggest themselves.

Is the slump in agricultural prices mainly or in part due to a mal-adjustment of supply and demand? In other words, is there over-production or under-consumption, or both? If there is over-production, is it due to an excess of production of food which the human being might reasonably be expected to consume, or is any disparity due to the consumer's lack of means to purchase his requirements in food?

If the world were an economic unit with perfectly free interchange of commodities *and* of men, the question would be a world problem, and it would be true to say that over-production in the sense of a sufficiency of the various kinds of food to supply the reasonable means of every human being was not yet even in sight.²

¹ *Review of World Trade*, 1930, League of Nations, 1931, pp. 34-5.

² On population see: *Mankind at the Crossroads*, by Edward M. East, Professor in Harvard University, New York, Charles Scribner's Sons, 1924;

It is interesting to note that again and again statisticians, from Malthus onwards, have expressed the fear that the world was in sight of starvation, and the pressure of humanity upon subsistence was a commonplace of the economists in the nineteenth century. The German chemist, Liebig, showed that the yield of a given crop is limited by the absence of some particular requirement in which the soil may be deficient. Hence, the whole science of scientific manuring. But though the organic matter appeared to be inexhaustible, chemists have predicted that there might come a day when deficiency in some mineral requirement, nitrogen or phosphorus, might effectively limit production and, with it, population. In 1898 Sir William Crookes informed the British Association that world population had commenced to press against the means of subsistence and that a shortage of wheat might be expected to make itself felt by the year 1931. Sir William Crookes did, indeed, qualify his prophecy by saying that the discovery of effective means for the fixation of atmospheric nitrogen would postpone the evil day. That condition is now fulfilled, and the nitrogen in the air is being converted in factories into agricultural fertilizers. But even before the process was perfected there was no indication of a rapidly approaching wheat shortage. In the very year in which Crookes delivered his address, the patient work of the plant-breeder was laying the foundations for the evolution of the new wheats, and in 1931 (Crookes's crucial year) world stocks of surplus wheat reached the enormous figure of over 400,000,000 bushels.¹ To-day there are stocks of cereals which cannot be sold; coffee is burned for lack of a market; cotton is ploughed in to maintain a price at which growing is possible. Simultaneously with this unsaleable surplus of food and raw materials we have a vast mass of unemployed workers whose consumption of goods is gravely reduced. German calculations² estimate that the crisis of 1920-1 made 12 million men workless throughout the industrial world. To-day world unemployment is estimated at more than

The Problem of Population, by Harold Cox, London, Jonathan Cape, 1922; *The Population Problem*, by A. M. Carr-Saunders, Oxford, Clarendon Press, 1922; *Population Problem*, by E. B. Reuter, Ph.D., Associate Professor of Sociology in the University of Iowa, Philadelphia and London, J. B. Lippincott Co., 1923; *Population*, by Harold Wright, New York, Harcourt, Brace & Co., 1923.

¹ World stocks on 1 August 1931 were estimated at 904 million bushels; the average on the same date for 1924-7 was 493 million bushels. (See *The Wheat Situation, 1931*, p. 42.)

² Wagemann, *Struktur und Rhythmus der Weltwirtschaft*, Berlin, 1931, p. 245, and Steuermann, *Weltkrise, Weltwende*, Berlin, 1931, p. 52, cited by Sering, 'Weltwirtschaftskrisis', in *Die deutsche Landwirtschaft*, Berlin, 1932.

25 millions, and additional millions are working on short time, with wages correspondingly reduced.

The figure of 25 million unemployed is almost certainly an underestimate, and if only one dependent is reckoned for each person unemployed, there is a mass of consumers greater than the population of Great Britain or France who are living in most cases at a low level of subsistence. In countries where no regular provision is made for unemployment relief, consumption is reduced to the bare minimum. The army of unemployed are industrial workers who are normally large consumers of the goods the farmer produces.

Further, the vast populations of India and China, numbering about 825 millions, or two-fifths of the world population, are permanently living for the most part on the very margin of subsistence, with periodically recurring famine in China, and periodical scarcity in India. Russia with over 160 millions also has a low standard, and is subject to recurring danger of famine in certain districts.

Given a proper basis of distribution, the results of the advancement of science, and the consequent developments in communications and in food-production, the world should be moving towards a diffusion of wealth which would remove for ever the menace of periodical famine and the perhaps even more deadly menace of permanent under-nutrition.

A writer in the *Manchester Guardian* (9 November 1931), referring to the burning of coffee as fuel, put the case picturesquely enough in a leading article entitled 'An Ominous Odour':

'We sometimes read of disabled ships which have managed to crawl into harbour by the desperate resort of burning their own timber as furnace fuel, but the world as a whole seems to be even worse off than such vessels, when what is intended for food and clothing is thrown to the sea or to the flames. That is one aspect of a pretty desperate disorder; the other is represented by millions of "masterless men" in every civilized country of the world, willing to work for a wage (that would, among other things, buy coffee or cotton that is now grown for destruction), but finding no one who can offer that work and the wage that rewards it. There are wasted natural resources on the one side and idle human energies on the other. The result can be called over-production or under-consumption as the observer pleases, but however the bad bargain is viewed it yields the same picture of a system of exchange strained to breaking point. The only satisfactory point is that the picture is so plain and so world-wide in its significance that millions of people are coming to see that the countries of the world must begin to act as allies instead of enemies, and that the disadvantage of one acts to the detriment of all. If that lesson is not learnt,

and applied, the odour from the Brazilian engines will be just a little more incense cast upon the altar of an expiring social order.'

Surplus stocks have been accumulated on the market, partly because of the lack of purchasing power among consumers and partly because of the unwillingness of distributors to keep stocks in hand in a period of falling prices. The fact that the consumer cannot immediately absorb these stocks does not necessarily imply disequilibrium between current production and potential demand. If London were cut off from London docks for three months and driven to semi-starvation and, supposing the very improbable condition that food ships continued to come up the river, the dock warehouses at the end of that period would be crammed with food, but this would be no reason for supposing that under normal conditions the rate of supply was too great.

Clearly there are multitudes who would acquire the products which are now unsaleable if they could. With plain evidence of poverty in every country the theory of over-production and saturation of world demand cannot be accepted as final. In fact the world is not yet organized on a basis which enables surpluses in one country to be available for the relief of scarcity in another. The truth appears to be that though international exchange advanced enormously in the nineteenth century with the introduction of the railroad and the steamship, and continued to advance in the early years of the twentieth century, the War and the national policies after the War caused a set-back in the advance of international trade.

This statement may be illustrated by two sets of national conditions, those of North America and eastern Asia. On the American side of the Pacific a surplus of foodstuffs, on the Asiatic side a shortage of food. The solution of the problem of American supplies in the world market, which contributed to the agricultural depression in the last three decades of the nineteenth century, came largely through the great increase in the population of the United States. In 1850 the population was between 20 and 30 millions; in 1930 it was 120 millions. But American experts predict a maximum population in 1960 of less than 160 millions, unless the immigration laws are changed, and that the population will then either remain stationary or decline.¹ Now United States farmers doubled their production in fifty years, but, concurrently, population was increasing. If population becomes stationary, farmers must cease to expand production,

¹ O. E. Baker, 'Population and Land Utilization', in the *Proceedings of the International Conference of Agriculture*, Geneva, 1931.

unless fresh avenues for export again become available as they did in the last quarter of the nineteenth century.

Take the converse example, Japan. It is said that the average acreage required to provide an American with his normal diet is 2 acres.¹ In Japan proper the acreage of land available for cultivation per person is less than a third of an acre, a space smaller than many a suburban garden. Clearly the pressure of population on food-supplies, even with a low standard of living, is very great, and the constant preoccupation of Japanese statesmen with food-supply is comprehensible. Already every possibility of intensive cultivation is explored. The pressure of Japanese population on the available subsistence within her borders must remain a constant menace to political stability in the East, unless international trade revives sufficiently to permit the exchange of the industrial products of Japan for foodstuffs from abroad.

China is a great producer of rice, but she is compelled to import millions of bushels from Indo-China and Burma. Japan has captured her place in the raw-silk market, and India and Ceylon a large part of her share in the tea market. She is herself a great consumer of tea, and only exports about one-quarter of her production. In soya beans, including Manchurian production,² and tung-oil production, she is still supreme. Her exports have not expanded sufficiently to enable her to purchase the foreign supplies of food which she might do, though these imports have increased. The standard of life is extremely low, and in some districts famine is endemic.

Neither the American problem of over-production nor the Japanese and Chinese problems of lack of food, can be solved except by a maintenance or increase of the volume of world trade (a volume which increased between 1926 and 1929, but decreased substantially in 1930 and 1931),³ or without a freedom of movement of population at present denied.

¹ Sir T. H. Middleton points out (in a note to the Group) that in the period 1909-13, 3 acres of cultivated land were required to provide an inhabitant of the United Kingdom with his normal diet. (It may be noted that partly because of a lower standard of living and partly because of more intensive cultivation the average in the decade 1831-40 was about 2.2 acres.) 'I think Mr. O. E. Baker's figure for the United States is too low; it must refer to tilled land only. If the grass land contributing to the United States food-supply be included, as in the case of the above United Kingdom figure, 4 acres is a more probable figure than 2 acres.'

² This was written before the formation of the new State of Manchu-Kuo.

³ Extensive studies on the problems of food and population in the Pacific area are being undertaken by the Institute of Pacific Relations. See *Problems of the Pacific 1931; Report of the Fourth Conference*.

CHAPTER II

INTERNATIONAL TRADE IN AGRICULTURAL PRODUCTS

Relative Importance of various Agricultural Products entering into World Trade—Changes in the Direction of Trade—Relative Importance of Countries in Import Trade.

I. *Relative Importance of Various Agricultural Products Entering into World Trade*

WORLD consumption of most agricultural products is greater than before the War, and in the majority of cases the volume of supplies entering into international trade has also increased. The extent of the increase varies from product to product, owing to a variety of factors, of which change in consumers' demand in importing countries is the most important. In the table on p. 30 are shown figures of the quantities of certain agricultural products entering world trade in pre-War and post-War years, summarized from the figures issued each year by the International Institute of Agriculture. The volume of international trade is obtained by adding together the net exports of all countries having a net export trade in the various commodities dealt with.

These figures are neither complete (hides, sisal, wine, and apples are among the omissions), nor, in some instances, precise (no allowance is made, for example, for the removal of moisture and impurities from rubber imported into British Malaya before it is re-exported). Subject to some reservations of this kind, however, the figures give a fair picture of the changes in international trade in various agricultural products.

The outstanding increase is, of course, that in rubber, due to the development of the plantation industry in British Malaya, the Dutch East Indies, and Ceylon. World trade in soya beans and ground-nuts has more than doubled, owing to the increased demand for vegetable fats, and for oil-cakes for live stock. Other oil-bearing nuts have also shown material increases, both copra and palm oil rising by about 100 per cent., and the increase in the former would no doubt be larger but for the development of the crushing industry in the Philippines and elsewhere, resulting in shipment in the form of coconut oil instead of copra. Against these increases in oil-bearing nuts must be set decreases in oil-seeds—sesamum, rape, and cotton—but the net result is a substantial increase in the supply of vegetable oils contributed by the tropics mainly to the temperate areas of the world.

Other big increases, in cocoa, bananas, and sugar, also reflect the

TABLE VII

Volume of International Trade in Certain Agricultural Products

| | 1909-13. | 1922-4. | 1925-7. | 1928-30. | Increase or decrease 1928-30 compared with 1909-13. | |
|------------------------------------|----------|----------------|---------|----------|---|-----------|
| | | | | | Increase. | Decrease. |
| | | | | | | |
| | | (million cwt.) | | | % | % |
| Wheat | 285 | 325 | 334 | 350 | 23 | .. |
| Rye | 22 | 39 | 28 | 24 | 9 | .. |
| Barley | 103 | 47 | 62 | 75 | .. | 27 |
| Oats | 46 | 30 | 28 | 27 | .. | 41 |
| Maize | 128 | 133 | 170 | 160 | 25 | .. |
| Rice | 90 | 107 | 127 | 125 | 39 | .. |
| Potatoes | 16 | 22 | 27 | 75 | 56 | .. |
| Sugar | 143 | * | 235 | 244 | 71 | .. |
| Cocoa | 4.5 | 9 | 9.6 | 10.1 | 124 | .. |
| Tea | 6.7 | 6.6 | 7.5 | 8.2 | 22 | .. |
| Coffee | 21 | 25 | 27 | 28.6 | 36 | .. |
| Rape-seed | 7.9 | 6.9 | 4.1 | 2.9 | .. | 63 |
| Ground-nuts | 10.8 | 17 | 26.6 | 31.2 | 189 | .. |
| Sesamum | 5.3 | 2.7 | 1.8 | 2.8 | .. | 47 |
| Linseed | 28 | 31 | 39 | 39 | 39 | .. |
| Cotton-seed | 15.2 | 12.6 | 13.2 | 14.4 | .. | 5 |
| Soya beans | 15.5 | 26.4 | 32 | 50 | 224 | .. |
| Copra | 10.8 | 16.8 | 19.4 | 22.3 | 106 | .. |
| Palm kernels | 6.3 | 9.4 | 11.3 | 10.9 | 73 | .. |
| Palm oil | 2.4 | * | 3.9 | 4.9 | 100 | .. |
| Hemp | 5.1 | 5.9 | 6 | 7.3 | 43 | .. |
| Flax | 6.5 | 3 | 5.6 | 6.4 | .. | 2 |
| Cotton | 56 | 47 | 62 | 59 | 5 | .. |
| Jute | 15.5 | 12.9 | 15 | 16.1 | 4 | .. |
| Rubber | 1.8 | 7.8 | 11.6 | 14.7 | 717 | .. |
| Wool | 14.4 | 16.2 | 16.7 | 17.4 | 21 | .. |
| Silk | 0.4 | .. | 0.9 | 0.9 | 125 | .. |
| Butter | 5.9 | 6.1 | 8.4 | 9.8 | 66 | .. |
| Cheese | 4.1 | 4.9 | 5.9 | 5.9 | 44 | .. |
| Eggs and egg products | 8.1 | * | * | 11.2 | 38 | .. |
| Bananas | 24 | * | * | 46 | 92 | .. |
| Citrus fruits | 21 | * | * | 33 | 57 | .. |
| Beef | 11.2 | * | * | 20.8 | 86 | .. |
| Mutton | 5.1 | * | * | 5.7 | 12 | .. |
| Pork | 9.3 | * | * | 15.1 | 62 | .. |

* Not calculated.

development of tropical or sub-tropical areas; and the growth of the silk trade is due to the development of the Japanese silk industry. But the development of tropical areas is not the sole cause of the largely increased international trade in agricultural products. Trade

in beef, pork, and bacon, butter, cheese, and eggs, has also increased substantially; these are products of temperate rather than tropical areas. The growth in international trade is thus also due partly to the development of pastoral production in South America and Oceania, partly to intensive production in Europe for export to the great consuming markets of Great Britain and Germany. Even wheat, in spite of the trend towards agricultural nationalism in Europe, shows an increase of 23 per cent., but trade in barley and oats is reduced, the one case reflecting prohibition in the United States and taxation in the United Kingdom, the other the rapid displacement of the horse by mechanical transport. The slightness of the rise in cotton and jute is largely due to the development of manufacturing industries in the countries where these crops are grown.

II. *Changes in the Direction of Trade*

Since the pre-War quinquennium there have been a number of striking changes in the contributions of the various exporting countries towards world supplies. Russia, in pre-War years the chief exporter of wheat, barley, and oats, has given way to Canada and Argentina; Argentina in post-War years has strengthened her position in the maize trade, and India still leads by a substantial margin in rice. In sugar the cane-growing countries of the tropics supplanted the beet-growing countries of Europe during the War, and are now struggling to maintain the position they then won. British West Africa and Brazil are responsible for the great increase in cocoa production, Ecuador and San Thom e having been displaced from the position they enjoyed as the largest producers shortly before the War. India and Ceylon have maintained their places as the largest exporters of tea, and Brazil of coffee, but competitors are arising which may in time threaten their supremacy. India is still the largest exporter of oil-seeds and nuts, and has replaced rape and sesamium by ground-nuts, but here also competition has developed, for West African ground-nuts and Chinese soya beans have shown striking development, apart from the increase in copra from the East Indies and in palm kernels and palm oil from West Africa. In butter and cheese the most significant development has been the growth of export from New Zealand, although the Scandinavian and Baltic countries have also increased their exports. The increased beef trade reflects the expansion of the South American grazing industry, first in Argentina and then in Uruguay and Brazil, but the increase in exports of pig-meat is chiefly in bacon shipments from European countries to the United Kingdom. International trade in bananas has nearly doubled

owing to the development of plantations in the West Indies and in Central and South America, but the increase in trade in oranges, in spite of the significant development in exports from other countries—Palestine, South Africa, Brazil, and the United States—is due mainly to an expansion of exports from Spain, the world's largest exporter both before and after the War.

Textiles, other than silk, have shown no material increase, nor change in the main sources of supply. India has a virtual monopoly in jute, the United States an overwhelming superiority in cotton (although other countries are developing their cotton-growing industries), and Australia a superiority in wool. Russian flax was temporarily replaced by that of other European countries, including the Baltic Border States, but Russia has now won back her former position in the flax market. The big increase in exports of silk is entirely due to the development of the industry in Japan.

Changes in the proportion of world supplies taken by the various importing countries are equally striking, although they have attracted rather less attention. The development of the United States as a creditor nation, the growth in her population and wealth and her tariff policy, under which virtually only commodities not produced within the country are admitted free of duty, have enormously stimulated imports of tropical and sub-tropical products generally; in recent years the four leading imports by value have been silk, coffee, rubber, and cane-sugar. Thus, we find that as compared with the pre-War period, average net imports of cocoa, silk, and olive oil have more than trebled, sugar and coffee have nearly doubled, while imports of copra are rather more than nine times their pre-War level. Well over half the rubber, silk, and bananas and between one-third and one-half of the sugar, coffee, and cocoa entering world trade now find a market in the United States.

The United Kingdom is still far and away the principal market for the world's meat surplus, and although average imports of beef into Germany, Belgium, Italy, and Japan, and of mutton into Germany and France, have expanded, these countries still take an insignificant volume of meat in comparison with the United Kingdom market, and the tendency, as with so many other foodstuffs, is towards compulsory diminution of import.

Imports of wheat (including flour) into Italy and France have increased, while those into the United Kingdom have remained stationary; there has also been a remarkable development in net imports of wheat into China and Japan—from about 2,000 metric tons annually before the War to over 580,000 metric tons in China in

1930, and from 93,000 metric tons to nearly 350,000 metric tons in Japan in 1930.

In butter and cheese the United Kingdom and Germany have each increased their imports, the latter by a considerably greater proportion than the former; the United Kingdom is still the world's largest market for butter, cheese, and eggs. In vegetable oil-seeds the United Kingdom is now almost the only market for cotton-seed, but the United States has displaced Germany as the chief importer of copra, and while France is still the chief importer of ground-nuts, Germany's imports have increased sevenfold, to replace her imports of cotton-seed, which have been reduced to negligible proportions.

Changes in imports of textile materials compared with the pre-War period reflect the altered balance of industry in the world. Japan's imports of cotton have doubled, and those of France have increased by 40 per cent.; net imports into the United Kingdom and Germany have declined by 30 and 20 per cent., bringing Japan into rivalry with the United Kingdom as the world's largest buyer of raw cotton, and setting France above Germany.¹ In wool, while Germany's net imports have declined by 12 per cent. and those of the United Kingdom have remained stationary, France has risen to first place with an increase of 26 per cent., while Japan's imports, though still relatively small, have increased more than tenfold since the pre-War quinquennium. The development of silk imports into the United States of America we have already referred to, while in raw jute the United Kingdom and Germany still figure as the largest importers, although their imports have declined by over 10 per cent. and those of France, Italy, and Spain have increased.

III. *Relative Importance of Countries in Import Trade*

The relative importance of the six principal importing countries for a wide range of agricultural products is indicated in the table on p. 34, based upon figures summarized from the *Year Book* of the International Institute of Agriculture. Gaps in the table do not mean that there are no imports, but that the country in question does not appear among the leading six importers. It is noticeable that in only three commodities—rice, raw silk, and coffee—does the United Kingdom fail to appear among the six leading importers, and in only six is Germany not among the first six.

The figures given in Tables VII and VIII suggest that the principal increases in the trade in agricultural products since the pre-War period have been in the supply of tropical products to the temperate

¹ This is partly accounted for by the inclusion of Alsace in France.

WORLD AGRICULTURE

TABLE VIII

Proportion of World's Net Imports of certain Agricultural Products taken by certain Countries in the years 1927 to 1930

| | U.K. | U.S.A. | Germany | France. | Belgium. | Italy. | Holland. | Japan. | Other countries. |
|-----------------|------|--------|---------|---------|----------|--------|----------|--------|--|
| | % | % | % | % | % | % | % | % | |
| Wheat and flour | 27 | .. | 9 | 6 | 6 | 10 | .. | .. | Brazil . . . 4 { Switzerland . . 2 Austria . . . 2 |
| Barley . . . | 19 | .. | 49 | .. | 9 | .. | 9 | .. | { Switzerland . . 13 Austria . . . 7 |
| Oats | 28 | .. | .. | .. | 9 | 8 | 9 | .. | .. |
| Maize | 24 | .. | 13 | 9 | 7 | 8 | 13 | .. | .. |
| Rice | .. | .. | 3 | .. | .. | .. | .. | 22 | { China 15 Dutch E. Indies 9 Ceylon 8 Malaya 9 India 7 |
| Sugar | 15 | 43 | .. | .. | .. | .. | .. | 6 | { China 6 Canada 3 Spain 2 |
| Cocoa | 12 | 37 | 15 | 7 | .. | .. | 9 | .. | { Russia 6 Canada 5 Australia 5 Sweden 3 |
| Tea | 53 | 11 | .. | .. | .. | .. | 3 | .. | Denmark . . . 6 |
| Coffee | .. | 46 | 10 | 12 | 3 | 3 | .. | .. | .. |
| Ground-nuts | 6 | .. | 34 | 38 | 2 | 8 | 5 | .. | .. |
| Copra | 5 | 24 | 20 | 19 | .. | .. | 13 | .. | Denmark . . . 6 |
| Linseed . . . | 15 | 24 | 17 | 10 | 5 | .. | 17 | .. | .. |
| Cotton-seed . | 88 | .. | .. | .. | .. | .. | .. | 11 | .. |
| Soya beans . . | 7 | .. | 47 | .. | .. | 2 | .. | 30 | { Denmark . . . 9 Sweden 4 Argentina . . . 24 |
| Olive oil . . . | 5 | 32 | .. | 7 | .. | .. | .. | .. | { Chile 5 Cuba 4 Canada 2 |
| Butter | 64 | .. | 26 | .. | .. | .. | .. | .. | Dutch E. Indies 1 |
| Cheese | 49 | 11 | 21 | .. | 6 | .. | .. | .. | { Spain 1 Algeria 1 Spain 7 |
| Eggs | 44 | .. | 39 | .. | .. | .. | .. | 2 | { Austria 4 Switzerland . . . 3 |
| Bananas . . . | 14 | 68 | 5 | 6 | 1 | .. | 1 | .. | .. |
| Citrous fruit | 34 | .. | 21 | 11 | 3 | .. | 3 | .. | Canada 7 |
| Beef | 68 | 2 | 11 | .. | 4 | 6 | .. | 2 | .. |
| Mutton | 93 | .. | 1 | 3 | .. | .. | .. | .. | .. |
| Bacon | 97 | .. | .. | .. | .. | .. | .. | .. | .. |
| Cotton | 23 | .. | 12 | 13 | .. | 8 | .. | 23 | Czechoslovakia 4 |
| Wool | 20 | 11 | 16 | 23 | 6 | .. | .. | 5 | .. |
| Silk | .. | 74 | 5 | 12 | .. | .. | .. | .. | { India 2 Canada 1 |
| Jute | 24 | 8 | 16 | 14 | .. | 7 | .. | .. | Spain 6 |
| Rubber | 9 | 60 | 6 | 8 | .. | 2 | .. | .. | Canada 4 |

areas of the globe, especially to the United States, and in the contribution of the newer countries towards European requirements of meat and dairy produce. It is true that there are increases in European exports to other European countries, of butter and eggs, bacon and oranges. But the biggest increases are the supplies from the tropics and the newer temperate areas.

Consumption of tropical products in Europe, Russia, and other temperate areas is no doubt capable of expansion. Moreover, there is no competition, except a very indirect one, with the products of the importing countries. On the other hand, exports from the newer countries in the Temperate Zones—from Canada, Australia and New Zealand, Argentina, Chile and Uruguay—not only compete with the products of exporters of agricultural produce in Europe and the United States and Russia, but depress the prices obtainable by the farmers in the countries which are the chief importers. The great expansion in production in America and Oceania, fostered by War-time needs of the Allied belligerent nations and continued after hostilities ceased, is now regarded by many European statesmen as a hindrance to the natural recovery of European agriculture. Artificial methods of stimulating production and restricting imports have been instituted to ameliorate the position of European farmers, depriving exporting countries of their recently gained markets and tending on balance to reduce instead of expand consumption over the whole range of food products.

Hitherto the restriction of imports for protective purposes¹ has mainly been applied to competitive products—to wheat and other cereals, beef and pork, butter and non-tropical fruits. Only sugar, among the tropical products, has been affected, import duties, where they are imposed on the products of the tropics, being mainly for revenue purposes.

¹ See Chapter X.

CHAPTER III

MODERN METHODS

Mechanical Processes in Farming—The Application of Biological and Chemical Science—The Dissemination of Information.

I. *Mechanical Processes in Farming*

IN the hundred years between 1750 and 1850, when the application of machinery was transforming the industrial world, very little progress was made in the tools used by the farmer. The great developments in agricultural engineering belong to the last eighty years. And, though the mechanization of industrial processes is almost universal, the great majority of farmers throughout the world are content with the simple implements used by their forefathers. The main cause of the delay in applying mechanical invention to agriculture as compared with industry is no doubt the fact that farming is a widespread and scattered occupation carried on for the most part by men whose resources in capital are limited, while industry is concentrated in small areas and attracts capital. But the explanation may lie partly in the nature of farming as a human occupation. The slow arts of husbandry applied to the 'mild, continuous epic of the soil' encourage the innate conservatism which still characterizes the agriculture of Asia and of a great part of Europe.

A different outlook prevails in the more newly-settled countries, whose peoples are children of the Machine Age. There, necessity was the mother of invention. Actual shortage of labour, not the desire to reduce costs, provided the incentive for the first important advances in agricultural engineering. In the middle of the last century labour was extremely scarce both in the Middle West and the West of the United States and in Australia, and these countries were the first to adopt labour-saving machinery on a considerable scale. Harvest meant a seasonal demand for an immense amount of labour sometimes unobtainable. Even at the cost of extreme and laborious effort there was no certainty that the task could be accomplished. Mechanization removes anxiety as to whether sowing and harvesting can be accomplished in time or not; it also evens out the demand for labour, and prevents the dislocation and difficulty caused by a great influx, at certain seasons, of casual labour.

Even after the numerous inventions of the years from 1880 onwards there were, up to a few years ago, many processes which seemed to

defy mechanical handling and have until recently baffled inventors. Some problems still remain to be solved. They include the lifting of roots, the picking of cotton, the pulling of flax, the cutting of sugar cane, weeding, the planting of rice, the gathering of fruit. All these processes, except fruit-picking, are now being attacked, and in certain instances with success.

But the greatest and most complete success has been achieved in the harvesting of grain.

The earliest form of reaping machine (Bell's) was in use in Scotland in 1827, and the earliest form of the self-binder in 1828. A South Australian farmer, dismayed by the difficulty and expense of obtaining harvest hands, invented the stripper in 1846, and at once reduced his harvesting costs from 3s. 6d. to 6d. per bushel. The automatic reaper and binder was in general use in the United States in the 'eighties. Before the invention of the reaper and binder, grain was cut by hook or scythe at the rate of an acre a day, or by the horse-drawn reaper at the rate of less than 10 acres a day; gathering and binding were done by hand. The reaper and binder reduced the costs of cereal harvesting and the price of bread, and had an undoubted effect on the industrial development of Europe and America. The latest development, the combine harvester, which did not come into practical use until about 1890, though it is alleged to date back to an American patent as early as 1828, has still further reduced harvesting costs. These machines were improved, but their utilization spread at very varying rates in different countries. Before the War, however, some form of stripper, combine or harvester, had largely replaced other harvesting machinery in the Western United States of America and in Australia. The combine harvester cuts the heads of wheat, leaving the straw standing, it carries the heads into a threshing drum, threshes, winnows, and bags the grain; it weighs the bags, and they are then removed ready for dispatch to the railway-siding. Machines are made to cut a 10- to 15-foot swathe, and with their aid two men can complete the harvesting of 50 acres of wheat per day. Grains need not be man-handled at all from the field right through to the bakehouse. For the most effective use of the combine harvester, the standing crop must be completely ripe and sufficiently dry to allow the wheat to be bagged within a minute of its being cut; moreover, the machine is only economical in use where large areas of wheat are harvested. These factors impose limitations upon the world-wide adoption of the combine harvester, but modifications in the size of the outfit, the adoption of methods of artificially drying the grain, and the breeding of wheats which can

stand long enough to reach complete maturity, are extending its use to areas of moderate-sized farms and to moister climates.

Combine harvesters have successfully harvested English crops under favourable weather conditions.¹ Adaptations to local conditions will probably be made. Nevertheless, the general use of the combine harvester in its most economic form is at present limited to the West and Middle West of the United States of America, Argentina, Australia, parts of Canada, and the drier districts of Russia, such as the Northern Caucasus. Probably in Hungary climatic conditions are also favourable, and the same is true of most of Italy, but in Italy other conditions are unfavourable, as wheat is grown chiefly on peasant holdings.

In 1914, 270 combine harvesters were manufactured in the United States of America; in 1929 the number had increased to 36,957. Exports of the combine harvester from the United States by countries of destination indicate the development in Argentina, Canada, and Russia. In Australia the combine or an equivalent machine is generally used; but, as they are almost exclusively of Australian manufacture, the figures in our table are not significant for that country.

TABLE IX

Number of Combined Harvester-Threshers and Threshers Exported from the United States, 1925-30²

| Year. | Total. | Canada. | Australia. | Argentina. | Russia. | Total to these four countries. | Percentage to total exports of these machines. |
|-------|--------|---------|------------|------------|---------|--------------------------------|--|
| 1925 | 1,720 | 110 | .. | 619 | 21 | 750 | 44.0 |
| 1926 | 4,444 | 368 | 97 | 3,637 | 4 | 4,106 | 92.4 |
| 1927 | 4,705 | 819 | 261 | 3,097 | .. | 4,177 | 88.8 |
| 1928 | 7,317 | 3,560 | 3 | 3,116 | 33 | 6,712 | 91.7 |
| 1929 | 10,887 | 3,103 | 37 | 6,214 | 435 | 9,789 | 89.0 |
| 1930 | 6,573 | 1,531 | .. | 2,622 | 1,376 | 5,529 | 84.1 |

In Argentina, where 30 per cent. of the wheat area is reaped by combines, detailed figures of harvesting costs have been given for harvesting by the binder and the combine. From these it appears

¹ Cf. University of Oxford, Agricultural Economics Research Institute, *Occasional Notes*, vol. i, No. 19, 1932: 'Combine Harvesting of Cereals.'

² *The Wheat Situation, 1931*, Imperial Economic Committee, 1932, p. 63.

that, in average wage districts, costs are diminished by the use of the combine by 34 per cent.

The position in Canada, where from 15 to 16 per cent. of the total wheat area is reaped by the combine, is stated by Dr. Riddell as follows:

'In 1928 there were 4,341 combines in use throughout the prairie provinces, representing an investment of 11 million dollars, and harvesting each an average of 616 acres, or a total of over 2½ million acres. The costs, estimated on the basis of the machine harvesting 600 acres, each acre yielding twenty bushels, were 9½ cents per bushel for the whole operation, as against 17½ cents per bushel by the old method of binder followed by thresher. A difference of 8 or 9 cents on each bushel of wheat may easily, as many farmers have discovered, transfer the balance to the right side of the ledger. Another way of expressing the economy thus effected is by pointing out that two men with a combine may reap and thresh from thirty to fifty acres of wheat per day. To-day there are 7,726 combines in the prairie provinces . . .'¹

He adds that 'the tendency to mechanization has made farming a much more capitalistic enterprise and at the same time is gradually increasing the areas of the farms'. In Argentina and Australia farms are already large, but in Canada and the United States the 'half section' farm of 320 acres is rather small for the full exploitation of mechanical power. The tendency towards larger units in areas where the new technique has penetrated is illustrated by the change in Montana. In that State there were between 1915 and 1917, according to the United States Department of Agriculture, about 35,000 wheat farmers, many of whom were operating 'half section' farms. To-day there are probably not more than 14,000 farmers. 'These men, however, are handling more acres and doing the work better than it was formerly done by 35,000 farmers.'²

An American expert, Mr. H. R. Tolley, has reported that in the United States a combine harvester-thresher usually harvests and threshes wheat at a cost of from 3 to 5 cents a bushel, while the cost of threshing alone with the header or binder is more than 10 cents a bushel. With the sickle and the flail, from 35-50 hours of labour were required to harvest and thresh an acre of wheat with a yield of 15 bushels. With the combined harvester three-quarters of an hour of labour is required.³

¹ *The Agricultural Crisis*, vol. ii, p. 15.

² *Year Book of Agriculture, 1930*, United States Department of Agriculture, p. 17.

³ Cited in *The Wheat Situation, 1931*, Imperial Economic Committee, 1932, pp. 64-5.

In 1916 only about 30,000 tractors were manufactured in the United States of America; in 1928 it was estimated that 853,000 were in use in that country.¹

The figures of exports of tractors from United States are even more remarkable than those of the export of combines.

TABLE X

Number of Tractors exported from the United States, 1925-30

| Year. | Total. | Canada. | Australia. | Argentina. | Russia. | Total to these four countries. | Proportion of exports to Canada, Australia, Argentina, and Russia to total exports. |
|-------|--------|---------|------------|------------|---------|---|--|
| | | | | | | | % |
| 1925 | 45,946 | 5,368 | 4,179 | 4,871 | 6,760 | 21,178 | 46.1 |
| 1926 | 51,242 | 8,320 | 4,990 | 2,433 | 9,703 | 25,446 | 49.6 |
| 1927 | 58,279 | 16,218 | 4,408 | 3,140 | 5,119 | 28,885 | 49.6 |
| 1928 | 57,869 | 21,837 | 5,137 | 4,982 | 5,083 | 37,039 | 64.0 |
| 1929 | 60,155 | 17,078 | 2,353 | 8,956 | 12,245 | 40,632 | 67.7 |
| 1930 | 49,896 | 9,903 | 1,883 | 4,751 | 22,840 | 39,377 | 78.9 |

In connexion with the high figure of Russian imports it is perhaps necessary to state that well-informed reports from Russia show that the depreciation of tractors reaches formidable figures. The tractor is most important where oil fuel is cheap, for example, in the United States and Russia, and also in countries where the severity of the winter renders the maintenance of horses a relatively costly business. It is likely to remain more important in Russia, Canada, and the Middle West than in Argentina and Australia, where farm horses, when not in work, can graze without much supervision throughout the year. In these countries the present tendency is to revert to horse power, or, at all events, not to extend the use of mechanical traction. This is particularly noticeable in Australia, where the chief motive has been the reduction of expenditure on repairs and motor fuel.

Under the traditional methods of European farming, ploughing means a single furrow plough with a pair of horses or a team of oxen, or even dairy cows driven by one man, and sometimes with a boy to lead the animals. Under these circumstances the area ploughed

¹ *Year Book of Agriculture, 1930*, United States Department of Agriculture, p. 17.

per day varies from three to less than one acre. The average for single furrow ploughing in England is probably below $\frac{3}{4}$ acre. The multi-furrow plough, the combined drill for seed and fertilizer, the stump-jump plough, and other useful devices came into general use before the War in overseas countries. One man with a 50-horse-power tractor can plough up to 20 acres per day and the large horse-teams of the Australian wheat belt manage to turn over as large an area. The tractor-drawn seed-drill can sow from 70 to 80 acres, as against 10 to 15 acres with a horse-drill in England. Mechanical methods of field drainage have also immensely reduced labour and other costs.

How far mechanization of grain-growing has reduced costs of production, including capital charges (interest and amortization) and operating costs of all kinds, in the overseas countries, as compared with costs of production in European countries, cannot be determined in the absence of cost statistics which could be used for international comparison.¹

Opinion is, therefore, by no means unanimous on the comparative economy achieved by mechanized farming in wheat.

'Intense mechanization may² cause a reduction in various items of expense, but if it should bring about a reduction in yield per acre, the reduction of the cost of production per bushel or per quarter may be small or nil—it remains to be seen what the result will be on this point. At present all that need be said is (a) that in spite of improved varieties and other applications of science the yield of wheat per acre in North America is at least not commensurate with expectations, (b) that where so many factors are concerned, it is difficult or impossible to allot to each factor its true effect, (c) that where horses, fodder, and labour are cheap, mechanization is not economically attractive, and (d) that current prices mean an unsatisfactory return in many environments even to mechanized farming.'

Cotton-growing is partially mechanized. In certain cotton States each worker can only look after 10 to 20 acres of cotton, but in Texas and Oklahoma, with the use of large machinery, 100 acres per man

¹ Various agricultural institutes have, however, made calculations of the cost of wheat growing in Great Britain. See: University of Cambridge, Department of Agriculture, Farm Economics Branch, Report No. 12, *Four Years' Farming in East Anglia, 1928*; University of Leeds, *Production, Production Costs, Sources of Supply and Methods of Disposal of Agricultural Products—Eight Years' Yorkshire Records, 1921-9*; South Eastern Agricultural College, Department of Economics, Report No. VI, James Wyllie, *Corn Growing, Costs of Production and Financial Results, 1928*. For overseas, calculations are available for Australia in: *Report of Second Conference of Producers and Consumers*, held at Bathurst, New South Wales, May 1931, Sydney, 1931.

² Writes Sir A. C. Humphries in a note to the Study Group.

can be cultivated. In the maize belt of America inventions are expected to reduce the labour at present expended on that crop.

Mechanization applied to animal husbandry has not been so spectacular as in wheat production; nevertheless important advances have been made. The milking machine is of assistance in large-scale dairying. The overhead trolley saves labour in conveying food to the cow-house, and the motor-lorry gives facilities for rapid distribution of a most perishable product. The factory production of butter, which has done so much for the dairying industry, has been assisted by three inventions: the cream separator, refrigeration, and the Babcock test for butter-fat in milk, which enables payment to be made on the qualitative value as apart from the quantitative value of the milk.¹ These three inventions have facilitated factory production in the great dairying countries. By using sheep-shearing machinery, the Australian shearer can shear up to 200 sheep a day. The oil engine and the electric motor are being used to facilitate various farming operations even on relatively small farms. In animal husbandry, labour is also lightened by apparatus for cleaning and flushing sheds, preparing feeds, packing, and transport.

The future development of the machine in agriculture may be as rapid as anything we have seen in the last decade. Experiments are being made in Great Britain with a combined grass cutter and drier, designed to eliminate the labour and waste of haymaking and to convert the highly nutritious young grass, without loss of food value, into a concentrated cake, thus providing a balanced ration for stock in a highly transportable form.

The mechanization of other 'silage' cutting also offers great potentialities. Improved and labour-saving methods in handling and conserving fodder and in actual feeding offer a problem which is only beginning to be solved. The invention of a mechanical sugarcane cutter would reduce one of the handicaps under which the white labour sugar industry of Queensland suffers in comparison with Java. Improved drills will increase the efficiency of seeding many field crops, and may result in a 10 to 20 per cent. increase of yield.

The conditions for the advance of further mechanization in farming are almost ideal in Canada, Australia, and the United States, where geographical and social conditions and the national temperament are adapted to the new methods. This is true of Argentina also to a large extent. The result has been a decrease of costs per unit of production in all these areas. There has been an increased use of

¹ J. B. Condliffe, *New Zealand in the Making*, 1929, p. 218.

machinery on European farms, but on nothing like the same scale, partly because of the much smaller areas of farm units. With her traditional and laborious methods, with a low standard of peasant living, and with the assistance, in certain cases, of tariff protection, Europe has been able to maintain her grain-growing areas in the face of overseas competition. Long continuance of the world's depression with cereal prices below even the cost of mechanized production might turn the balance in favour of the European peasant farm, in which grain prices are not the decisive factor in prosperity. The small European family holding, with its diversity in crop production and animal husbandry, has its advantages in bad times.¹

The economies effected by mechanization of various farming processes in the newer countries are undeniable, but some caution is necessary in predicting future developments there and elsewhere. In those areas best suited to the use of combines and tractors climatic conditions are such as to make crop returns vary seriously from year to year. In the immediate post-War years, when money was plentiful and grain prices high, there was a rapid expansion in the use of machinery, and much new land was opened up.

'What area will be abandoned when the existing machinery wears out? Again, it is doubtful whether there has been time enough to measure the risks of droughts, frosts, &c. The opinions of those cultivating such land in seasons 1920 to 1929 may have been sharply altered by the 1930 drought, and 1940 may see further changes of view as to the area on which wheat growing can be safely attempted. Plant-breeders are endeavouring to counter seasonal difficulties, and may succeed so well that increased tracts in these risky regions may be cultivated in future, but experience is lacking.'²

The inevitable displacement of labour in agriculture under mechanized farming is a serious matter. 'It has been estimated that since 1850 machine-farming developments throughout the world have released approximately 27 million men from agriculture.'³ In theory the displaced labour should be absorbed (*a*) in more intensive forms of agriculture, and (*b*) in processing the increasing supplies of agricultural products. Reduction of labour costs by mechanization has been a continuous process going on for a century or more, and it is a matter of controversy whether it has been more marked in recent years than, for instance, from about 1860 to 1890, when threshing

¹ See Dr. Karl Brandt's paper, printed in the Appendix, on 'The Advantages of the European Peasant Farm', p. 277.

² Sir T. H. Middleton in a note to the Study Group.

³ Sir Robert Greig in a note to the Study Group.

and harvesting by mechanical appliances were generally introduced and when a revolution in transport took place.

The social, political (and biological) changes resulting from the flight from the countryside to the towns is one of the preoccupations of European statesmen; the desire to stem the process is one of the reasons for the encouragement given by the State in many countries towards the formation of family holdings, where hand labour is likely to remain the rule for many years to come.

The rapid development of electrical power and the increased facilities for distribution in rural districts in the more outstanding countries is now bringing about changes of great importance. Electricity is especially important to the farmer in dairying, cattle-feeding, and poultry-raising. In dairying, motor power is used for the milking machines, separators, churns, and refrigerators; in cattle-feeding, for various cutting and mixing machines; and in poultry-raising, for the incubators.

Great increases in production have undoubtedly resulted from the advances in agricultural engineering in the newer countries. In the four years 1925-8 production of wheat in the United States averaged 13 per cent. more than in the period 1919-22. But this increase must not be attributed merely to mechanized progress. The great efforts made to diffuse scientific knowledge of soils, crops, fertilizers, live stock, breeding and feeding, and of the defence of crops and animals against pests and diseases have played a large part. No mechanical devices are a substitute for good and scientific farming.

We must describe very briefly some of the advances due to science in the recent past.

II. *The Application of Biological and Chemical Science*

The biologist is already showing that he can assist us to provide food and raw materials for a world population double its present level. He is continually discovering new resources in food for men and animals and means of improving existing foods. One or two examples of new resources must suffice: the extended use in cattle feeding of many kinds of fish-oils, in addition to the cod-liver oil already used, not only as a source of valuable protein and minerals, but also of vitamins; and the possible utilization of cotton-seed meal, also rich in vitamins, for human food. By improving the strains of plant and animal life the scientist is making higher production possible in all directions. We may, indeed, reach a point where the only limit to the development of food-supplies will be the

available quantities of some essential element of plant and animal life, such as phosphorus.

In wheat the most striking changes are those produced by the plant-breeders of Canada and of Australia and other countries with large semi-arid areas. The former set themselves to evolve early maturing wheats to overcome the dangers of early frosts and the difficulties of a short summer. The historic example is the Marquis wheat of Canada. This hybrid ripens from 6 to 10 days earlier than its progenitors, it is relatively resistant to rust and drought, and gives a somewhat increased yield.¹ The Marquis wheat was followed by even earlier maturing varieties, possessing still more desirable characteristics. These wheats enabled the wheat-belt of Canada to be extended west to the Rockies and then north up to the Peace River district. Across the continent the plant-breeder has already enabled the potential wheat-belt to be extended a hundred miles northwards, thus adding in Canada alone perhaps 100,000,000 acres to the world's possible wheat-fields. The new Canadian wheats are probably also suitable for high latitudes in Siberia, where many millions of acres are doubtless available. The Pusa wheats introduced by the Howards into India have been of great value to Indian agriculture.

The plant-breeders of the semi-arid countries, of which Australia is typical, are facing a different problem with equal success. They set out to produce a wheat with a short straw and a minimum of flag, and with a maximum of resistance to drought and rust; in brief, the smallest possible area for transpiration through the plant. The work initiated by Farrer in Australia has certainly doubled the potential wheat-belt, and similar work has resulted in opening hundreds of thousands of square miles in the semi-arid areas of Russia and of Russian Asia. The gigantic State farms of the U.S.S.R. are indeed mostly in areas which could not, in normal years, have produced wheat until the plant-breeders evolved the new types. In Argentina the losses due to rust are being combated by improved strains, and indeed in every cereal-producing country of the world new and better wheats, oats, barleys, and the production of other grains is being similarly assisted.

The sugar-cane is a less simple biological material than the wheat plant, but in Java the Dutch plant-breeders, through the crossing of an almost sugarless wild cane with a cultivated variety, produced the celebrated cane P.O.J. No. 2878, which had a yield 15 to 20

¹ Sir John Russell, Address to Section M of the British Association, 1931, 'The Changing Outlook in Agriculture'.

per cent. higher than any previously known variety.¹ The result of the combination of scientific cultivation, irrigation, and manuring, together with the use of these improved varieties, has increased the yield of sugar in Java more than threefold. The changes in the productive capacity of sugar beet are also striking. In 1875 11½ tons of beet were required in Germany to make a ton of sugar. By 1910 the quality of the plant had been so improved that only 6 tons were necessary.

In Denmark the plant-breeder set himself to breed strains of mangolds which contain a greatly increased percentage of solid matter. The value of the feeding material produced by different strains of the same variety differed widely. Bad strains have been forced out of cultivation, and roots in Denmark are now said to be of greater feeding value per acre than grain.

Many other examples of the changes brought about by the plant-breeder in other farm crops might be quoted. For example, improvements in the rice and maize plants will profoundly affect the food-supply of the tropics.

For the food-supply of Western countries the pastures and grass lands of the world are as important as its arable land. With the rising standard of living and the consequent greater demand for animal products their relative importance is indeed steadily increasing. Investigations into the mineral contents of various grass lands have been carried on in many places, notably at the Rowett Institute, Aberdeen, and at the Onderstepoort Station in South Africa. With the assistance of the Empire Marketing Board further inquiries are being made in Kenya, Australia, and elsewhere. Once any deficiency—it may be very slight and yet inimical to stock-rearing—is determined, it is possible to meet it by the application of suitable manures, or by the introduction of minute quantities of the lacking constituent into the feed. Also the grazing season may be lengthened by the use of suitable fertilizers; the application of nitrogenous fertilizers gives a stimulus to growth and is especially effective in bringing the grass out earlier in the beginning of the season and keeping it growing later in the end of the season, which further extends the period when the pasture is at or near its maximum feeding value.² Efforts are also being made to manage grazing so that animals shall have the

¹ Report by Rt. Hon. W. G. A. Ormsby Gore, M.P., on his visit to Malaya, Ceylon, and Java, during the year 1928 (Cmd. 3235), p. 117. For a description of the work at the Proef Station, Oost Java, see a paper by A. Glendon Hill in *Imperial Sugar Cane Research Conference Report, 1932*, Empire Marketing Board.

² J. B. Orr, D.Sc., *The Composition of Pastures*, Empire Marketing Board, 18, p. 36.

benefit of the young grass with its relatively high protein content rather than the less nutritious pastures where the grass has run to seed. The management of grazing on these lines demands the selection and breeding of grasses, clovers, &c., which will grow early in spring and late in autumn so as to give successive yields. It also demands the study of geographical variation in the nutritive value of pastures, leading to balanced manuring.¹ Brilliant work in the breeding of grasses, clover, &c., with high feeding value has been achieved at Aberystwith and in New Zealand. It is probably no exaggeration to say that the general adoption of the improved indigenous strains of grasses and wild white and other clover at Aberystwith would double or treble the carrying capacity of the pastures of England and Wales.

Equally important results are being obtained with fruit trees, vines, rubber, and the tea, coffee, and cocoa plants, in research stations throughout the world.

The special problems of tropical and sub-tropical agriculture are of increasing importance in the British Empire, for in the British areas in these regions large crops of various products essential to countries in the temperate zones are now produced. West Indian fruit-growing, Straits Settlements rubber, oils and oil-seed from West Africa, cotton in the Sudan and Uganda, all demand research into the best methods of cultivation.

The application of grafting to the use of ratoon stocks in cotton growing is not likely to be long delayed. It will make possible a much higher level of production. The crossing of Pima, a long-staple cotton of Egyptian type, with Sakel, the best of the Egyptian varieties, has been successfully tested out in Arizona and promises to show the best qualities of both stocks. An upland cotton grown by the Kekchi Indians in Guatemala, strongly resistant to the pink boll-weevil, has been successfully acclimatized in the United States.²

The results so far achieved have been due to the more or less empirical work of the plant-breeder. We are probably approaching the stage when the plant geneticist with his growing knowledge of the behaviour of the chromosomes may be able to fortify the plant-breeder with more exact knowledge upon which to base his crosses. When that day arrives, we shall probably witness far more dramatic results.

¹ See McConkey, *Recent Advances in Pasture Management*, 1931. Empire Marketing Board, 43, p. 35.

² *Year Book of Agriculture, 1931*, United States Department of Agriculture, p. 67.

Progress with crops and pastures has been paralleled among domestic animals. Animal-breeding has up to the present time brought about results which necessitate more rapid progress than animal nutrition has yet been able to accomplish. The breeder has, for instance, been able so to perfect the cow as a milk-producing machine that the nutritionist has not been able to discover how to maintain the health of the 1,500 gallon cow. Such an animal, however, represents an abnormal and one-sided development; only where breeding and nutrition have gone hand in hand have the results been of great economic importance. Milk yields in Great Britain (on those dairy farms where records are kept) have risen from 599 gallons per annum in 1918 to 670 gallons in 1925; but good authorities calculate that the average yield to-day from all cows (including non-recorded cows, which form the majority on British farms) is probably not more than 450 gallons. The carcass yield in the market of a modern two-year-old beast now equals the yield that was given by a five-year-old steer a hundred years ago. This tends to show that the efficiency of the bullock has been more than doubled. Again, the poultry-breeder has produced egg-laying champions which approached the figure of 365 eggs per year; such results are not yet economic, but in Great Britain between 1908 and the post-War years the average output of eggs from the hen population increased from 72 per annum to over 100. Similar developments have taken place in other countries.

The development in animal-breeding is not, however, mainly in raising larger animals. The housewife's demand for small joints is met by 'baby beef' and early maturing lambs. In New Zealand the export trade in refrigerated mutton and lamb has turned breeders' efforts towards the provision of small carcasses. The technique of fattening the lambs on specially cultivated fodder crops has been brought to a fine art in New Zealand. The main gains in productivity have come from the increased carrying capacity of the land, from preservation of the female stock so as to maximize breeding, and from improvement in the quality of the rams used. Progress in the future depends on levelling up the general practice to the best in breeding.¹

One of the most economically important results secured by the animal-breeder has been in Australia with the merino sheep. The prize stock introduced in 1820 by McArthur gave a fleece averaging 2 lb. 7 oz. per annum. By 1872 this yield had advanced to 3 lb. 12 oz., in 1890 to 5 lb. 12 oz., and to-day the average over the whole of Australia is from 8 to 9 lb. The number of sheep in Australia in 1891

¹ J. B. Condliffe, *New Zealand in the Making*, 1929, p. 215.

and in 1929 was approximately the same, about 106,000,000, but whereas the wool clip in the former years was about 631,000,000 lb., in 1929 it reached 968,000,000 lb.¹ These results must be wholly attributed to the breeder, for improvements in the nutrition of the Australian flocks are only just beginning. The experimental feeding of a protein-rich substance to a flock of 500 ewes has, however, given a 30 per cent. increase in wool yield. In South Africa the feeding of bone-meal to overcome diseases due to phosphate deficiency has been found by stock-breeders to increase the milk yield of cows by over 30 per cent. and to double the rate of growth in beef-animals in addition to greatly improving the quality.

As with plants, so with animals, the breeder has been working on an empirical basis, and the time is arriving when not only the animal-breeder, but also the physiologist, will reinforce the art of breeding with the knowledge of science.

There is an aspect of the subject of breeding new varieties deserving of consideration. It is held by some observers that the rapid evolution of animals and plants with enormously increased capacity for production, e.g. the 2,000 gallon cow, the 300 egg per annum hen, and the new strains of plants may upset the balance of nature, and this may be followed by outbreaks of disease which may seriously interfere with world production. Plants and animals which suddenly acquire markedly new characteristics appear to be more susceptible to poison of various kinds.

The work now being done on the elimination of disease in animals is of fundamental importance, especially if high breeding does, in fact, entail increased delicacy. The elimination of contagious abortion, Johnes disease, mastitis, and tuberculosis in dairy cattle would revolutionize the dairy industry in Great Britain and elsewhere.² The veterinary and sanitary arrangements enforced in most civilized countries have done much to eradicate contagious and infectious diseases of domesticated animals. Most countries exercise a strict control on their frontiers; it is even a common complaint that the control in some instances is unduly strict, and is used to exclude healthy stock. But when the ravages of foot-and-mouth disease, for instance, are considered, it is obvious that departments of agriculture must desire to err on the side of safety. Even within national areas, quarantine restrictions for animals and plants are often found to be necessary and effective. The rigid restrictions on the movement of

¹ Nichols, *Study of Empire Wool Production*, 1932, p. 154.

² Sir William Dampier, *Report to the Empire Marketing Board on Dairy Research*, 1931, Empire Marketing Board, 44.

stock in England when cases of foot-and-mouth disease occur are a case in point. The ravages of the Mediterranean fruit fly in Florida were successfully checked by severe quarantine regulations which entailed great cost and trouble on the growers. The crusade waged by the United States Department of Agriculture against bovine tuberculosis since 1917 has achieved considerable results. In 1920 the proportion of cattle infected was estimated at 4.9 per cent.; the corresponding figure in 1930 was 1.7 per cent.¹

Other important applications of biological science have been made in the control of insect pests. The United States Bureau of Entomology has accomplished a vast amount of work towards limiting the ravages of the boll-weevil in the cotton crop, and carries on a campaign against the pests which affect the other crops. The Imperial Institute of Entomology in London has done work on insect pests attacking crops and animals which has done much to secure planters and farmers in tropical and sub-tropical climates from heavy losses. Grants have been made by the Empire Marketing Board to various stations in different parts of the Empire for the same purpose. It has been estimated that insects consume 10 per cent. of the world's crops and probably 20 per cent. of crops grown in the tropics; in India alone losses from insect pests on crops and forest trees were calculated at £136,000,000 in 1921. The tsetse-fly and the locust in East Africa are not yet defeated, but their ravages have been limited. Entomologists are turning their minds more and more to the possibility of controlling insect pests by the introduction or artificial increase among them of their natural enemies, usually parasitic insects. For this purpose the Laboratory at Farnham House was founded in 1927 by the Imperial Bureau of Entomology. That its creation met a real need is proved by the response of Dominion and Colonial entomologists to offers of assistance.² The increase in production due to researches in entomology in the last ten years has certainly been very great.

Valuable work has been done in the control of weed pests. Much still remains to be done. Instances of the ravages made by certain plants are the blackberry, which has encroached on 100,000 acres of land in New Zealand, and the prickly pear, which renders useless a large acreage in Australia.

Science is making a determined attack on harmful fungi, which

¹ *Year Book of Agriculture, 1931*, United States Department of Agriculture, p. 134.

² W. R. Thompson, *Biological Control of Insect and Plant Pests*, Report on Organization and Progress of Work of Farnham House Laboratory, June 1930, Empire Marketing Board, 29.

are often as destructive in their effects as insect pests. An example of the difficulties that beset the biologist in the field of mycology may be taken from Canada. The Dominion Rust Laboratories at Ottawa are trying to control rust ravages on wheat. By 'trapping' spores in aeroplanes at varying heights they found that the infection travels seawards on the prevailing winds sweeping across the American continent from the South.¹ Since the pest is wind-borne it can only be checked by international action. Indeed, for all plant and animal diseases international action is desirable. The measures of restriction adopted often give rise to international difficulties, and international co-operation is required. In England research into fungi-pests is carried out by the Imperial Mycological Institute. There are now a hundred research workers in different parts of the British Empire, and their work will be of the utmost importance in the future.

Coffee-planting in Ceylon was killed by disease, the existence of the lime industry in Dominica is threatened, and the Panama disease of bananas is affecting Jamaica.² The war against harmful fungi is making progress, but the fight will be hard and long. There is in all these problems a great field for international co-operation.

Knowledge of the best scientific use of fertilizers has been steadily increased. In Northern Canada, where early maturity in a short summer is of primary importance, advances of as much as twelve days in the date of ripening have been recorded on properly fertilized areas. Increase in yield was expected and secured, but the shortening of the cycle of growth was a factor almost as important.

Perhaps the greatest single scientific achievement made by chemical science to agriculture has been the perfecting of the processes for the preparation of ammonia from atmospheric nitrogen, which supplements the provision of nitrates for fertilizers, the main source of nitrates before the War being supplies from Chile. The atmospheric nitrogen industry was started after Sir William Crooke's famous address to the British Association in 1898, but it was not organized on a large scale until War-time necessities led to extensive production in Germany. There are various processes in use, yielding various nitrogen compounds, and the development of the production of nitrates since the War has been very great.

The nations of the West are now so accustomed to the variety of foods made possible by the development of methods of food preservation that it is hard to realize how comparatively restricted diet was

¹ *Annual Report of the National Research Council of Canada, 1929-30*, p. 20.

² Wardlaw and McGuire, *Panama Disease of Bananas*, Empire Marketing Board, 20.

fifty years ago. The aspect of the food-supply of the great centres of population has been radically changed by the development of refrigerating appliances in ships and warehouses, in trains and motor-vans. The transport of rapidly perishable products such as meat and milk was the first to receive attention. At first meat had to be brought from overseas in a frozen state; improved methods may soon permit of the transport by sea of chilled meat even from the Antipodes.¹

To-day the bio-chemist is working hand in hand with the refrigerating engineers for the improvement of methods. In the last few years quick brine-freezing has enabled Labrador salmon to be placed on the European market in perfect condition. Studies of the behaviour of fruit in refrigerated ships has minimized wastage, and is bringing the transport of highly perishable tropical fruits within reasonable expectation.

The consumption of perishable produce brought from distant countries and of local products out of season is also assisted by the great advances made in canning and preserving fish and meat, vegetables and fruit.

All these facilities, which are being constantly improved, extend the farmers' market in time and space. They permit the development of agriculture in sparsely settled countries where there must be for generations to come a surplus of food, and they enable the home farmer to dispose of the glut of perishable fruits and vegetables in the summer months to meet a demand extending over the whole year.

Finally, there is the assistance provided by scientific research to schemes for the best utilization of national resources. National planning schemes in agriculture require the use of specialist information on varying soil conditions if they are to achieve permanent success. On a smaller scale expert knowledge is applied to the cropping of individual areas. In India, for example, the programme of research conducted at the Sakrand Station bears upon the types of rice, wheat, cotton, jowar, maize, castor-seed, ground-nuts, and linseed best suited to the soil and climatic conditions of the areas shortly to be irrigated by the Sukkur barrage.

Another factor in the general improvement of farming methods, and perhaps the most important, is not strictly speaking due to scientific research. Sheer better management has certainly increased output per acre and per man to an appreciable extent in many

¹ For the most modern developments see Department of Scientific and Industrial Research, Great Britain, *Reports of Food Investigation Board, Report No. 2*, and others.

countries, notably in Denmark and Sweden. This is not so much due to specialist knowledge as to an improved general standard of education and of business methods. The levelling up of the poor farmer to the standard of his more capable neighbours is a very important factor in the general improvement.

III. *The Dissemination of Information*

Improved tools and machines, and the application of the results of scientific research on animal and plant life have increased output capacity per man and per acre; they have enhanced the efficiency of cattle, sheep, pigs, and poultry as converters of vegetable matter into meat, milk, eggs, and various industrial raw materials, hides, tallow, wool, &c. But, though the recent changes in farming practice are fundamental, it is important to maintain a proper perspective of the practical results. It is one thing to learn how to secure cattle against any particular disease, for instance, and quite another to ensure that the men engaged in cattle-rearing are aware of and ready to assimilate the knowledge in question.

If it were possible to help individual farmers even in the more advanced countries to apply in their daily work the results of the research already accomplished, there would be a revolution in agriculture. The machinery for bringing the results of scientific research home to the individual farmer is still inadequate, but is receiving more and more attention by the method of agricultural colleges, farm schools, and the diffusion of useful literature by departments of agriculture in all countries. Demonstration plots, farm management surveys, advice stations, are also employed to induce the farmer to make better use of his land and time without introducing either new machinery or using improved crops and better herds of stock. Scientific knowledge in agriculture is more widely spread than it was, but there is still a serious lack of effective communication between the research worker and the farmer.¹

The main channel between the two must be the State Department of Agriculture in each country. In the United States the Federal Department of Agriculture have organized an elaborate and thorough machinery for distributing information, and even more work is done by individual States. In all the more advanced countries attempts are being made—there have been notable advances in Great Britain in the last ten years—to bring information to the doors of the farmer,

¹ See *The Dissemination of Research Results among Agricultural Producers*, Empire Marketing Board, 33.

but the sums expended in this way are generally inadequate. In Italy thousands of stations for seed-testing and for the supply of information have been established in connexion with the 'Wheat Campaign', designed mainly to secure an increase in the yield of wheat. Sweden has long enjoyed an excellent system of farmers' study circles. The suggestion has been made in Great Britain that farmers in areas suitably defined might combine into groups and jointly engage expert advisers in the various branches of farming.¹ But under present conditions it is probable that for a long time to come the supply of expert advice will have to be provided from public funds. Moreover, even when the farmer has the scientific information, and is prepared to act upon it, the adoption of new methods is usually slow, as most changes involve some capital expenditure which is not always feasible.

In Eastern countries efforts are being made especially to improve the staple crops and the live-stock industry. In India the work of the various research stations is co-ordinated by the Imperial Council of Agricultural Research, and information on various subjects is distributed to local governments for circulation by pamphlets in the vernaculars and for the instruction of agricultural advisers and instructors. In Japan elaborate machinery exists for instructing the peasant in sericulture and rice-growing. In China efforts to spread agricultural knowledge are being made by several Chinese universities, but most appropriate of all is the Rural Workers' Training School, set up in 1928 by the Yen-ching University, the Tsing Hua College, and the Hsiang Shan Orphanage, at the instigation of the International Famine Relief Commission. The course of teaching lasts for three years and covers rural welfare as well as practical agriculture. Pupils from the villages are preferred, and the majority are sent in by the members of the rural co-operative societies. Technical instructors in agriculture are at present seldom available in Chinese villages; in any case the peasant distrusts—and often rightly—the teaching of the theorist, which he believes to be inapplicable to his own simple methods and instruments. He is convinced only by a demonstration on the spot in his own village, with his own implements, and the merit of the rural workers' school will be to return to the villages a type of rural leader whom the people will accept.²

In all the British Dominions and in the dependencies of the Crown, an increasing amount of work is being done in distributing scientific information. An Agricultural Research Bureau system was established in South Australia as early as 1888; its branches meet regularly

¹ See letter by Mr. A. P. McDougall in *The Times*, 25 June 1932.

² *The Times*, 3 September 1931.

once a month for the discussion of agricultural problems. Twelve district conferences are held every year, at which various groups of bureau branches are represented and which are attended by technical advisers. In other States of the Commonwealth of Australia farmers' societies fulfil similar functions.¹

Central bodies for the distribution of information to scientists are the Imperial Agricultural Research Bureaux, the Imperial Institute of Entomology, the Imperial Mycological Institute, and the Empire Marketing Board.

In special cultivations such as sugar and cotton, regional or international associations dealing with the commodities in question assist research and distribute the results. The Empire Cotton Growing Association does this work for the British Empire. An interesting development in this direction was the meeting of the Imperial Sugar Research Conference in London in 1931; their Report contains accounts of the achievements of research in all the British sugar-cane growing countries.

In the wider international field there is still greater need for co-ordination of the research carried out in different countries, so that the results achieved by any national institution may be generally available. In addition to acting as the international clearing-house for statistics, the International Institute of Agriculture at Rome publishes information derived from many countries as to the results of scientific research. Recently attempts have been made outside the Rome organization to secure a better exchange of the results of scientific research by closer collaboration between the scientific institutes in different countries. The International Institute of Scientific Workers in Agriculture was established at Prague in 1931 with this end in view.

But even if interchange of views is secured between the more advanced nations, if, in the more advanced countries, the national departments of agriculture succeed in bringing the information thus secured to the ear of the farmer, there is still a great deal of work to be done before world agriculture is put upon a reasonably scientific footing.

There is still a profound gap between farming methods as developed in Western countries and the common practice in tropical and sub-tropical countries. Even in India, China, and Japan, where ancient laborious methods provide intensive cultivation of the soil, animal husbandry is still wasteful and ineffective.

¹ *Dissemination of Research Results among Agricultural Producers*, Empire Marketing Board, 33.

CHAPTER IV

THE RETURNS FROM AGRICULTURAL ENTERPRISE

Size of Holdings and Incomes from Farming—Returns from Agriculture compared with Returns from Industry—Distinction between Paid and Unpaid Labour, between Employer and Employed—Agricultural and Industrial Wages compared—Plantation Labour—Movements of Agricultural Population.

I. *Size of Holdings and Incomes from Farming*

SINCE the great majority of the world's population are engaged in agriculture, an account of the incomes derived from it would mean an analysis of the economic condition—the work and life—of the greater portion of mankind. The slightest consideration of the very different conditions of farming in America as compared with Europe, in Europe as compared with Russia, of any of these countries as compared with life on the tiny holdings of India, China, and Japan, shows how vast such a task would be. Again, the conditions of colonial agriculture offer great contrasts between plantation and native farming. But some comments on the subject may not be out of place.

The first consideration is the size of farms¹—

In large districts of North America, Argentina, Australia, New Zealand, and South Africa the typical farm is a large unit devoted to cattle-raising, sheep-farming, or grain-growing. In the more closely settled districts, and wherever mixed farming and dairying are carried on, smaller units are the rule. In New Zealand the dairy farm is usually of about 100 acres, which can be worked by the family without outside help. In the United States 60 per cent. of farmers in 1925 were living on holdings of less than 100 acres. Nevertheless, holdings in the newer countries are generally larger than in Europe. In Canada in 1921 about 165,000 farmers, or 23 per cent. of the total, had holdings of over 300 acres. In Australia in 1927–8, 16 per cent. had farms of over 1,000 acres. South Africa is a mainly pastoral country with large units.

In Europe considerable diversity prevails. France is in general a country of small holdings. Germany in the west and centre is a country of small holdings, while east of Berlin, on the poor light soils of the Eastern provinces of Prussia, large holdings predominate. In

¹ For details the reader is referred to the statistics of the distribution of Agricultural and Forestal Holdings according to size of their area and according to mode of tenure, published annually in the *Year Book* of the International Institute of Agriculture, Rome.

eastern Europe the agrarian reforms have divided up many of the great estates¹ into peasant holdings.

Any generalization about the level of incomes is correspondingly difficult. In France, Germany, central and eastern Europe, great numbers of peasant holders subsist on incomes extremely low compared with those of British farmers, and their standard of living is considerably lower. An investigation of the economic status of the small holder was made in 1925-7 in a district of Germany where 98 per cent. of the farmers are peasant proprietors.² In most cases the farmer was said to earn less than the paid labourer, and in all cases less than the wage of an ordinary industrial worker. To secure this reward the average farmer and his wife both worked at the rate of over ten hours a day, Sundays included. At a meeting of the Mixed Advisory Agricultural Committee of the International Labour Office held in December 1930 the small holder in central Sweden was stated to be earning as labour income 3.50 kroner, and in northern Sweden 2.75 kroner per day, i.e. only four-fifths and two-thirds respectively of the 4 and 4.50 kroner earned by wage-paid-agricultural workers in those parts of the country.³

Millions of cultivators in India, China, Japan, and the Far East live upon the subsistence level. The majority of holdings are very small. In India the highest average acreage of farms is in Bombay Presidency (12.2 acres). In many Indian districts about one-fifth of the cultivators have only 1 acre or less at their disposal, and the standard of living is correspondingly low.

Exact statistics of the size of farm areas in China are not available, but the Bureau of Statistics at Nanking has made inquiries which show that the average crop area, including that of double crops, per farm is roughly 9 acres in the north-east, 6 acres in the Yellow River region, and 4 acres in the Yangtze Valley and south China. Yet even this small amount of land may be in several small plots scattered all over the village.⁴ Official figures for sixteen provinces, however, for the latest available year, 1918, give 42 per cent. of all holdings as less than 10 mow, i.e. $1\frac{2}{3}$ acres.⁵

In Manchuria the greater portion of the arable land in the provinces of Kirin and Heilungkiang is to-day in the possession of large absentee

¹ See Chapter VIII for a brief account of Agrarian Reform in Eastern Europe.

² Münzinger, *Der Arbeitsertrag der bäuerlichen Familienwirtschaft*, Berlin, 1929. Quoted by C. S. Orwin, *The Future of Farming*, p. 88.

³ *International Labour Review*, vol. xxiii, No. 4, p. 467.

⁴ *Problems of the Pacific, 1931*: Proceedings of the Fourth Conference of the Institute of Pacific Relations, p. 73.

⁵ *The Agricultural Crisis*, vol. ii, p. 26.

owners who are mostly retired civilian or military officials, and the land is cultivated on the share-farming principle. Farms of less than 30 shan¹ (60 acres) of land constitute nearly 75 per cent. of all the farms in north Manchuria and occupy about 50 per cent. of the entire area under cultivation at present. Banditry, high interest rates (the rate of interest charged by money-lenders ranges from 40 per cent. to 100 per cent. per crop season, either on the security of farm crops or on that of land deeds), middlemen's charges, the diversity and inflation of the currency system, heavy taxation, all place an intolerable burden on the small farmer.² It is impossible, therefore, to arrive at even an approximate estimate of his annual income, but it cannot be much above subsistence level.

In Japan the small holder predominates. There are nearly two million holders of less than 1½ acres, about another two millions on holdings between 1½ and 2½ acres. But on the whole the Japanese farmer's standard of living compared well with that in other Eastern countries until the advent of the present depression, when the fall in price of the two staple products of the Japanese farmer, rice and silk, had disastrous effects. An investigation covering the year September 1926 to 1927, conducted by the Bureau of Statistics of the Japanese Government, into the situation of 670 families, showed an average family income of 96.16 yen per month (£9 12s.). This income was only sufficient to make ends meet in the case of the peasant proprietor. The other classes, tenants and partial tenants, were faced with a deficit. 'It is quite impossible to make any clear statement on land utilization in Japan as a matter of business deriving profit from agricultural capital. For the farmer's income from such land is reward for labour.'³

II. *Returns from Agriculture compared with Returns from Industry*

While it is difficult to make definite statements on the incomes derived from agriculture, it seems safe to say that, excluding large farmers in the newer countries, plantation owners in colonial countries, and a few large European farmers—and these form a very small proportion of the total number of farmers—the actual return from farming per person employed is smaller than that derived from industrial and professional occupations. This is, of course, not equivalent to

¹ The measure varies according to locality. That adopted by the Treaty Ports is 1 shan = 12 mow. 1 mow = ½ acre.

² *Problems of the Pacific, 1931: Proceedings of the Fourth Conference of the Institute of Pacific Relations*, pp. 87-93.

³ S. Nasu, *Land Utilisation in Japan*, 1929, pp. 29, 31, 197.

saying that nowhere and at no time has a farmer or farm worker earned as large an income as a factory manager or a factory worker. To take one example, the coffee planters of Brazil in the period before the War could show incomes and standards of living comparable to those of captains of industry. In some industrialized countries, and in some of the great exporting countries, fortunes have been made in agriculture in the past. But the agriculturists making large incomes have always been few in number, compared with those men who have made fortunes in other occupations. But when it is remembered that probably two-thirds of the world's population are dependent on agriculture, and that this figure includes the millions of small cultivators in China and India, it is evident that the big incomes are exceptional.

Throughout the East, in China, India, and Indo-China, where population is thickest on the ground and where industrial production is a comparatively new development, agriculture is mainly a means of directly providing subsistence for the cultivator, and the income of the peasant expressed in money values does not bear comparison at all with incomes in countries where industrial capitalism has developed. The same conditions apply in some areas less thickly populated, in Africa and elsewhere, where local industrial markets for agricultural produce do not exist.

While it is impossible to generalize about the level of agricultural incomes in the world as a whole, it may be permitted to take examples which indicate the difference between incomes in agriculture and industry in a highly industrialized country, the United States, and a mainly agricultural country, Russia.

For the United States definite comparable figures of income for those engaged in agriculture and in other occupations are available.¹ The income per head of persons engaged in agriculture was found to be not quite 40 per cent. of the average income per head in all occupations. In 1913 the annual average income was \$143 per head in agriculture against a national average income per head of \$368; in 1924 the average in agriculture was \$281 against an average of \$712 of all occupations in the United States, roughly two-fifths in both cases.

Professor Prokopovich states that in Russia in 1926 the average annual income per head of the agricultural population, including the returns from forestry and timber and small home industry, was estimated at 68.4 roubles (pre-War roubles); the average income

¹ *Recent Economic Changes in the U.S.A.*, chap. vii; M. Copeland, 'The National Income and its Distribution', p. 785.

of the industrial population was estimated at 153·5 roubles per head.¹

Clearly the great majority of the peasants of the world, whether in eastern Europe, in tropical Africa, or in the Far East, have no alternative—other than starvation—but to continue to cultivate the land and extract from it what they can beyond actual subsistence. But, for a large number, alternatives are possible; the 'flight from the land' lamented by many Western governments is a proof that the movement into the other groups, which is a natural stage in economic development, continues. In the new countries the change over to other occupations, i.e. growing industrialization, has been rapid in the last fifty years.²

Even so, agriculture is the chosen occupation of vast numbers; the land hunger on the part of the landless and satisfaction in the possession of land are real, and almost universal. The reason is to be found not in the actual money returns derived from agriculture, but in the element of security attached to the possession of land, in the independence of the peasant of the regimentation inevitable in industry, and in the satisfaction derived from seeing the living results of labour in plants, trees, crops, and animal life. In times of general depression the peasant farmer is secure from unemployment, and almost always from actual want. That he works longer hours and often harder than the factory hand is part of the price he pays for security and for independence. Pleasure in work is less easily assessed, but the factory worker does not generally even see the finished product of his work; the farmer does see the cornfield, the maize-field, the cattle, pigs, and poultry he has bred, and he leads the open-air life which—despite the hardships of cold, heat, and storm—is for many the only desirable life. It is unnecessary to sentimentalize on the satisfactions derived from farm life, but they do exist, just as surely as the hardships.

The grievance of the farmer above the peasant level under present conditions of world depression is that one of the elements that compensate for comparatively low money returns, security, is now being denied him. He cannot obtain the minimum return necessary to pay the fixed charges in taxes, rent, mortgage, and so forth which are necessary if he is to stay on his farm at all. The peasant's equally

¹ Birmingham Bureau of Research on Russian Economic Conditions, Memorandum, No. 3: Prof. S. N. Prokopovich, *National Income of the U.S.S.R.*, 1931. Supplementary note supplied to the Study Group. The figures given above do not represent the wage-earner's or the peasant's income, but the proportion per head including all dependants.

² See the contribution by Mr. J. A. Selby-Bigge in Appendix I, p. 257.

just complaint is that his standard of living, often not far above the subsistence level in normal times and including only a modicum of luxuries, is being reduced below reasonable subsistence.

III. *Distinction between Paid and Unpaid Labour, between Employer and Employed*¹

All labour in agriculture is remunerated in some way, but not all labour is paid. A large part of the agriculture of the world is carried on by the family which occupies the holding, who receive no wages. The part performed by such unpaid labour in world agriculture cannot be estimated. It must be vast. Some recent censuses² show it undiminished. Certain countries are less dependent on unpaid labour, and its complete absence from the plantation or ranch system is an important point. But even in modern agricultural systems, as in Canada and the United States, the farmer in many cases depends on his own effort in the first place and, in the second place, on the assistance of his son or wife; the hired worker comes only in the third place, and the farm is in all respects properly classed as a family, though not as a peasant, farm.

Various problems arise out of the prevailing use of family labour. One of the most insistent is the difficulty of giving an economic and, above all, a financial, value to such labour. Attempts are frequent, and by a convention the scale used is to estimate as though for a full-time hired worker of the same category (adult man or woman, young person or child). Not only does this leave out the whole value of the management contributed by the head of the family,³ but the very unsatisfactory result emerges that, on this system of reckoning, the family farmer is frequently found to be working for less reward than the hired worker. This exactly reverses the position ordinarily attributed by the parties concerned to their respective positions—a fact which cannot possibly be overlooked.⁴ This question is still one of the unsolved problems of agricultural investigation, but must be mentioned here as it introduces a controversial and obscure element

¹ A large part of this and the following section is taken from a Memorandum dealing principally with wage-paid agricultural labour, sent by Mrs. Louise Howard to the Study Group.

² For instance, the German Agricultural Census of 1925.

³ Danish farm accounting makes an estimate of the value of management contributed by the family farmer, as do certain English accounts. Cf. International Labour Organization, *The Relation of Labour Costs to Total Costs of Production in Agriculture*, Geneva, 1926, p. 16 (Document of the International Economic Conference).

⁴ The hitch lies apparently in attributing a stated financial value to the inordinately long working day of the family farmer.

into all economic estimates which include the labour factor in agriculture. More especially does it wreck any attempt at an exact economic comparison between the rewards of agricultural effort in peasant countries and in countries of advanced and commercial agriculture.

Setting this question aside and fixing our attention on those groups to which wages are paid (and there are no countries where there are not some hired workers in agriculture), we are nevertheless conscious of the fact that the wages line, such as it is, is constantly shifting; there is no final distinction between employers and employed. At certain seasons of the year the small-holding class automatically comes into the labour market. Small holding and dwarf holding is widespread on the continent of Europe and in vast tracts of the Eastern world; in the majority of cases the holding is not large enough to support a man and his family without supplementary earnings.¹ In Germany and Belgium many small holders gain the principal part of their income in the manufacturing and mining industries rather than in agriculture. In Japan, the peasant farmer and his family are employed in silk production, tea-planting, &c., during the off-season.²

England appears to be one of the few countries in which there is a sharp cleavage between the small man owning or farming land and the wage-earner. In Scotland the crofter is often compelled, owing to the smallness of his holding, to follow another occupation.

Of the numerous types of contract which combine to a large extent the rent and the wages elements, the various forms of share-farming (*métayage*) found in most of the Southern and South-Eastern countries of Europe are the most significant, though share-cropping in the Southern States of the United States of America and share-farming in the dairy industries of Australia and New Zealand must also be taken into account. The *torpare* of Sweden, the *Heuerleute* of Germany, and other analogous groups are similar but less important and are in the nature of survivals, but the share-farmer of France and the *coloni* of Italy are an important feature in the agricultural economy of these countries. The true significance of these forms of contract is that they point to one great weakness in modern agricultural labour organization—scarcity of capital—share-farming being a device to get over this difficulty and to secure adequate and, as a rule,

¹ The peasant may farm on his own account for part of his time, and be a wage-earner on another man's land or in industry for the remainder. The system has been brought to a high degree of development in Belgium, and in the German home colonization schemes special facilities were offered for it in laying out the land purchased for settlement. It has many advantages, one of which is that the divorce between town and country, a serious political and social problem in industrialized states, is to some extent bridged.

² *Japan Times*, 21 May 1930.

rather intensive cultivation by a joining together of resources from two sides, the cultivating tenant and the owner of the land. In fact, scarcity of capital, especially of fluid capital arising out of lower general profits earned by agriculture as compared with industry, has placed its stamp on the agricultural labour situation. It tends to impose a very static state on labour questions, and is a tyrannous condition which greatly hampers a modern attack on agricultural labour problems. Share-farming, which is found where ordinary hired labour might have been expected, is only one small aspect of this large problem.¹

IV. *Agricultural and Industrial Wages compared*

Owing to the various forms of employment and methods of payment in agriculture it is difficult to assess the return to the agricultural labourer in terms of money. Consequently there is great difficulty in effecting a comparison between wages in agriculture and in industry. Variations between town and country in the cost of living, especially in rent and food, should be taken into consideration. The advantage in comparative security of employment in agriculture in normal times must not be overlooked. Mr. Joseph Duncan, in a note to the Study Group, points out that employment in agriculture is more continuous for a much larger proportion of the workers than employment in industry. Even where somewhat similar employments from the point of view of continuity can be compared, e.g. railwaymen and ploughmen in Great Britain, allowance has to be made for nominal rents and perquisites in many counties for ploughmen.

Although it is necessary to bear these considerations in mind in any inquiry dealing with comparative rates of wages in industry and agriculture, the advantage is yet on the side of the industrial worker. Miss Matthaei (Mrs. Howard) in an article contributed to the *International Labour Review* in April 1931² gives a detailed account of the movements of wages since 1925 in Australia, New Zealand, Canada, and the United States. Her conclusions are

‘that agricultural wages at best reach to within about 10 per cent. of unskilled industrial wages, but much more often range somewhere about one-half such wages; indeed, they often fall below one-half; that while agricultural wage-earners have somewhat improved their position in relation to cost of living in Canada (especially women) and in Australia, in New Zealand they had only just managed to get back to their old position by 1929, while in the United States of America they had no sooner done so by that year than they again started falling behind very rapidly, and have thus almost throughout been materially worse off than before the War.

¹ Note by Mrs. Howard to the Study Group.

² Vol. xxiii, No. 4.

Meanwhile—and most important of all—the gap between agricultural and industrial wages shows no abatement. In Australia it has neither widened nor closed; in the United States and in New Zealand it has widened. Only in Canada was there a slight tendency towards closing it, and this soon disappeared.¹

In Europe, among wage-paid workers, the same gap between agriculture and industry may be seen. In Sweden from 1924 onwards, Mrs. Howard reckons that agricultural wages were either just over or just under one-half the average wages paid to other male workers (all groups) and were below the wages paid to women. And whereas there has been a steady rise in industrial wages, agricultural wages have dropped slightly since 1924, thus widening the gap. And in Germany the same process is taking place.²

In England and Wales minimum wages are prescribed by local boards set up under the Agricultural Wages Regulation Act, 1924. The average wage is 31s. 6d. per week, an increase of 100 per cent. on the pre-War wage. The margin above subsistence is very small, as the State recognizes 29s. 3d. as the minimum on which an unemployed man with three children can meet essential needs. But the English farm labourer's standard of living is generally higher than is indicated by the money wage; his cottage, usually provided with some garden, is rented as low as 2s. 6d. or even 1s. a week, and on some farms the custom of supplying free milk or other perquisites still obtains.

With regard to compulsory social insurance, protection in case of sickness equal to that given to industrial workers is given in eight countries only—Austria, Bulgaria, Czechoslovakia, Germany, Great Britain, Irish Free State, Norway, and Yugoslavia; old age and disablement insurance is given in twelve countries only—Austria, Belgium, Czechoslovakia, Denmark, France, Germany, Great Britain, Italy, Netherlands, Spain, Sweden, and Poland (old age insurance in former German territory only). Germany is the only country which applies unemployment insurance to agricultural workers. Denmark and the Netherlands have voluntary schemes which receive a certain amount of State aid.³

¹ Wages have fallen from £3 10s. a week to about the same level as obtains on an English farm, say 30s. a week; and half of that is retained as the cost of a man's keep. Last winter men worked on the farms for their keep alone, and in some thousands of cases the Central Government subsidized the farmer to the extent of £1 a month for taking on an unemployed man and granted the man an equal amount for pocket money. (See *Manchester Guardian*, 23 August 1932, Ronald C. Davison, 'Unemployment in Canada'.)

² International Labour Review, April, 1931.

³ I.L.O., *Director General's Report, 1929*.

In France the question of inclusion of agricultural workers in the Social Insurance Act was still in suspense in 1930.¹ But it is one of the few countries where attempts have been made to create a real agricultural apprenticeship system. The period of benefit for parents under the family endowment system is extended from 13 to 16 years of age.

V. *Plantation Labour*²

Plantation crops are everywhere worked by native or imported coloured labour. The only exception is in the sugar-fields of Queensland. This State joined the Commonwealth in 1900 on the understanding that in return for its becoming part of 'white' Australia the Commonwealth would give complete protection to Queensland sugar, and an Act of 1901 provided that the imported Kanaka labourers should eventually be repatriated.

Where labour can be recruited locally it is, as a general rule, outside Africa, unindentured. For purposes of comparison the sugar-fields of Central Java and the West Indies may be taken. The former draw upon a densely populated district. The labourers seldom work more than 3½-4½ days a week, having rice and other crops of their own to attend to; but there is no difficulty in getting others to take their place for the rest of the week. In the West Indies the labourers also work for about the same number of days for the same reason, but the planters are unable to draw upon any surplus. The wages paid are 1s. 6d. to 2s. per day for men, 10d. to 1s. 3d. for women: twice the rate paid in Java. This point was raised before the West Indian Sugar Commission, 1930.³

Where labour has to be brought from a distance, as in the case of the tea plantations of South India, Ceylon, and Assam, and the rubber estates of Malaya, a civil contract of service is drawn up. The penal sanction was formerly applied in Assam, Madras Presidency, and Coorg, but was abolished in 1926, 1929, and 1931 respectively.⁴ Hitherto, the penal sanction has obtained as regards labour in the islands of the Dutch East Indies other than Java and Madura. The question of its retention has aroused great controversy, and Dutch and native political associations have endeavoured to secure its abolition. It was suggested that gradual abolition might be secured by first removing the clause from re-engagement contracts, as it was

¹ I.L.O., *Director General's Report, 1930*, pp. 224, 225.

² Sections V and VI of this chapter were drafted by Mrs. H. C. Harwood.

³ *Report*, p. 55. Note comparing the costs of production in the two countries.

⁴ *Report of the Royal Commission on Labour in India, 1931*, pp. 355, 377.

estimated that 70 to 85 per cent. of the coolies on the east coast of Sumatra were working under re-engagement contracts.¹

The tea gardens in Ceylon appear to be the best organized from a labour point of view. The workers mainly come from South India, and are employed at daily rates and paid monthly. Wages boards fixing minimum rates were established in 1927. A nine-hour day inclusive of meals was also fixed, and children under 10 years are forbidden employment. The 'real' wages earned are approximately 100 per cent. higher than the earnings of rural labourers in South India.²

In the Federated Malay States the Labour Code was amended in 1928 and included provisions for the allotment of lands to labourers for grazing or garden cultivation, for the imposition of penalties in the case of non-payment of standard wages, and for fixing standard wages for children. These measures were also adopted by the Unfederated States and the Straits Settlements.³

VI. *Movements of Agricultural Population*

European Migration. The pressure of the peasantry on the land in the older settled countries of Europe and Asia, as holdings dwindled by division among the heirs, inevitably led to migration to the newer countries where land was to be had on easy terms in the last century. A contributory cause was the money returns—larger than anything that could be hoped for in the old world. To-day the opportunities of relieving population pressure by means of migration have been reduced almost to vanishing point.

In the latter half of the nineteenth century there was a great movement from Europe of agricultural labourers and of peasants with meagre holdings to take up land in America and Australasia. Emigration from Great Britain between 1815 and 1924 was about 19,000,000, according to the passenger statistics, which after 1860 included about one-fifth more than the number of actual emigrants; Germany was next with about 6,000,000. The figures include all emigrants, but a large proportion went in search of land. German emigration was, however, reduced to a minimum in the second half of the nineteenth century. Scandinavian and Swiss emigration reached their peak in the 'eighties. As soon as German emigration declined the great steamship companies became keenly interested in

¹ I.L.O., *Director General's Report, 1929*, p. 249.

² *Report by the Rt. Hon. W. G. A. Ormsby-Gore, M.P., on his visit to Malaya, Ceylon, and Java, during the year 1928* (Cmd. 3235), p. 78.

³ I.L.O., *Director General's Report, 1929*, p. 249.

drawing the attention of the agricultural proletariat of the southern and eastern States of Europe to the high wages paid in America. The prevalence of large estates and the splitting up of small holdings had brought about a similar condition of affairs to that in Ireland and Germany. During the last years of the century the centre of gravity of emigration shifted from the western industrialized countries to the southern and eastern agricultural States of Europe, notably Italy, Austria, Hungary, and Russia.¹

Since the War intercontinental migration has declined.

TABLE XI

*Total number of Overseas Emigrants from Europe*²

| <i>Average.</i> | |
|-------------------|---------------------------|
| 1906-10 | 1,388,700 (gross figures) |
| 1920 | 847,367 |
| 1922 | 561,707 |
| 1924 | 574,223 |
| 1926 | 409,516 |
| 1928 | 336,797 |
| 1930 | 160,055 |

General figures for 1931 are not available, but there was an inward balance for the United Kingdom as regards non-European countries;³ that is to say, there was actually an excess of immigrants over emigrants. This, of course, was due to the depression in Australia and America:

'But even when the depression lifts there is no reason to believe that the United States and Canada will be able to ease the problem of unemployment of land-workers in Europe. The rapid development of mechanization in American farming has rendered unnecessary the drafting of workers from Europe to maintain the extension of farming in the United States and Canada . . . even if events should show that it (North America) can increase its present acreage, or even maintain it, the extension is much more likely to be the result of relatively highly capitalized farming on a mechanical scale. The day of the pioneer farmer growing wheat on virgin land with the implements which a European immigrant could command is over, and with it the opening and opportunity for peasants from Europe. Canada is already finding it a problem to provide for the land-workers who are being reared in the Western Provinces, and in the United States the farming population is steadily decreasing.'⁴

¹ Imre Ferenczi, *International Migrations*, vol. i, Statistics, p. 85.

² *League of Nations Statistical Year Book*, 1931-2, p. 55.

³ *Board of Trade Journal*, 3 March 1932, p. 303.

⁴ Joseph Duncan, 'A New Policy for Agricultural Labour', *International Labour Review*, vol. xxv, No. 2.

estimated that 70 to 85 per cent. of the coolies on the east coast of Sumatra were working under re-engagement contracts.¹

The tea gardens in Ceylon appear to be the best organized from a labour point of view. The workers mainly come from South India, and are employed at daily rates and paid monthly. Wages boards fixing minimum rates were established in 1927. A nine-hour day inclusive of meals was also fixed, and children under 10 years are forbidden employment. The 'real' wages earned are approximately 100 per cent. higher than the earnings of rural labourers in South India.²

In the Federated Malay States the Labour Code was amended in 1928 and included provisions for the allotment of lands to labourers for grazing or garden cultivation, for the imposition of penalties in the case of non-payment of standard wages, and for fixing standard wages for children. These measures were also adopted by the Unfederated States and the Straits Settlements.³

VI. *Movements of Agricultural Population*

European Migration. The pressure of the peasantry on the land in the older settled countries of Europe and Asia, as holdings dwindled by division among the heirs, inevitably led to migration to the newer countries where land was to be had on easy terms in the last century. A contributory cause was the money returns—larger than anything that could be hoped for in the old world. To-day the opportunities of relieving population pressure by means of migration have been reduced almost to vanishing point.

In the latter half of the nineteenth century there was a great movement from Europe of agricultural labourers and of peasants with meagre holdings to take up land in America and Australasia. Emigration from Great Britain between 1815 and 1924 was about 19,000,000, according to the passenger statistics, which after 1860 included about one-fifth more than the number of actual emigrants; Germany was next with about 6,000,000. The figures include all emigrants, but a large proportion went in search of land. German emigration was, however, reduced to a minimum in the second half of the nineteenth century. Scandinavian and Swiss emigration reached their peak in the 'eighties. As soon as German emigration declined the great steamship companies became keenly interested in

¹ I.L.O., *Director General's Report, 1929*, p. 249.

² *Report by the Rt. Hon. W. G. A. Ormsby-Gore, M.P., on his visit to Malaya, Ceylon, and Java, during the year 1928* (Cmd. 3235), p. 78.

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drawing the attention of the agricultural proletariat of the southern and eastern States of Europe to the high wages paid in America. The prevalence of large estates and the splitting up of small holdings had brought about a similar condition of affairs to that in Ireland and Germany. During the last years of the century the centre of gravity of emigration shifted from the western industrialized countries to the southern and eastern agricultural States of Europe, notably Italy, Austria, Hungary, and Russia.¹

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⁴ Joseph Duncan, 'A New Policy for Agricultural Labour', *International Labour Review*, vol. xxv, No. 2.

It has been suggested that the capacity of the overseas countries, in particular of the British Dominions, to absorb population may be increased if there is a transference from wheat-growing to dairy-farming. But, in the opinion of the Committee on Empire Migration, 'the conversion of Dominion agriculture to mixed farming, though it doubtless represents a desirable line of evolution in the circumstances that have arisen, involves in an important degree the abandonment of the great advantage on which the general presumption of superior opportunities in the New World is based'.¹ The Committee state in their Report that the growing unfamiliarity of the British people with rural pursuits has restricted emigration to the Dominions. On the other hand, some 150,000 agricultural labourers have left the land in Great Britain in the last decade, and should afford good emigrant material.²

International migration within the bounds of Europe itself has been mainly seasonal in character. Irish labourers came into England and Scotland for the harvests and potato picking, and although the numbers have considerably decreased since the War, mainly owing to political reasons, 'potato workers are still brought to Scotland every year, while harvest workers come over in search of work, and in a year such as last year (1931) were in considerable demand in the corn-growing counties'.³

But the most extensive continental migratory movement in Europe has been that of the Polish agricultural workers to Germany.⁴ The majority of the workers were women and children, only two-fifths being male adults. They were mainly employed in sugar-beet cultivation, and the employers maintained that it would be impossible to carry on this industry without their assistance, owing to the seasonal nature of the work, the comparatively high wage demanded by German workers, and the rural exodus of the latter to the towns. On the eve of the War annual seasonal migration had increased to 400,000. Of the foreign agricultural workers employed in Germany

¹ *Report of the Committee on Empire Migration, 1932, Cmd. 4075, p. 23.*

² In a Memorandum submitted to the Ottawa Conference jointly by the Parliamentary Migration Committee and the Migration Committee of the Royal Empire Society, it was urged that as regards the British Empire redistribution of the white population is of urgent importance especially in the case of Canada and Australia; that the concentration of one-half of the population of the world in the Western Pacific Area is a danger to Australia and New Zealand unless their white population is increased, that migration encourages trade and capital development.

³ Note to Study Group by Mr. Joseph Duncan.

⁴ The following facts are taken from G. S. Rabinovitch, 'The Seasonal Emigration of Polish Agricultural Workers', *International Labour Review*, vol. xxv, No. 2.

at the outbreak of war, 326,000 were Poles, mainly from Russian territory. They were, therefore, forbidden to leave their places of employment. The result was that a great many settled permanently and married. At the Armistice the number of Polish workers was estimated at 800,000 or 900,000, of whom about two-thirds were engaged in agriculture. A general exodus to their homes then took place, and in 1919 the number of Polish workers residing in Germany was reduced to 100,000.

Owing to the large number of unemployed the Government of the Reich attempted the prohibition of all foreign workers. This was found to be impracticable in the case of agriculture. It also proved impossible to stop by administrative measures a migratory movement which had become so deeply rooted in the habits of the people. The matter was not finally settled until 1927, when a German-Polish treaty was concluded. Permanent measures regulating future migration movements and methods of recruiting were introduced, and temporary measures for the progressive transfer to the seasonal system of Polish agricultural workers who had settled in Germany prior to 31 December 1925.

Asiatic Migration. The main difference between Europeans and Asiatics as migrants is that the former started as pioneers, the latter as wage-earners. Europeans created capital; the Asiatics followed it.

'It is often not sufficiently recognized that there have been two great colonizing movements in the nineteenth century. The movement of the Europeans to fill up the manless lands of the New World has been largely advertised. But the importance of the migration of Chinese and Indian emigrants who have created new colonial values, made whole regions of the British Tropics into paying assets, and created within the British Empire a new Indian Empire in the British West Indies, and a new Chinese Empire in the British Straits Settlements has scarcely yet been recognized.'¹

The two largest migratory movements among Asiatics have been from India and China. In each case the pressure was caused by famine and a surplus of agricultural labour. The abolition of the slave trade in the British Colonies gave rise to a demand for Indian labourers in semi-tropical countries—for the cocoa, sugar, and fruit growing in the West Indies and rice growing in British Guiana. The freed slaves were able to exist without working for their former taskmasters. 'Indirect statistics indicate the arrival of appreciable contingents (of East Indians) between 1845 and 1872, the main current

¹ L. C. A. Knowles, *Economic Development of the Overseas Empire*, p. 183.

going to Trinidad, British Guiana, Jamaica, and the French Antilles.' Trinidad and British Guiana have received by far the largest number. By 1921 there were some 128,000 East Indians in Trinidad, and one-third of the population of British Guiana are East Indians.¹ In Jamaica and the French West Indies immigration was either suspended or cut off in the 'eighties owing to the restrictive regulations of the Government of India's Act of 1883, and in 1911 it ceased altogether owing to the passing of the 1910 Act prohibiting all emigration except under certain limited conditions.²

British Indians also migrated to Natal and Mauritius for work on the sugar plantations during the same period. Emigration to Mauritius was stopped in 1910, and since 1913 Asiatics, with the exception of wives and children of domiciled relatives, are prohibited from entering the Union of South Africa. Indentured emigration and with it intercontinental emigration came to an end in 1916 owing to the decision of the Government of India to abolish the system. 'Leaving aside the neighbouring colonies of Ceylon and the Straits Settlements to which Indians still emigrate in large numbers, the number of Indian labourers emigrating has fallen from some 25,000 in 1858 to some 500 in 1924.'³

The migration of Southern Indians to Ceylon and Malaya may be classed as continental. It did not mean temporary exile as in the case of Africa and the West Indies. It is interesting to note in the case of Ceylon that there has been a sharp rise in the immigration figures, and from 1911 to 1924 there was an excess of 224,158 immigrants.⁴ This is attributed to the bad crops of Southern India and also to the increasingly attractive conditions on the estates. In 1927 it was estimated that 60 per cent. of Indians entering Ceylon for tea-garden labour had been there before.⁵

Tamils from South India have also furnished the bulk of the labour required by the plantations in Malaya. Indentured emigration ceased in 1910, and labourers are now engaged on monthly contract. In 1924 the Indian population was about 470,000, and of these about 360,000 were working on estates.⁶

In the Netherlands East Indies the plantations of Sumatra are mainly worked by labourers from Java under indenture. The recruiting in southern China, once important, has practically ceased.

¹ Ferenczi, *International Migrations*, vol. i, Statistics, p. 143.

² *Ibid.*, vol. i, Statistics, p. 143.

³ *Ibid.*, vol. i, Statistics, p. 147.

⁴ *Ibid.*, vol. i, Statistics, p. 148.

⁵ *Report by the Rt. Hon. W. G. A. Ormsby-Gore on his visit to Malaya, Ceylon, and Java. 1928* (Cmd. 3235), p. 78.

⁶ Ferenczi, *op. cit.*, vol. i, Statistics, p. 147.

Up to the present the peoples of the Malayan Archipelago have shown no inclination to migrate farther afield, so that the repeatedly expressed fears lest the inhabitants of the densely populated island of Java should invade the sparsely populated Northern Territory of white Australia would appear to be exaggerated.

Migration of Chinese to Malaya had already assumed fairly large proportions at the time of Sir Stamford Raffles, who, in 1823, tried to regulate the coolie traffic.¹ It continued throughout the century, but in the main their work was not agricultural. They came from southern China to the tin mines and became contractors, traders, and shopkeepers. Later they owned rubber plantations and attained great wealth. 'Where Europeans did not develop great mineral and industrial undertakings, as in British Guiana, the Chinese did not settle, but left the country.'¹ Immigration into the Straits Settlements reached its peak in 1913 with a maximum of 142,759. The advent of the World War occasioned a drop, but in 1921 the figure leaped up to 156,611.²

Although China exercises a nominal sovereignty³ over Manchuria, the influx of the intra-mural Chinese of the northern provinces may be properly termed migratory. Indeed, it appears to be the only outlet for the surplus population of these provinces, the chief labour-supply coming from Shantung and Hupeh. Previous to 1927 the number of immigrants had never exceeded half a million, and the movement had been mainly of a temporary character. In that year over a million arrived, and a majority proved to be agricultural workers who had brought with them their families and goods, including their agricultural implements. 'The Research Department of the South Manchuria Railway estimated that of the total number of 630,000 Chinese immigrants arriving in Manchuria from January to July 1927, 71 per cent. were farmers and farm hands.'⁴ The Sino-Russian conflict in the winter of 1929, together with the fall in the bean market and the depreciation in silver, reduced the number of migrants to 653,000 in 1930.⁵

Owing to restrictive legislation on the part of the immigrant countries, Chinese emigration to the United States, Canada, Australia, and New Zealand has practically ceased. Chinese workers were first brought under contract to Canada and Australia in the middle of last century. Although immigration ceased in 1901 in the latter

¹ L. C. A. Knowles, op. cit., p. 197.

² Ferenczi, op. cit., vol. i, Statistics, p. 152.

³ Written before the formation of the new State of Manchu-Kuo.

⁴ *Problems of the Pacific*, 1931, p. 441.

⁵ *Ibid.*, 1931, p. 439.

country, it is noteworthy that practically the whole of the green-grocery business is in the hands of Chinese market gardeners domiciled there.

In Japan there was no emigration until the 'eighties of last century. Large scale intercontinental emigration of labourers was directed in the first instance to Hawaii, whence the Japanese, until they were excluded, flowed towards the United States. A strong current moved towards South America, especially Brazil, where they became engaged in coffee-planting. The first arrivals were in 1908. Altogether some 20,000 Japanese have proceeded to Brazil.¹

Eventually immigration into Hawaii, the United States, and Canada was restricted by legislation, and the Japanese were forced to concentrate on Korea and Manchuria. As agriculturists, however, they were unable to compete with the Koreans and Chinese, owing to the coldness of the Manchurian climate and the much lower standard of living of both peoples. Thus, of late years Japan has ceased to be an emigrating country, partly because those countries which the Japanese find most congenial have closed their doors to them. She has now a net balance of migration inwards.²

¹ Ferenczi, *International Migrations*, vol. i, Statistics, p. 164. The *Japan Year Book*, 1931, p. 54, states that the Japanese in Brazil now number about 78,000.

² *Statistical Year Book, 1930-31*, League of Nations, p. 53.

CHAPTER V

PRICE MOVEMENTS

The Present Distress—Earlier Movements in the Price Level—The Depression of 1873 to 1896—Relative Prosperity in the pre-War Period—The War Years and the Depression of 1920 to 1922—A Period of Relative Stability, 1924-8—The Slump in Prices in 1929 to 1932.

I. *The Present Distress*

THE disastrous condition in 1932 of the prices of cotton, wheat, sugar, and other staple agricultural products is a commonplace in the world's markets. Prices have been driven down to a point which is rapidly making the position of the larger producers impossible. There is acute distress among farmers in many countries. The trouble in the United States is reflected in the decrease in the value of farm real estate.¹

TABLE XII

Index Number of Value of Farm Real Estate in the United States

| | |
|--------------------------|-----|
| Pre-War figure | 100 |
| 1 March 1920 | 170 |
| 1930 | 115 |
| 1931 | 106 |
| 1932 | 89 |

The fall of seventeen points in 1931-2 is the consequence of prices at the lowest point since the War. Farmers find it hard to meet debt and tax burdens based on a price level much higher than in 1932. Prices are now far below the costs of production. Low prices have been aggravated by drought and in 1931 by locusts. Vast areas in the South and West are technically in default, but the owners continue in possession, because the mortgage-holders and the tax authorities know that sale is impossible. Farmers in some districts have abandoned the use of motor power and machinery, and are using horses for transport and oxen for ploughing.²

In Canada wages have fallen in two years by nearly one-half. In the winter of 1930 to 1931 there was widespread distress in the West. The effect of low prices was aggravated by the bad weather of the three preceding years. Many farmers were only able to get through the winter and renew operations in the spring with Government help; in many cases debt payment had to be suspended.

¹ *United States Daily*, 26 March 1932.

² *Manchester Guardian*, 2 May 1932.

In Hungary a Government decree of 9 July provided a farmers' moratorium until 31 October. In the interval no land could be sequestrated for debt, and after the harvest farmers might be in a better position to meet their obligations.¹

In Finland a partial farmers' moratorium until April 1933 was proposed in the Diet.² In Japan many villages were reported to be almost without money, petty trade was proceeding by barter, people were eating the roughest grain, bracken roots, and bean cake. The whole local organization was clogged by debt. The farmers are asking for a moratorium or alternatively for a devaluation of the yen.³ In Great Britain good grass is being allowed to fall down to rough grazing because the return on live stock does not permit the necessary expenditure on pasture. In nearly every country agriculture is a depressed industry.

It is true that in some cases farmers are seeking to reduce costs of production by increased efficiency and by the use of more machinery, but generally they are attempting to meet the hard situation by economies in production and decreased intensity of cultivation. Their overhead liabilities, capital charges, and rent and taxes are fixed. Their only alternative is to cut costs and reduce personal expenditure. Many are returning to more primitive methods of production, to human and animal labour in place of machinery, and are spending less on fertilizers, the production of which showed a marked decline in 1930 and 1931.⁴

II. *Earlier Movements in the Price Level*

It is nothing new that agriculture should be suffering from changes in the general price level; it would be true to say that agriculture has never experienced stability. But there is a difference in degree. In

¹ *Pester Lloyd*, 9 July 1932.

² *Le Temps*, 17 April 1932.

³ *The Times*, 8 and 9 June 1932.

⁴ There is, in the spring of 1932, little sign of significant restrictions of acreage under cultivation. Marked reductions in winter wheat acreage in the United States have been followed by favourable spring sowings, and from Canada at least a large export surplus is expected. The harvest prospects in the Soviet Union and in other exporting countries are not yet known. There is, however, significant difficulty in providing mechanical equipment in many of the more efficient areas; and also in the provision of fertilizers for the world as a whole. This phenomenon, to be noted in many individual countries, is manifested also in the production of the chemical industry, which fell by 10 per cent. in 1930 and by a further 25 per cent. in 1931. It would be ironical if the restriction of production ultimately induced by the depression were carried to the point where not only existing stocks disappeared, but production was curtailed especially in the areas of cheaper production. (J. B. Condliffe, *The World Economic Survey, 1931-2*, League of Nations, 1932, p. 98.)

earlier periods, except that from 1848 to 1853, when there was a sharp rise, movements in the price level have been slower, and while previous price falls necessitated adjustments, it was not impossible to reorganize the business and assure continued production at some profit. In the post-War period there have been two declines, each so steep that the industry has been completely disorganized.

The history of agriculture in Great Britain since the Napoleonic Wars shows five periods of alternating depression and prosperity: 1820-49, 1849-73, 1873-96, 1896-1913, 1920-31, characterized by downward trends in the general price level in periods of depression and upward trends in periods of recovery. Other countries have been subject to similar alternations of depression and recovery, tending more and more to be coincident as international trade developed and new areas in the western and southern hemispheres were opened up.

But these alternations in prosperity and depression have not been confined to agriculture; they have been shared to a greater or lesser degree by other branches of economic life. The change from a downward direction to an upward or from an upward to a downward direction was in every case associated with a change in monetary conditions affecting at least the principal agricultural countries. After the discoveries of gold in California and Australia in 1846 the world's annual gold production increased between six and sevenfold within seven years, and the annual output remained for twenty years nearly seven times as great as the average during the preceding period.¹ These discoveries contributed to a rapid rise in prices, amounting to as much as 36 per cent. between 1851 and 1854, after which prices remained fairly stationary for nearly twenty years. During this period there were some minor fluctuations due mainly to major events in other parts of the world—the Indian Mutiny in 1857-8; the American War of Secession in 1861-5, which raised the United Kingdom price index number for 'textiles' by 57 per cent., and the combined index number by 7 per cent. in three years; and the Franco-Prussian War in 1871-3, bringing a rise in prices of 15 per cent., mainly due to the minerals group. After each of these disturbances prices relapsed to about the 1855-6 level, and in 1874, after the Franco-Prussian War, stood at the same point as twenty years earlier. After 1870 the adoption of the gold standard in several countries at various dates and the demonetization of silver, together with a decline in the annual gold output of the world, coincided

¹ See W. T. Layton, *Introduction to the Study of Prices*, for a detailed description of the monetary events of the nineteenth century.

with what was, for those days, a rapid price fall—of 40 per cent. in two decades, which continued with hardly an interruption until 1896, when the new process of gold extraction was discovered in South Africa. An upward movement of prices then began, which continued after temporary declines following the booms of 1900 and 1907 until 1913. In the War period prices rose under inflation, which was checked after 1920. In 1920 a fall of prices began, which was interrupted by a rise in 1924, and was resumed in Great Britain, though at a much slower rate after the return to gold in 1925. In the United States wholesale prices became relatively stable from June 1921 until towards the end of 1929, when prices again moved violently downwards until by January 1932 in the United States the wholesale index had fallen to 99 per cent. of the pre-War level, a 30 per cent. fall in two years.

III. *The Depression of 1873 to 1896*

The present depression differs in its origin and character in many respects from the general depression of the period 1873–96, but in the changed conditions which brought about that crisis there are important points of similarity with the post-War situation. In both periods there was a great increase in the arable area in the newer countries; both were periods of monetary deflation. In the last thirty years of the nineteenth century great tracts of virgin land were opened up in America. In the present slump in agriculture, extension of the cultivated area overseas, with enhanced and cheapened powers of production and problems of currency and exchange, are factors of primary importance.

In the last quarter of the nineteenth century the shadow of American competition in grain products began to fall seriously on Europe. Imports had been considerable for some twenty years before; but the average import into Great Britain for the 'seventies was nearly three times as great as that for the 'sixties. Imports of wheat continued to rise. The average price of wheat had fallen in 1895 to 23s. 1d. per quarter, that is to 42 per cent. of the 1867–77 average.¹ Prices of meat and butter also fell, but not to the same extent. On the same basis the index numbers in 1895 were: beef 74, mutton 92, pork 71, butter 74. Whatever were the ultimate causes of the general depression in

¹ Index number compiled by Sauerbeck and continued by the Editor of the *Statist.* See *Journal of the Royal Statistical Society*, vol. lix, part i, March 1896; 'Prices of Commodities in 1895', *Journal of the Royal Statistical Society*, vol. lxxiv, part iv, March 1911; *Journal of the Royal Statistical Society*, vol. xciii, part ii, 1930, 'Wholesale Prices of Commodities in 1929.'

agriculture from 1873 to 1896, it is clear that overseas supplies of wheat must have affected the European market. Even during the period of rising prices and prosperity from the repeal of the Corn Laws onwards to 1873, when the general price level in Great Britain rose by 25 per cent., wheat only rose by 6 per cent., although other agricultural products generally showed an increase at least equal to, and in some cases greater than, the rise in the general price level.

In the United States 300 million acres were added to the 'improved acreage' between 1850 and 1890. The machine-aided production of wheat in the United States of America alone increased from 292 million bushels in 1875 to 602 million bushels in 1900. The opening up of the Western United States was followed by the development of the Canadian West. Argentina was opened up largely by settlers from south Europe, and Australian wheat production began to develop. The great increase in the world area of arable cultivation was stimulated by the development of communication by rail and steamship. The competition of the new countries was first felt in the grain market, because of the incentive to the production of wheat on the new land, since wheat yielded quick returns; also the possibilities of refrigeration of perishable meat and dairy products were still undeveloped. Competition in animal food products did not become serious until the present century, when ships began to be scientifically fitted with refrigerating and cooling plant. In fact, the fall in the price of animal products was less than the fall in the general commodity index.

The drop in wheat prices of approximately 50 per cent.¹ during the period 1873-96 in Great Britain led to a decrease of the wheat acreage from 3.7 million acres in 1870 to 1.9 million acres in 1895, and to 1.7 million acres in 1900. The English wheat yield per acre was 32 bushels, the highest in the world; but high production with its concomitant high costs was useless against low prices; and the farmer was driven to put land down to grass in order to reduce the outgoings of the farm. In Great Britain, where the landlord and tenant system obtained,² the landowner acted as buffer and took at least part of the shock. Reduction was the key-note: the landowner reduced his rentals, sometimes by 50 per cent., the farmer reduced his expenditure on the land, and the amount of working capital was reduced. A deliberate change-over to dairying and stock-breeding took place

¹ Between the periods 1871-5 and 1894-8 the fall in general commodity prices was 40 per cent. In wheat it was 51 per cent., but in beef, bacon, mutton, and butter it ranged from 29 to 25 per cent., and was therefore less than the general price fall.

² Then 12 per cent. occupying owners, 88 per cent. tenant farmers.

in Denmark, Holland, and Belgium; in Germany and France and other European countries, shock absorbers in the shape of tariffs were imposed to protect the grain industries. Farmers attempted to reduce the cost per unit of production by intensive cultivation. The result was in development of a high degree of farm practice in Scandinavia, Germany, Holland, Belgium, and a steady and often remarkable increase in output per acre. The depression was serious, but not so desperate that means could not be found to counteract it. The process of adjustment was long and arduous for European agriculture, and it involved the migration overseas of vast numbers of peasant families.

The fall in agricultural prices,¹ with the consequent distress, was attributed at the time, and still is widely attributed, to the competition of overseas farmers. No one will deny the importance of the effect of the opening up of new land overseas on European agriculture. But at that time population was rapidly increasing, and with it the demand for food. In Europe population rose from 301 millions in 1874 to 347 millions in 1886, and in the world at large from 1,391 millions to 1,483 millions.²

The difficulty in accepting the increase of acreage overseas and the growth of mechanical means of harvesting, transport, &c., as the sole or even principal reason of the depression of 1873-96 was put by Sir R. Giffen before the Royal Commission on Agriculture which met in 1896. 'The phenomenon to be explained', he said, 'is why the causes referred to produced no fall in price before 1873, but were even found consistent with a rise, and why they produced a fall after 1873.'

Great Britain was not alone in suffering acute depression. In France, in spite of drastic increases in the duty on imported wheat, the price declined by 43 per cent. between 1867 and 1894. Heavy losses were also sustained by the German rye-growers in spite of protective duties. In Russia, the United States, Denmark, Australia, and New Zealand agricultural prices fell, and the only two important exceptions to the general depression appear to have been India and Argentina. In India cultivation was extended, prices of agricultural products were maintained, and rents rose. In Argentina the meat industry flourished. Neither of these countries was tied to gold; India was on a silver basis, and Argentina on paper.

But before 1873 the United States and the Latin countries of

¹ See *Report of Royal Commission on Agriculture, 1897*; also *Report of the Committee on the Stabilization of Agricultural Prices*, Ministry of Agriculture, 1925.

² W. Woytinsky, *Die Welt in Zahlen*, p. 32.

Europe were practically on a bimetallic basis, and Germany on a silver basis. When Germany adopted a gold currency these countries closed their mints to silver. The United States, Austria-Hungary, Russia, and Japan were buying gold preparatory to going on a gold standard. The consequence of this currency revolution, at a time when industry was rapidly expanding and demanding extensive credits, meant a greatly increased demand for gold, the production of which remained practically stationary. There was consequently an appreciation in gold and a decline of commodity prices in terms of gold—in other words, a period of deflation.

Some members of the Royal Commission on Agriculture signed a supplementary report advocating international action—a return (partial or complete) to bimetalism. 'We see', they said, 'no other prospect of arresting that constant and progressive fall in prices which by universal admission has been the cause which lies at the root of agricultural depression.'

The demand for a return to bimetalism, however, was checked by the development of the South African gold-mines. Sir R. Giffen maintained, in a memorandum published with the final report, that the increased supplies of gold which might confidently be expected would result in a rise in prices. This prophecy was justified, and in 1897 a period of rising prices began.

IV. *Relative Prosperity in the Pre-War Period, 1900-14*

The upward movement in prices continued in the twentieth century. The two great exporting countries, the United States of America and Russia, showed a rapid increase in population. The population of the United States rose from 50 millions in 1880 to 76 millions in 1900, and 92 millions in 1910. The consuming population in the towns increased. In 1880 70 per cent. of the population was rural and 44 per cent. were 'employed' in agriculture; by 1910 these proportions had changed to 60 per cent. and 35.7 per cent. The United States continued to move in the direction of increased domestic consumption of foodstuffs, and from 1902 exports of wheat diminished although production increased.

The Russian wheat crop increased by the development of the rich black earth lands in the south. But although population also increased from 128 to 140 millions, there was no commensurate increase in wheat consumption, owing to the Government policy of forcing wheat exports to settle the trade balance. Other grains served largely to meet the needs of the expanding population. Export of grain was organized through Black Sea ports, but distribution of

supplies throughout Russia was difficult owing to deficiency of communications. Consequently, local shortage was apt to mean local famine, even when large quantities were being exported. But the trend towards increased domestic consumption was unmistakable. In the meanwhile Russian exports of grain represented 30 per cent. of the world grain export, and in wheat the proportion in 1909-14 was 24 per cent.

In Canada, Argentina, and Australia the export surplus was continually expanding. Nevertheless, the rate of increase of the import of foodstuffs into Europe was not so rapid as in the last quarter of the nineteenth century. Conditions of the growth of population and of production were in reasonable accord. Food supplies were not increasing ahead of population. The general price level is a fair index of the prosperity of the period. In the decade 1900 to 1910 it was 10 per cent. higher than in the nineties. The production of gold increased sufficiently to meet the demands on it. In the five years 1900-4 it was double the production of 1890-4, and there was a further rise of 23 per cent. in 1905-9. Agriculture shared the general prosperity, and prices rose. The prices (cents per bushel) of No. 2 Red Winter Wheat at Chicago show the upward movement.

| | |
|--------------------------|-----|
| Average 1901-4 | 82 |
| 1905-8 | 88 |
| 1909-12 | 101 |

V. *The War Years and the Depression of 1920-2*

During the War years the economic structure of the world was subjected to severe and progressive dislocation. The six great European powers mobilized, in all, something like 60 million men, and European agriculture was depleted of man power, of horse power, and of fertilizers. Fodder was lacking, stocks of cattle depleted, and the fertility of the soil impaired. During the War the European wheat area declined by one-fifth. As time went on some of the gaps on the farms were partially filled by prisoners' labour, necessarily unsatisfactory. Russia, the largest single exporter of grain before the War, ceased to export to any destination. Rumania, the other great European exporter of wheat before the War, was more or less blockaded for two years before the German invasion temporarily ruined her agriculture. The Allies sought supplies from overseas, and to meet their demands, which admitted prices far above the normal level, grain acreage was enormously increased. Not only was acreage increased, but methods of cultivation were improved.

Careful breeding of wheat had produced quick-growing spring

wheat varieties which allowed the wheat area in Canada to be extended northwards. Other varieties were bred capable of resisting drought, which could be cultivated in arid districts of the United States and Australia. Excellent organization for harvest, transport, and storage made American and Canadian wheat more uniform and reliable in quantity. Overseas farmers were so prosperous that they could afford the necessary outlay for mechanical appliances and for improvements of various kinds. In fact, they were driven to economize labour and to increase production by all possible means to meet War demands.

The principal increases during the War in wheat acreage outside Europe were in the United States and in Canada. The high percentage increase in Canada from an average of 9.9 million acres in 1909-13 to an average of 22.1 million acres in 1921-5 was the most considerable change, though the absolute increase in the United States in the same periods from 47.0 million to 58.1 million acres was nearly as great. Canada had 14 per cent. of the world export trade in wheat in 1909-13; in 1924-6 her share was nearly 39 per cent.

The production of meat and dairy products declined heavily in Europe, but in overseas countries it increased. The United States enormously increased her export of dairy produce.¹ North and South America, and Oceania, exported 50,000 metric tons of butter on the average in 1909-13; 116 million metric tons in 1921. Cuban sugar rose from 2.6 million metric tons in 1913-14 to 3.8 million metric tons in 1919-20.

In spite of the increased surpluses in overseas countries prices of all the principal foods had soared to twice, and in some cases nearly three times, the pre-War level on the London market in 1920. But, within two years, the index of the price of vegetable food fell to one-half of what it was in 1920; the index for animal foods was still 84 per cent. above the 1914 level, though it also had suffered a heavy fall from the 1920 level.²

The rise in price of farm products was part of a general movement in prices, and so was the fall. The general character of the curves

¹ Index number for the export of dairy products (1910-14 = 100).

| | | | |
|---------|-----------|---------|-------------|
| 1913-14 | . . . 103 | 1917-18 | . . . 975 |
| 1914-15 | . . . 302 | 1918-19 | . . . 1,287 |
| 1915-16 | . . . 479 | 1919-20 | . . . 1,275 |
| 1916-17 | . . . 716 | | |

(*Year Book of Agriculture, 1932*, U.S. Department of Agriculture.)

² *Year Book of Agriculture, 1931*, U.S. Department of Agriculture, p. 947. See *Journal of the Royal Statistical Society*, vol. xciii, part ii, 1930. 'Wholesale Prices of Commodities in 1929' (Sauerbeck's index numbers continued).

of prices of agricultural products and of general wholesale commodities in England and America was the same, and it therefore would appear that the reasons for the rise of agricultural prices to the great height of 1920 and the fall in two years lay outside the conditions governing the supply and demand of agricultural products.¹ The main reason was the great inflation of credit and currency during the War and the subsequent deflation. The post-War boom in America lasted until 1920. Wholesale prices of farm products reached their highest point in January 1920, and thereafter declined, but the decline did not become rapid until the autumn. The full force of the storm actually broke first on Japan, where the price level in March 1920 was four times what it had been in 1910; the banks refused further credits, and there was a grave crisis in rice, cotton, and silk. In the United States in the autumn there were serious difficulties in wool, leather, hides, cotton, cattle, and wheat. The slump in prices had begun. Cotton growers could find no market. President Harding advised them to 'Tell your people to quit talking calamity and make the best of a bad situation',² but they passed resolutions to hold their crops for 40 cents a lb. It fell by the end of December to 14 cents. Farmers tried to hold their wheat for \$3 a bushel, and eventually had to sell at prices far below the enhanced cost of production. Canadian farmers asked for the resuscitation of the Canadian Wheat Board, American farmers asked for the renewal of the United States Grain Corporation. The American farmer, who had enjoyed a sure market, was especially hard hit by the cessation of Allied buying and also of the relief credits, which had been largely financed by the American Treasury. By 1922 it was reported that 8.5 of owner-farmers in the Middle West had lost their farms, and a greater proportion of the tenant-farmers abandoned their holdings. Nearly 6,000 farmers went bankrupt in 1923. The dislocation in the channels of trade in agricultural products caused by the War had been far-reaching and serious, and the period of liquidation brought farmers into a perilous position.

The effects of the sudden deflation were felt in every part of the economic machinery—in agriculture very seriously. The table given on p. 83 shows the universality and the rapid extension of the slump in different countries and the dates of its operation.³

¹ For a full discussion of the relation between monetary policy and agricultural prices during this period see R. R. Enfield, *The Agricultural Crisis, 1920-3*.

² H. W. Macrosty, 'Inflation and Deflation in the United States and the United Kingdom, 1919-23', in *Journal of Royal Statistical Society*, part i, 1927, p. 55.

³ R. R. Enfield, *The Agricultural Crisis, 1920-3*.

TABLE XIII

| | <i>Date when fall in prices began.</i> | <i>Date when lowest point was reached.</i> | <i>Percentage fall in prices.</i> |
|--------------------------------------|--|--|---|
| U.S.A. (Bradstreet) | Jan. 1920 | May 1921 | 49.1 |
| British India | " " | Feb. " | 20.2 |
| Egypt | Feb. " | July 1922 | 63.2 |
| Japan | Mar. " | Dec. " | 43.1 |
| France | Apr. " | Feb. " | 47.9 |
| Dutch East Indies | " " | Sept. " | 51.4 |
| United Kingdom (Board of Trade) | May " | " " | 52.6 |
| U.S.A. (Bureau of Labour Statistics) | " " | Jan. " | 44.1 |
| Canada | " " | Oct. " | 38.4 |
| Sweden | " " | Nov. " | 56.5 |
| Netherlands | July " | Sept. " | 48.5 |
| South Africa | " " | July " | 45.5 |
| Australia | Aug. " | Mar. " | 38.0 |
| Norway | Sept. " | Dec. " | 48.2 |
| Denmark | Oct. " | Sept. " | 56.3 |
| New Zealand | " " | Dec. " | 22.3 |
| Spain | " " | Oct. " | 24.9 |
| Italy | Nov. " | June 1921 | 24.1 |
| Czechoslovakia | " " | Dec. " | 38.2 |

The periods differ, but the slump itself was world-wide. The year 1919 in Great Britain and in America had witnessed an amazing optimism and an orgy of speculation in industry. In that year rigid Government control was relaxed and business was once more allowed free play. Trade boomed and prices soared. There was to be an era of 'peace and plenty'. Disillusion was swift in agriculture as in industry.

It seems clear from the course of the general price level, including food prices, that the root of the farmers' difficulties lay in the general financial situation and in the general dislocation of international trade, and not, at this point, in over-production. Russia and eastern Europe were temporarily in abeyance in the world market, and the total world production of wheat, for example, had only just returned in 1921-2 to the pre-War level, though world population had increased in the interval.

Increased production outside Europe was not more than sufficient to make good the decrease in Europe and the Soviet Union. There was no lack of hunger in 1920 to 1922, but there was a paralysing incapacity to buy in central and eastern Europe when the American Relief credits were withdrawn. The cause of the trouble was not over-supply to meet normal requirements, but lack of purchasing power.

The chief market for the exportable surpluses of food from all quarters was, and is, western and central Europe. The demands of

the countries in this area, especially in Great Britain, were met before the War partly from overseas markets, but in central Europe largely from Russia and the Danubian countries. A basic condition of the European economy had been the exchange of the industrial products of western Europe for the food supplies and raw materials of Russia and the Danubian countries. The broad flow of this two-way traffic east and west was broken by the War, and the breach was maintained after the War first by the complete disorganization of Russia, and then by the general European political situation. Ten years elapsed after the War before any serious effort was made to resume the exchange of goods as far as Russia was concerned. By that time new channels of supply had been established, and the advent of Russian supplies was bound to be a disturbing factor in the world market. The magnitude of the change-over in trade is shown by the fact that in 1909-14 the United States, Canada, Argentina, and Australia supplied about half the world's exports of wheat, while Russia and the Danubian countries supplied about 40 per cent.; for the years 1924-8 the share of the four overseas countries had risen to about 94 per cent., while that of Russia and the Danube had fallen to about 5 per cent.¹

Writing, thirteen years after the War, of the agricultural position of Austria, the border country between western industrial Europe and eastern agricultural Europe, Dr. Dolfuss put the situation very clearly:

'The centre of gravity in the production of mass agricultural products has shifted, under the influence of the economic situation during and since the War, to countries which before the War took a very small share in supplying the import requirements of Europe. Their efforts to retain, and indeed extend, the markets they have captured cut across the necessary efforts of the agriculture of the industrial countries and of the East European agricultural exporting states to recapture the markets they have lost. The result is unrestricted competition and disorganization of the market, and, accordingly, permanent conditions of depression. This is bound to be felt most in those countries in which the increasing production of Eastern Europe is endeavouring to find an outlet for its surpluses; and it is precisely at this point of intersection that Austria stands.'²

Thus, the War had temporarily deflected the European demand almost exclusively to overseas supplies because of the deficiency in Europe itself. Farmers in North and South America had not only increased their acreage; they had improved and cheapened their

¹ R. R. Enfield, Address to the British Association (1931) on 'The World's Wheat Situation', reprinted in the *Economic Journal*, December 1931.

² *The Agricultural Crisis*, 'Austria', vol. i, 1931.

methods. When European agriculture began to recover (and the process had hardly begun when the post-War break in prices came) it was relatively ill equipped to meet overseas competition. The starving of the soil during the War years, lack of horses, cattle, and implements, lack of capital to replace these and other losses, would alone have placed European production at a disadvantage. The seizure of the land by the peasants in Russia made the position of the big landlords producing on a large scale for export impossible in the countries contiguous with Russia. The 'agrarian revolution', the division of the big estates among peasant proprietors, was inevitable in the Border States from Rumania to Finland if revolution was to be avoided. But the new small owners were poor, their co-operative societies had no money, their equipment was negligible, and the effect of the change was necessarily a reduction in productivity for the time being.

The yield in eastern Europe is lower than in western Europe, and marketing arrangements are primitive. Factors detrimental to European agriculture included:

1. The break up of the Austrian, Russian, and German empires, and the creation of the separate entities of Austria, Czechoslovakia, Danzig, Estonia, Hungary, Latvia, Lithuania, and Poland, each with its own currency and its own tariff system; and the consequent creation of some 7,000 miles of new tariff boundaries.
2. The raising of the level of tariff walls in several countries.
3. In the case of Germany, the heavy economic burdens she was called on to bear after the peace treaty.
4. The destruction of the pre-War position of industrial western Europe as creditors, while the United States of America, previously a debtor nation, had become the world's chief creditor.
5. Lastly, the violent—in some countries, unprecedented—disturbance caused by disorganization of currency and exchange, with all the attendant evils which it involved.

These disturbing factors did not, of course, operate with equal severity in all countries or on all commodities.

Violent inflation in Germany and other countries with already inflated currencies caused complete dislocation until stabilization was effected in 1924 and subsequent years. Until this process was complete, the world factors in the agricultural price level were masked in central Europe. Even in long periods of falling prices, depression is not universal or evenly spread. Many farmers in Europe

are protected from the full impact of world influences either by a high protectionist State policy or by the fact that they themselves consume the greater part of what they produce.

The agrarian revolution in eastern Europe, coupled with the food shortage, brought with it changes in cropping. The tendency of the small proprietor in eastern Europe was to grow crops for consumption on the farm rather than for sale. He appears to have withstood the depression better than the large farmer working with hired labour, but at the cost of a severe strain on himself and his family. In 1924 the European (excluding Russia) index¹ for the production of wheat as compared with the average of 1909-13, was 77 per cent., rye 66 per cent., barley 82 per cent., oats 84 per cent., but maize stood at 99 per cent. and potatoes at 101 per cent. (114 in 1925).

In its world aspect the agricultural problem was emerging as a conflict between the European farmer, a unit in the economy of the continent which is the greatest food importer, and the overseas producer in the United States of America, Canada, Australia, Argentina, or New Zealand, generally operating on a much larger scale, and with increasingly efficient mechanical means, for the world market, mainly a European market. In fact, the European farmer was suffering from the effects of the agricultural revolution in the new countries much as the hand-loom weavers suffered by the industrial revolution. Each class of producer have their difficulties in a period of falling prices, but they are of a different order. The overseas producer for export suffers more directly from the slump in prices in 1920 to 1922 because he produces mainly for the world market, and has no protection against world prices. The West European farmer produces mainly for his domestic market, and his products are either artificially protected by tariffs, or naturally protected, by their nature, from overseas competition.

V. *A Period of Relative Stability, 1924-8*

The interval between 1924 and 1928 was a temporary lull between the price decline of 1920-2 and that of 1929-32; Europe began to recover a degree of prosperity. War losses in live stock and in the fertility of the soil had been made good, the initial disturbances due to changes of frontier, and, in eastern Europe, to the splitting up of large estates into peasant holdings, had subsided. Currencies were gradually stabilized, and the menace of the violent fluctuations of the

¹ *Agricultural Problems in their International Aspect*. Printed for the World Economic Conference of 1927; figures supplied by the International Institute of Agriculture.

preceding years removed. A serious crisis of War debts and reparations in 1924 had been surmounted, though settlement was still far ahead. The political barometer, if it did not stand at 'set fair', did not indicate violent storms. There was steady improvement in European food production; indeed, it increased more rapidly in Europe in 1926 to 1928 than anywhere else in the world. During these years agriculture in Great Britain and agriculture on the continent experienced different monetary conditions; in Great Britain, on the one hand, prices were slowly falling; in France, Italy, and Belgium, on the other, prices were rising until the end of 1926. European farmers were on the whole better off, though they were dissatisfied. At the World Economic Conference of 1927 they complained bitterly of the discrepancy between the cost of industrial products which they had to buy and the price they received for their own products. They were convinced that the organization of the industrial world, with its trusts and cartels, placed agriculture, with its world-wide diffusion and the consequent inherent difficulty of combination among farmers, at a serious disadvantage, and they desired that, in all protective systems, due shelter should be given to agriculture.

The relative stability in the world food market (there was a decline in price¹ but not a very rapid one by post-War standards, although steeper than any which had occurred in a corresponding length of time in the depression of 1873 to 1896) was a precarious stability, based on the assumption that Russia would not resume her pre-War role as a great exporter of foodstuffs, flax, and linseed, and that Europe as a whole would continue her demand for American and Australian foodstuffs. A continuing cause of dislocation was that each European country was still convinced of the necessity of self-sufficiency, so that the sufferings during the War from the lack of essential commodities should not be repeated. The lesson of the repercussions of the crisis of 1920-2 that no country could live unto itself was, and still is, unlearned. Economic nationalism was strangling the European economy. The necessity for readjustment was disguised by the relative prosperity of 1924-8.

The wheat area continued to increase in Canada, Australia, and Argentina, and in Russia it was brought up to the pre-War standard and even surpassed it in 1929-30. Much of the

¹ The Statist index of average wholesale prices (all commodities basis 1913 = 100) ran as follows:

| | | | | | | | | |
|------|---|-----|------|---|-----|------|---|-----|
| 1924 | . | 165 | 1926 | . | 150 | 1928 | . | 142 |
| 1925 | . | 160 | 1927 | . | 144 | | | |

expansion was in overseas countries, in areas newly brought under cultivation, suitable for the production of wheat by extensive methods with the use of machinery, but not adapted, for various economic reasons, including the absence of labour, for other cultivation. Consequently, a sudden reduction in acreage was practically impossible; there was no alternative crop.

VI. *The Slump in Prices in 1929-32*

During the period of 1924-8 as a whole there had been a tendency for prices to decline, but it was generally slow, and was by no means uniform and universal.¹ In the early autumn of 1929 the Stock Exchange boom broke in the United States, and the necessity of liquidating all kinds of obligations began. In many countries discount rates were raised and credit restricted. The general restriction of credit forced sales of produce, the holding of which could not be financed. The outflow of capital from the creditor countries was checked. Borrowing countries such as Argentina, Brazil, Australia, Hungary, and Rumania, were compelled to throw on the market foodstuffs and raw materials, the prices of which were already falling.

In all Western countries the price level fell rapidly. The percentage decrease in 1931 since the peak year (1920 in most cases, 1926 for Italy and France) was 67 in England, 42 in France, 48 in Italy, 54 in the United States. In the two years 1930-1 wholesale prices fell by 28 per cent. in England, 33 per cent. in France, 27 per cent. in Italy, 22 per cent. in Germany, 26 per cent. in the United States (or if the 30-basic commodity index alone is taken, 40 per cent.).² Thus the

¹ Mem. on the Economic Depression in *Minutes* (p. 135) of the Third Session of the Commission of Inquiry for European Union.

² *Farm Economics*, Cornell University, February 1932, p. 1663:

| | England Statist- Sauerbeck index (1910-14 = 100) | France Statistique générale index (1910-14 = 100) | Italy Riccardo Bachi index (1913 = 100) | Germany Statistisches Reichsamt (1913 = 100) | United States All commo- dities index (1910-14 = 100) |
|---|---|--|--|--|--|
| Peak year | 304* | 709† | 618† | .. | 226* |
| Year 1929. | 139 | 617 | 440 | 137 | 139 |
| November 1931 | 100 | 412 | 320 | 107 | 103 |
| Per cent. decline from peak | 67 | 42 | 48 | .. | 54 |
| Per cent. decline since 1929 | 28 | 33 | 27 | 22 | 26 |

* 1920.

† 1926.

price fall was far more rapid than in the 'seventies, when a 40-per cent. fall was spread over twenty years. China, which is on a silver basis, saw an advance of 8 per cent. between 1929 and 1931.

Cereal prices declined more steeply than the prices of meat and dairy produce, and the crisis in raw materials of the textile industry was also very severe since the industrial demand was weakened.

The accumulation of stocks of certain commodities during this period is shown in the following table:¹

TABLE XIV

World Stocks of Important Agricultural Commodities, 1925-31

| <i>Commodity and unit.</i> | <i>Month.</i> | <i>1925.</i> | <i>1929.</i> | <i>1930.</i> | <i>1931.</i> |
|-----------------------------------|---------------|--------------|--------------|--------------|--------------|
| Wheat (millions of quintals) | Aug. | 114 | 233 | 220 | 246 |
| Sugar " " | Dec. | 37* | 57 | 71 | 87 |
| Coffee " " | Mar. | 5* | 9 | 16 | 17† |
| Cotton (millions of bales) | Dec. | 5,635 | 7,234 | 9,396 | 10,709 |
| Rubber (thousands of metric tons) | Mar. | .. | 243 | 367 | 556‡ |

* Statistics for 1926.

† Stocks at 29 February 1932, were 205,000,000 quintals.

‡ Stocks at 29 February 1932, were 654,000 metric tons.

The reduction in the value of world trade provides a good index of the depression. In 1930 international trade, taking the exports of all nations as a criterion, was valued at 26,400 million dollars, a fall of nearly 20 per cent. on 1929.² Since that date there has been a further steady decline.

TABLE XV

Monthly Averages of Exports of 29 Nations³

| <i>Month.</i> | <i>Actual total.</i> | <i>Per cent. of 1930 average.</i> |
|-------------------------------|----------------------|-----------------------------------|
| | million \$. | |
| Average 1930 | 1,689.1 | 100.0 |
| 1931—June | 1,189.0 | 70.0 |
| July | 1,189.3 | 70.0 |
| August | 1,139.1 | 67.5 |
| September | 1,174.0 | 69.2 |
| October | 1,206.0 | 71.6 |
| November | 1,122.2 | 66.3 |
| December | 1,043.7 | 61.5 |
| 1932—January | 835.8 | 49.5 |
| February | 853.1 | 50.5 |
| March (provisional) | 867.0 | 51.0 |

¹ J. B. Condliffe, *World Economic Survey, 1931-2*, p. 93. 1 quintal = 220 lb.

² See the figures in the League of Nations *Statistical Year Book, 1931-2*, Geneva, 1932, p. 200.

³ *The Economist*, 11 June 1932.

These figures do not mean that the volume of trade has diminished by 49 per cent. in fifteen months, though there is a heavy decrease in freightage; what they do indicate is a heavy fall in the price of staple commodities for export, in which agricultural products play a large part, and a more or less equivalent fall in the volume of exports of manufactured goods. A falling price level means a contraction of money incomes, which in turn means a contraction of consumers' demand. Broadly speaking, the supply of manufactured goods is relatively elastic, the supply of agricultural products relatively inelastic. This means that in the period of declining incomes agricultural prices tend to fall more than industrial prices, at least, in the early stages, for manufacturers tend to restrict production in face of falling demand, while the corresponding restriction of agricultural production is much more difficult. Hence the effect is unemployment in industry and overproduction, with a fall of prices in agriculture. In turn, unemployment in the towns tends to diminish the demand for agricultural produce, and the fall in agricultural prices tends to restrict the purchasing power of the agricultural community for the products of the towns. Thus, the interaction of the two contributes to the general depression and leads inevitably to unemployment of capital and labour.

The falling volume of industrial production is shown in the following table, which shows official index numbers adjusted to a 1929 base:

TABLE XVI

National Indices of Industrial Production (1929=100)

| <i>Country.</i> | <i>1930.</i> | | <i>1931.</i> | | <i>1932.</i> |
|---|------------------|------------------|------------------|------------------|------------------|
| | <i>1st half.</i> | <i>2nd half.</i> | <i>1st half.</i> | <i>2nd half.</i> | <i>1st half.</i> |
| United Kingdom (Board of Trade) | 96 | 89 | 84 | 84 | 85* |
| U.S.A. (Federal Reserve Board) | 88 | 75 | 73 | 64 | 55† |
| Germany (Institut für Konjunkturforschung) | 88 | 76 | 71 | 65 | 55 |
| France (Statistique générale) | 106 | 97 | 94 | 84 | 70 |
| Sweden (Svensk Finanstidning) | 102 | 92 | 82 | 88 | 83 |
| Japan (Mitsubishi Economic Research Bureau) | 93 | 94 | 87 | 97 | 90‡ |
| Canada (Dominion Bureau of Statistics) | 91 | 80 | 76 | 68 | 65‡ |

* 1st quarter only.

† 5 months.

‡ 4 months.

CHAPTER VI

ASPECTS OF THE PRICE FALL

Price Fall in Individual Commodities and in the General Price Level—Divergence between Prices of Agricultural Products and of Commodities which the Farmer buys—Prices of Agricultural Raw Materials and of their Finished Products—Margin between Farm-gate Prices and Retail Prices of Farm Products—The Fall in Prices and the Balance of Trade.

I. *Price Fall in Individual Commodities and in the General Price Level*

THE fall in food prices as a whole was not, except in certain commodities, very much more severe than the general fall. In the table on the following pages, index numbers of prices of individual agricultural commodities are shown, the basis of comparison being the average of prices at the end of the years 1925 to 1929.

The level of general commodity prices is shown in the following table:

TABLE XVII
*Economist Index Number of Wholesale Prices**
(1925-9 = 100)†

| | | 1930 | | 1931 | |
|--------|-------|-----------|------|-----------|------|
| 1925-9 | 100.0 | January | 87.9 | January | 67.7 |
| 1925 | 108.8 | February | 86.0 | February | 67.9 |
| 1926 | 103.1 | March | 84.9 | March | 67.6 |
| 1927 | 100.9 | April | 83.3 | April | 66.8 |
| 1928 | 97.0 | May | 82.3 | May | 64.9 |
| 1929 | 90.2 | June | 80.5 | June | 64.9 |
| | | July | 79.2 | July | 63.8 |
| | | August | 77.7 | August | 63.6 |
| | | September | 74.8 | September | 66.5 |
| | | October | 73.9 | October | 66.9 |
| | | November | 72.4 | November | 67.3 |
| | | December | 70.2 | December | 67.2 |

* Converted to an index number, in which the ends of 1925-9 = 100, by multiplying the 'Economist' Index, in which 1927 = 100, by 1.0212.

† Average of prices at the end of each year. The monthly indices refer to prices at the end of each month.

The various products may be grouped according to whether the fall in price up to August 1931 (after which British prices were affected by Great Britain's departure from the gold standard) is greater or less than the fall in the price of all commodities, amounting to approximately 36 per cent. We have added the parallel approximate increase or decrease in world production of each commodity. This is not a strict parallel, but for all except the last months shown London was a world market, without protective duties, and the comparison, therefore, has a certain validity. Table XVIII indicates that among

TABLE XVII a
INDEX NUMBERS OF WHOLESALE PRICES OF AGRICULTURAL PRODUCTS IN THE U.K.*
(1925-9 = 100)†

| Average price † | Wheat, No. 2 Manitoba. | Maize, La Plata landed. | Rice, No. 2 Burna. | Potatoes, good English. | Beef, Argentina chilled hindquarters. | Mutton, New Zealand frozen withers. | Bacon, Danish. | Tea, Indian auction average. | Coffee, Cuba Rica, good to fine. | Sugar, B. W. I. crystallized. | Cotton, American middling. |
|-----------------|------------------------------|-------------------------------|--------------------------|-------------------------------|--|---|-------------------|---------------------------------------|---|-------------------------------------|----------------------------------|
| 1925-9 | 57-050 | 36-300 | 14-025 | 5-700 | 4-286 | 4-710 | 100-000 | 17-008 | 101-400 | 27-325 | 9-640 |
| End of 1925 | 115-7 | 105-4 | 110-5 | 109-6 | 91-5 | 100-7 | 129-5 | 119-0 | 106-9 | 88-3 | 100-3 |
| " 1926 | 90-0 | 88-2 | 109-7 | 114-0 | 93-3 | 90-7 | 88-0 | 92-1 | 82-1 | 97-2 | 71-3 |
| " 1927 | 101-7 | 104-7 | 101-6 | 105-3 | 97-3 | 100-7 | 79-5 | 108-9 | 103-7 | 114-4 | 114-7 |
| " 1928 | 86-3 | 110-4 | 98-0 | 105-3 | 97-3 | 100-0 | 98-0 | 109-7 | 99-1 | 88-7 | 100-8 |
| " 1929 | 97-3 | 85-4 | 89-2 | 95-8 | 120-6 | 102-4 | 105-0 | 76-7 | 102-2 | 81-4 | 97-7 |
| " Feb. | 85-4 | 83-8 | 89-8 | 95-8 | 112-7 | 109-8 | 103-5 | 78-7 | 103-3 | 79-6 | 91-7 |
| " Mar. | 78-4 | 73-7 | 83-8 | 97-0 | 112-7 | 114-9 | 104-5 | 79-0 | 100-7 | 78-7 | 88-6 |
| " Apr. | 76-7 | 70-9 | 82-0 | 97-0 | 112-7 | 95-4 | 100-0 | 90-5 | 100-7 | 78-7 | 88-6 |
| " May | 74-9 | 80-8 | 85-6 | 81-4 | 99-2 | 79-5 | 100-0 | 87-7 | 98-0 | 78-7 | 89-4 |
| " June | 68-4 | 77-1 | 85-6 | 82-6 | 100-1 | 81-2 | 101-0 | 81-9 | 90-0 | 77-8 | 80-1 |
| " July | 67-0 | 74-4 | 83-8 | 82-6 | 110-7 | 81-2 | 101-0 | 79-0 | 90-0 | 80-5 | 78-6 |
| " Aug. | 65-3 | 75-8 | 80-8 | 105-3 | 116-7 | 77-8 | 88-0 | 72-3 | 88-8 | 76-0 | 75-4 |
| " Sept. | 53-0 | 60-1 | 83-8 | 90-3 | 118-5 | 77-8 | 94-0 | 90-7 | 88-3 | 76-9 | 76-2 |
| " Oct. | 54-3 | 56-5 | 78-4 | 105-3 | 120-6 | 84-8 | 66-5 | 100-1 | 88-3 | 69-5 | 50-1 |
| " Nov. | 49-5 | 54-4 | 62-4 | 105-3 | 107-3 | 83-1 | 73-0 | 88-4 | 86-7 | 75-9 | 64-7 |
| " Dec. | 42-9 | 48-0 | 57-0 | 105-3 | 99-0 | 83-1 | 72-0 | 85-5 | 80-5 | 71-4 | 60-0 |
| " Jan. | 46-9 | 43-8 | 58-8 | 114-0 | 103-3 | 70-6 | 60-0 | 78-2 | 75-9 | 75-0 | 55-4 |
| " Feb. | 48-6 | 51-0 | 55-3 | 114-0 | 89-4 | 63-6 | 60-0 | 62-9 | 74-3 | 73-2 | 62-4 |
| " Mar. | 44-7 | 56-5 | 57-9 | 122-8 | 80-4 | 63-6 | 55-0 | 62-9 | 71-3 | 73-2 | 60-4 |
| " Apr. | 48-2 | 60-6 | 51-7 | 149-1 | 103-1 | 63-0 | 66-3 | 68-7 | 66-3 | 73-2 | 50-1 |
| " May | 45-1 | 46-1 | 49-9 | 149-1 | 93-3 | 72-5 | 60-0 | 59-0 | 63-5 | 73-2 | 49-8 |
| " June | 45-6 | 46-8 | 49-9 | 157-9 | 87-5 | 77-8 | 59-0 | 45-3 | 61-3 | 73-2 | 56-3 |
| " July | 40-8 | 45-5 | 55-7 | 122-8 | 116-8 | 75-9 | 64-0 | 50-4 | 60-7 | 73-2 | 47-9 |
| " Aug. | 40-8 | 43-4 | 57-0 | 105-3 | 116-7 | 80-5 | 68-0 | 87-7 | 58-9 | 72-3 | 41-1 |
| " Sept. | 46-9 | 47-5 | 64-2 | 122-8 | 101-0 | 81-2 | 62-0 | 91-4 | 64-1 | 73-2 | 46-0 |
| " Oct. | 52-1 | 53-0 | 60-6 | 144-7 | 106-9 | 75-9 | 53-0 | 75-5 | 64-1 | 72-7 | 52-1 |
| " Nov. | 55-2 | 51-7 | 60-6 | 166-7 | 91-5 | 63-0 | 48-0 | 65-9 | 65-4 | 72-7 | 51-5 |
| " Dec. | 53-9 | 51-0 | 61-5 | 170-8 | 87-5 | 60-0 | 45-0 | 59-5 | 69-7 | 72-7 | 55-4 |

* Based on *The Economist* under 'Commercial History of 1930', vol. cxli, No. 4564, p. 68, 14 February 1931; 'Commercial History of 1931', vol. cxliv, No. 4616, p. 63, 13 February 1932.

† The line indicates the departure of the U.K. from the gold standard.

TABLE XVII a (cont.)
INDEX NUMBERS OF WHOLESALE PRICES OF AGRICULTURAL PRODUCTS IN THE U.K.*—continued

| Average Price † 1925-9 | Chesse, Canadian. | Butter, Danish. | Coconut oil, crude. | Wood, Queensland scoured, super combining. | Silk, Italian raw, from Marian. | Flax, Levantine Z.K. | Hemp, Manila. | Jute, native firsts. | Janned oil, naked net. | Rubber, plant sheet. |
|---------------------------|------------------------|------------------------|------------------------|---|--|----------------------------|----------------------|----------------------------|------------------------------|----------------------------|
| | s. per cwt. 100-200 | s. per cwt. 183-800 | £ per ton. 41-800 | d. per lb. 44-000 | s. per lb. 23-300 | £ per ton. 73-300 | £ per ton. 41-200 | £ per ton. 36-400 | £ per ton. 33-350 | d. per lb. 20-374 |
| End of 1925 | 103.8 | 94.1 | 114.8 | 113.6 | 123.4 | 97.5 | 111.7 | 162.1 | 100.4 | 225.7 |
| " 1926 | 93.8 | 100.7 | 108.9 | 102.3 | 127.7 | 73.7 | 114.1 | 85.9 | 93.7 | 193.8 |
| " 1927 | 100.8 | 98.5 | 101.7 | 100.1 | 89.9 | 123.5 | 100.7 | 87.2 | 88.0 | 192.2 |
| " 1928 | 104.8 | 108.8 | 93.3 | 100.0 | 96.5 | 124.1 | 87.4 | 88.6 | 87.0 | 192.7 |
| " 1929 | 96.8 | 97.9 | 81.3 | 75.0 | 80.5 | 71.2 | 86.1 | 70.2 | 134.9 | 39.6 |
| 1930 | Jan. 96.8 | 93.6 | 80.1 | 59.1 | 80.5 | 77.8 | 83.4 | 72.8 | 133.4 | 37.4 |
| " Feb. 96.8 | 93.6 | 81.3 | 81.3 | 59.1 | 80.5 | 75.7 | 77.7 | 70.7 | 127.4 | 35.6 |
| " Mar. 95.8 | 81.1 | 81.3 | 81.3 | 54.5 | 76.2 | 81.9 | 72.8 | 68.0 | 121.4 | 37.4 |
| " Apr. 96.8 | 74.5 | 74.5 | 81.3 | 55.7 | 76.2 | 81.0 | 60.4 | 60.4 | 120.3 | 34.4 |
| " May 97.3 | 71.8 | 74.2 | 80.1 | 61.4 | 69.7 | 79.1 | 59.5 | 64.9 | 127.4 | 33.1 |
| " June 82.8 | 79.4 | 79.4 | 74.2 | 61.4 | 69.7 | 79.1 | 56.7 | 61.1 | 122.9 | 30.7 |
| " July 82.8 | 84.9 | 84.9 | 70.3 | 56.8 | 55.8 | 76.4 | 57.0 | 52.9 | 107.2 | 25.5 |
| " Aug. 77.8 | 78.3 | 78.3 | 64.0 | 56.8 | 55.8 | 73.7 | 54.6 | 46.7 | 96.0 | 23.6 |
| " Sept. 77.3 | 79.4 | 79.4 | 63.4 | 52.3 | 55.8 | 64.6 | 53.4 | 48.4 | 84.0 | 18.2 |
| " Oct. 75.8 | 81.6 | 81.6 | 62.2 | 50.0 | 48.3 | 54.6 | 55.8 | 43.6 | 81.7 | 21.8 |
| " Nov. 74.9 | 70.7 | 70.7 | 61.0 | 50.0 | 48.3 | 57.6 | 57.6 | 44.6 | 82.5 | 22.4 |
| " Dec. 75.8 | 77.3 | 77.3 | 61.5 | 50.0 | 49.1 | 47.7 | 55.8 | 42.6 | 67.5 | 20.9 |
| 1931 | Jan. 75.8 | 75.1 | 62.2 | 36.4 | 47.2 | 43.7 | 47.3 | 41.9 | 54.0 | 19.3 |
| " Feb. 75.8 | 77.3 | 77.3 | 65.8 | 52.3 | 47.2 | 42.3 | 42.5 | 41.2 | 62.2 | 19.0 |
| " Mar. 74.9 | 68.6 | 68.6 | 61.6 | 50.0 | 44.0 | 49.1 | 47.3 | 44.2 | 55.5 | 16.0 |
| " Apr. 74.0 | 61.6 | 61.6 | 62.2 | 50.0 | 44.0 | 47.7 | 44.3 | 44.0 | 54.0 | 13.5 |
| " May 70.9 | 63.7 | 63.7 | 62.2 | 47.7 | 39.7 | 47.1 | 42.3 | 44.0 | 47.2 | 15.4 |
| " June 69.9 | 62.0 | 62.0 | 46.7 | 47.7 | 39.7 | 45.7 | 43.7 | 44.0 | 51.0 | 16.0 |
| " July 69.9 | 60.9 | 60.9 | 45.5 | 43.2 | 41.8 | 47.1 | 41.3 | 41.3 | 51.0 | 13.8 |
| " Aug. 68.9 | 60.9 | 60.9 | 45.5 | 43.2 | 40.8 | 45.0 | 40.0 | 41.0 | 51.0 | 11.0 |
| " Sept. 69.0 | 74.0 | 74.0 | 55.0 | 43.2 | 50.4 | 43.7 | 49.1 | 52.2 | 51.0 | 13.5 |
| " Oct. 69.4 | 75.6 | 75.6 | 55.0 | 43.5 | 50.4 | 56.9 | 48.5 | 56.6 | 47.3 | 14.3 |
| " Nov. 69.9 | 68.0 | 68.0 | 58.6 | 50.0 | 52.6 | 53.2 | 51.0 | 59.1 | 57.6 | 14.6 |
| " Dec. 64.9 | 74.0 | 74.0 | 59.8 | 50.0 | 50.4 | 55.9 | 49.2 | 52.0 | 43.8 | 16.2 |

* Based on *The Economist* under 'Commercial History of 1930', vol. cxii, No. 4584, p. 68, 14 February 1931; 'Commercial History of 1931', vol. cxliv, No. 4616, p. 65, 13 February 1932.
† See note to Table XVII.

the commodities in which the fall (August 1931) was in excess of the general price fall were:

TABLE XVIII

| | <i>Percentage fall in price, Aug. 1931 over 1925-9.</i> | <i>Increase or decrease of world production, 1931 over 1925-9.</i> |
|-----------------------|---|--|
| Rubber | 89 | +21 |
| Hemp | 60 | -10 |
| Wheat | 59.2 | +3 |
| Silk | 59.2 | +5 |
| Cotton | 58.9 | +2 |
| Wool | 56.8 | .. |
| Maize | 56.6 | -3 |
| Jute | 55.4 | -46 |
| Linseed oil | 49 | +3* |
| Rice | 43 | +3 |
| Coffee | 41.1 | +10 |

Among commodities in which the fall was less serious in the summer of 1931 were:

| | <i>Percentage fall in price.</i> | <i>Increase or decrease of world production, 1931 over 1925-9.</i> |
|------------------|----------------------------------|--|
| Butter | 33.1 | not known |
| Bacon | 31.1 | +2*† |
| Sugar | 27.7 | .. |
| Mutton | 13.5 | -2* |
| Cheese | 31.1 | not known |
| Tea | 12.3 | +1 |

* 1930.

† Pork production.

Only rubber and coffee show material increases in production in 1931 as compared with the average of 1925-9.

Four world staple products, wheat, cotton, wool, and maize, all of primary importance, show a heavy fall in price. It may be argued that wheat production is in excess, but there is practically no change in cotton production, and in maize there is an actual decrease. On wheat and wool two great countries, Canada and Australia, are largely dependent. The fall in the price of rice is especially serious for India and East Indian countries. The fall in coffee prices disorganizes the finances not only of Brazil, but of Colombia and Costa Rica and other countries in the Caribbean area. Wheat prices are significant, not only because of the great volume of production but because other cereal prices tend to follow their course.

Juxtaposition of the wheat index and the general commodity index

in different countries illustrates this contention, and shows that there was a similar divergence in the years 1921 to 1923.

TABLE XIX

Statement¹ showing a Comparison of Index Numbers of Wheat and of the General Level of Commodity Prices for certain Wheat-producing Countries for the Years 1920-30.

Bases of Indices for all countries (except India): wheat 1909-13 = 100; all commodities 1913 = 100. Base for Indian figures, 1914 = 100.

| Year. | Wheat. | | Wheat. | | Wheat. | | Wheat. | | Wheat (English). | | Wheat (Bombay). | |
|-------|---------|------------------------|--------|------------------------|------------|------------------------|------------|------------------------|------------------|------------------------|-----------------|-----------------------------------|
| | Wheat. | Wholesale Commodities. | Wheat. | Wholesale Commodities. | Wheat. | Wholesale Commodities. | Wheat. | Wholesale Commodities. | Wheat (English). | Wholesale commodities. | Wheat (Bombay). | Wholesale commodities (Calcutta). |
| | Canada. | | U.S.A. | | Argentina. | | Australia. | | United Kingdom. | | India. | |
| 1920 | 289 | 244 | 267 | 221 | 243 | 180 | 237 | 228 | 243 | 295 | 181 | 201 |
| 1921 | 168 | 172 | 142 | 140 | 181 | 143 | 183 | 175 | 215 | 185 | 183 | 178 |
| 1922 | 127 | 152 | 122 | 139 | 139 | 130 | 134 | 162 | 144 | 154 | 213 | 176 |
| 1923 | 112 | 153 | 113 | 144 | 134 | 135 | 121 | 179 | 127 | 152 | 135 | 172 |
| 1924 | 132 | 155 | 126 | 141 | 148 | 145 | 134 | 173 | 148 | 164 | 133 | 173 |
| 1925 | 169 | 160 | 166 | 148 | 173 | 147 | 150 | 170 | 157 | 160 | 150 | 159 |
| 1926 | 154 | 156 | 156 | 143 | 164 | 132 | 145 | 168 | 160 | 148 | 160 | 148 |
| 1927 | 153 | 153 | 138 | 137 | 134 | 130 | 135 | 167 | 148 | 144 | 140 | 148 |
| 1928 | 139 | 151 | 151 | 140 | 123 | .. | 126 | 165 | 129 | 141 | 133 | 145 |
| 1929 | 137 | 149 | 123 | 138 | 113 | .. | 117 | 166 | 127 | 135 | 153 | 141 |
| 1930 | 98 | 136 | 96 | 124 | 107 | .. | 92 | 147 | 103 | 114 | 115 | 125 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | (March) | (March) |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 71 | 101 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | (Dec.) | (Dec.) |

In the depression of 1930 to 1932, as in previous crises, meat and dairy products maintained a better relation to the general price level than cereals. The constancy of this feature of agricultural prices is one of the reasons why mixed farming has on the whole been more prosperous than farming mainly dependent on one product such as wheat or wool; another reason is that perishable products, in spite of the competition of refrigerated products, have to some extent a naturally protected domestic market and are less acutely affected by world conditions. Meat prices fell heavily in the autumn of 1932, but their resistance has been greater.

II. Divergence between Prices of Agricultural Products and of Commodities which the Farmer buys

The difference in the magnitude of the fall in the prices received by the farmer in the United States and those which he is compelled to pay for the commodities he purchases, either for consumption or for use in production, is shown in indices published each month by the United States Department of Agriculture. Agricultural prices

¹ *The Wheat Situation, 1931*, p. 96, Imperial Economic Committee, 1932.

used in these calculations are 'farm prices', while prices of the purchased commodities are retail prices charged to the farmer. The base used for each series is the five-year period August 1909 to July 1914.

In 1919, when prices were at their maximum, the general level of prices both for the goods the farmer sells and for those he purchases was rather over double the pre-War average, although among the separate groups grain and cotton were rather higher, fruit and vegetables and meat rather lower. Farm wages in that year were also slightly over double the pre-War average. By 1921 agricultural products had fallen to a level only 16 per cent. above the pre-War level, while purchased goods and farm wages were still fully 50 per cent. more costly than in the pre-War quinquennium, the ratio of prices received to prices paid being only 75 per cent.

By 1929 there had been a slight recovery in farm prices and the ratio had increased to 90 per cent., but the fall which then set in reduced the ratio of prices received to prices paid to 63 per cent. in 1931. There was indeed a remarkable degree of similarity between the experience of 1919-21 and that of 1929-31.

TABLE XX¹
Indices of farm prices in U.S.A. (1909-14 = 100)

| <i>Farm prices.</i> | <i>1919 Index.</i> | <i>1921 Index.</i> | <i>Decrease per cent.</i> | <i>1929 Index.</i> | <i>1931 Index.</i> | <i>Decrease per cent.</i> |
|--|------------------------|------------------------|-------------------------------|------------------------|------------------------|-------------------------------|
| Grains | 231 | 112 | 51 | 121 | 63 | 48 |
| Fruit and vegetables | 189 | 148 | 21 | 136 | 98 | 27 |
| Cotton and cotton-seed | 247 | 101 | 59 | 145 | 63 | 57 |
| Meat animals | 206 | 108 | 48 | 156 | 93 | 39 |
| Dairy products | 188 | 134 | 14 | 140 | 94 | 33 |
| Poultry products | 222 | 139 | 22 | 159 | 96 | 40 |
| Total | 209 | 116 | 44 | 138 | 80 | 42 |
| <i>Prices paid by farmers for commodities bought</i> | 205 | 156 | 24 | 155 | 126 | 19 |
| <i>Value of farmer's dollar</i> | 102 | 75 | 26 | 89 | 63 | 29 |

In each period the value of the farmer's dollar, reckoned in terms of the goods he has to purchase (but excluding labour costs) has declined by more than one-quarter. In each period grain and cotton are the most seriously affected, dairy produce and fruit and vegetables less seriously. But there is this difference, that the decline is much more evenly spread over all groups in the present depression than in that of ten years ago.

¹ *The Agricultural Situation*, p. 20, vol. xvi, no. 7, Bureau of Agricultural Economics, United States Department of Agriculture, 1 July 1932.

Comparison based on annual averages in a period of rapidly falling prices may fail to show the full effect of the decline, and in fact by June 1932 the ratio of the prices the United States farmer was receiving to those he was paying for goods had fallen to less than one-half of the pre-War parity. Quarterly figures are set out in the following table:¹

TABLE XXI
Farm Prices and Farmer's Purchasing Power in U.S.A.
(August 1909-July 1914 = 100)

| | Grains. | Fruit and veg. | Meat animals. | Dairy products. | Poultry products. | Cotton and cotton-seed. | All groups. | Prices paid by farmers for commodities bought. | Ratio of prices received to prices paid. |
|--|---------|----------------|---------------|-----------------|-------------------|-------------------------|-------------|--|--|
| 1929 June | 111 | 120 | 163 | 135 | 140 | 146 | 135 | 154 | 87 |
| Sept. | 131 | 160 | 156 | 139 | 165 | 146 | 141 | 155 | 91 |
| Dec. | 119 | 163 | 143 | 140 | 204 | 130 | 135 | 155 | 87 |
| 1930 Mar. | 107 | 169 | 151 | 126 | 115 | 113 | 126 | 151 | 83 |
| June | 106 | 193 | 141 | 118 | 103 | 115 | 123 | 149 | 82 |
| Sept. | 100 | 148 | 128 | 123 | 125 | 83 | 111 | 146 | 76 |
| Dec. | 80 | 108 | 112 | 117 | 127 | 73 | 97 | 139 | 70 |
| 1931 Mar. | 74 | 109 | 106 | 101 | 92 | 80 | 91 | 134 | 68 |
| June | 67 | 114 | 91 | 86 | 81 | 65 | 80 | 129 | 62 |
| Sept. | 50 | 83 | 86 | 92 | 99 | 47 | 72 | 124 | 58 |
| Dec. | 52 | 68 | 68 | 92 | 120 | 45 | 66 | 119 | 55 |
| 1932 Mar. | 51 | 73 | 69 | 76 | 61 | 50 | 61 | 114 | 54 |
| June | 44 | 82 | 57 | 62 | 59 | 37 | 52 | 110 | 48 |
| Percentage decline June 1929-June 1932 | 60 | 32 | 65 | 54 | 58 | 75 | 61 | 29 | 44 |

The farmer's circumstances in his dual capacity as buyer and seller are affected by a thousand considerations—the character of the product, the nature of the demand, and the commercial, fiscal, and monetary system of the country. In Great Britain where, until recently, there has been a free-trade régime, many ordinary consumable goods bought by the farmer have been low in price, while for certain products, e.g. milk, for which there is a naturally protected market, he has received a perhaps not unreasonable price.²

In the prairie provinces of Canada, economically dependent on the wheat market; in Australia, dependent on wheat and wool; in New Zealand, where animal products constitute over 90 per cent. of the export trade—the explanation of the disparity in costs and prices is mainly to be sought in the nature of the principal product, which is necessarily exposed to world competition; nevertheless, in these

¹ *The Agricultural Situation*, vol. xiv, Nos. 2 and 7; vol. xv, Nos. 2 and 7; and vol. xvi, Nos. 2 and 7. Bureau of Agricultural Economics, United States Department of Agriculture.

² Even in the case of milk, though the price paid for milk consumed direct is not unreasonable, it is contended by the farmers that the price paid for the surplus to be converted into butter, cheese, dried milk, &c., is very inadequate.

countries and the United States, the incidence of protection on what the farmer buys enters into the question. In countries where there is large agricultural production for export on a world market there does not seem to be any doubt that in the first stages of the depression the rural population suffered more heavily than the industrial population, which was working largely for a highly protected internal market.

Transport and municipal services are sheltered trades, industry is relatively sheltered, but agriculture, where a large proportion of the outlet is exported, is not only unsheltered—it is faced with protective duties in Europe and elsewhere, and consequently with enhanced competition in the remaining free markets. In France and Germany it is possible to modify the opening of 'the scissors' (the disparity between agricultural and industrial prices)—though hardly to prevent it—since the balance between industry and agriculture is one of the objects of the tariff. This obviously cannot be done where the main production is for export, and, therefore, it is natural that the greatest price disparity should be found in countries situated like Canada, Argentina, and Australia.

In the *League of Nations Report on The Agricultural Crisis*, index numbers are given of wholesale prices and the prices of agricultural products for Canada, Germany, Great Britain, Hungary, Italy, New Zealand, Poland, Switzerland, and the United States. In all of them, with the exception of Great Britain, Switzerland, and Italy, the agricultural-products index fell more rapidly, especially in 1929-30, than the wholesale-prices index. While the wholesale-prices index was still much higher than before the War in most countries, index numbers of agricultural prices stood little above, or even below, the pre-War level. For Germany an index similar to the United States index gives the price of agricultural products and of articles consumed by agriculture (fodder, fertilizer, building material, implements, furniture, clothing) but they are not weighted to give a general index. The purchasing power of agriculture in terms of industrial goods and raw materials rose in 1926-7 to 101.9 per cent., but in every other year in the last six years it has been at a discount, and in 1930 stood at 88.2 per cent. of the pre-War level.¹ The inspection of the books of some 3,000 farms in Germany showed that the costs of production for the more important cereals in 1924-7 were 150 per cent. of the pre-War costs and in the case of rye at the pre-War level.² Thus high protec-

¹ Dr. Hermes in *The Agricultural Crisis*, vol. i, p. 173.

² *Deutsche Agrarpolitik*, Friedrich List-Gesellschaft, 1932, vol. i, p. 392, article by Dr. Zörner and Dr. Russig: 'Die Bedeutung der Industriegüterpreise für die Kostengestaltung im landwirtschaftlichen Betriebe.'

tion did not prevent the opening of the scissors during a general depression.

In Austria, taking pre-War prices at 100, the prices of agricultural products stood at 108 in 1931, but the weighted average of overhead farm expenses is 163, while consumable goods stood at 183 for clothing, 169 for household utensils, and 128 for articles of food.¹

French statistics² show that fertilizers, material and equipment, feeding-stuffs, clothing, building costs, all stood at a premium compared with the prices of agricultural products in 1929-30.

In considering these indices, a word of warning is necessary. The case cannot be proved in individual countries merely by unweighted index numbers, and it is not possible to weight them to show the incidence of every factor. The ordinary cost of living index requires considerable modification in the farmers' case, unless book-keeping allows for the farm produce consumed. In the case of the 'subsistence' farmer it has very little validity.

The factors which determine the farmer's fixed costs—land taxation, the system of credit and mortgages, the customary or legal rate of wages—are as variable as those which determine the price of consumable goods, of machinery, of fertilizers, or fodder. On the farmer's ability to reduce his costs depends his ability to survive the depression.

Since the proportion of fixed costs and the relative importance of cereal and animal products varies with the type of farm, the crisis affects different types of farming with differing degrees of severity. The peasant farm of the non-commercial type, where the overhead charges are small and no wages are paid, is better able to resist the early stages of a depression, because costs of production and costs of living are almost identical.

The strain is severely felt by the highly capitalized farms where fixed charges and money wages represent a substantial part of the outgoings, and where the greater part of the produce is marketed. It is probable that the burden of meeting high fixed costs is as heavy in Great Britain as anywhere else. With the return to the gold standard in 1925 and the fall in the price obtainable by the farmer for his goods, standing charges, such as rent and mortgage, were not reduced; they were in fact virtually raised. 'A farmer who bought his farm in 1920, raising the purchase money by way of a mortgage on the value of the farm at the time, found that in each year of falling prices a larger and larger part of the produce of the farm had to be sold in order to pay the mortgage.'³ The English farmer, moreover,

¹ Dr. Dollfuss, *ibid.*, p. 101.

² M. Jules Gautier, *ibid.*, pp. 160-1.

³ R. R. Enfield, *ibid.*, vol. i, p. 176.

generally depends on hired labour, not on that of himself and his family. In Great Britain farm wages are fixed by statute, and in consequence labour costs must be counted among rigid obligations.

In view of the great number of factors which affect farmers' costs, it is impossible to show by means of any general index of prices whether farming is being carried on at a profit or at a loss. Some progress is being made in the most advanced countries in cost accountancy in farming, but until more work is done in this matter general conclusions on costs can have little claim to accuracy.

Perhaps a useful index of farming prosperity, if it were available, would be the rise or fall in the value of farming property in individual countries. But, as Mr. George Pavlovsky has pointed out to us, 'this statement cannot be accepted without serious qualifications, since it does not apply, as a rule, to countries with a predominance of the small peasant farms, where land values are governed by considerations other than that of its economic yield'. Thus, in densely populated agricultural regions, the pressure of population on the land may cause land prices and rents to rise during a period of acute agricultural depression; Russian statistics show that this was the case during the agricultural depression at the close of the last century, owing to the development in many parts of the country of over-population and 'land hunger'.¹

But on the heading of charges for rent, taxes, mortgage, interest, depreciation of plant, there is no doubt at all that the farmers' position must continue steadily to deteriorate so long as the price fall continues. These charges were in a high proportion of cases fixed when the price level was high, and can only be met with difficulty, if at all, to-day. The proposals now being made in Finland, in Hungary, in Japan, for a formal moratorium for farmers, and the necessity of waiving tax and mortgage claims in some districts in the United States and Canada, if farmers are to continue production, show clearly enough the substantial difficulty. It is one that hits industry also, but not to the same paralysing degree, since part, at any rate, of industrial liabilities are on a sliding scale of dividend. The farmer's obligations, unless in the relatively few cases where the farm is run by a limited company, are fixed without regard to whether his business is making a profit or loss. He cannot pass his dividend. The history of Irish rents legislation in the latter part of the nineteenth century illustrates the enormous difficulty there is in reducing the farmer's fixed charges even when he is in severe distress.

¹ Cf. G. Pavlovsky, *Agricultural Russia on the Eve of the Revolution*, pp. 109-10.

III. *Prices of Agricultural Raw Materials and of their Finished Products*

Farmers' representatives claim that they do not receive their fair share of the price paid by the consumer for the finished product. This is probably always true during a price decline. The price of goods as they near the consumers' stage always falls more slowly in any depression than the price of materials because of the rigidity of the transport, labour, and other costs incurred in the transformation of the raw material into the finished product. The manufacturers and distributors are paid for services, the producer for a commodity. The former are less liable to quick variation than the latter. In a simple case of 'processing', milk into cheese for instance, the lag is not so great, but where the stages are numerous, as between cattle on the hoof and shoes for instance, i.e. transport—slaughter—curing of the hide—tanning—shoe-making—distribution, the cost of the original material plays a much smaller part in the whole chain of events, and a fall in its price will not affect the price of shoes to the same extent. The question is discussed at some length, with a wealth of hitherto unpublished statistical material, in the *Memorandum on Production and Trade 1925 to 1929/30* (Geneva 1931), by the Economic Intelligence Service of the League of Nations. The case of shoes is paralleled by the case of textile cloths. The fibre—silk, cotton, hemp, jute, or flax—only represents a small part of the cost of the finished article.

Detailed figures for various commodities processed from agricultural raw materials are given for Germany,¹ and are very illuminating. Taking prices in December 1928 and December 1930, the fall in the price of rye flour, beef, pork, linen yarn, hemp yarn, jute sacks, shoes, and cotton cloth was not commensurate with the price fall in rye, cattle, pigs, flax, hemp, jute, hides, and raw cotton. Wheat and wheat flour followed a parallel course, wool and woollen cloth very nearly a parallel course; but the only commodity which reversed the general rule was raw milk, which had a smaller relative fall in price than butter or cheese. The complete German figures from hides to shoes show how resistance to the price fall increases in each stage up to the finished goods.¹

Later figures² for Germany show that between January 1929 and January 1932 industrial raw materials of agricultural origin fell by 59 per cent., while the corresponding fall in finished products was

¹ See Table XXII.

² *Review of World Production, 1925-31*, p. 102, League of Nations (1932).

TABLE XXII¹

| Commodities. | Price indices, 1913=100. | | | | Dec. 1930 as per- centage of Dec. 1928. | Processed goods expressed as percentage of raw material. | | | |
|------------------------|--------------------------|---------------|---------------|---------------|--|---|---------------|---------------|---------------|
| | Dec. 1927. | Dec. 1928. | Dec. 1929. | Dec. 1930. | | Dec. 1927. | Dec. 1928. | Dec. 1928. | Dec. 1930. |
| Hides | 145 | 125 | 82 | 72 | 58 | 100 | 100 | 100 | 100 |
| Calf skins | 141 | 126 | 94 | 78 | 62 | 97 | 101 | 115 | 108 |
| Calf leather | 179 | 165 | 135 | 122 | 74 | 123 | 132 | 165 | 169 |
| Sole leather | 145 | 138 | 115 | 108 | 78 | 100 | 110 | 140 | 150 |
| Shoes * | 151 | 152 | 137 | 128 | 84 | 104 | 122 | 167 | 178 |

* Composite Index.

only 29 per cent. Figures for some other countries, relating to all raw materials and finished goods, were as follows:

TABLE XXII a
Price fall, January 1929 to January 1932

| | Raw Materials of industry. per cent. | Finished products. per cent. |
|-------------------------|--|------------------------------------|
| Canada | 38 | 22 |
| Italy | 44 | 30 |
| Germany | 31 | 21 |
| United States | 39 | 26 |

IV. Margin between Farm-gate Price and Retail Prices of Farm Products

The second important point, apart from the divergence between the price of agricultural raw material and the price of the processed commodity, is the question of whether the farmer receives his fair share of what the consumer pays for farm products which do not undergo any serious transformation. In England the dairy farmer receives less than 1s. per gallon for his milk, out of which he has to pay costs of delivery to the town station, whereas the consumer pays more than double that price. Apples from overseas retailed at 6d. or 8d. per lb. may be purchased in the wholesale markets at 10s. or 12s. per bushel of 40 lb., and this is subject to deductions for commission, dock charges, ocean transport, insurance, and all the other costs incurred in transporting and marketing perishable produce, before the grower in New Zealand or Australia receives any return for his labour and expenses of

¹ Memorandum on Production and Trade, 1925-29/30, League of Nations, 1931, p. 111.

production. Not infrequently, especially in times of heavy crops, growers of fruit and vegetables receive no cash return for consignments of produce, the marketing and transport charges absorbing the whole of the price realized on the wholesale market.

The wide divergence between farm-gate and retail prices is the result of the rigidity of certain intermediate factors. Many of the retailers' costs, notably rent and rates, have increased since the War—in England at least—and, with a decreased turnover, these constitute a heavy fixed charge on distribution. The margin between the farm-gate price and the retail price varies very much according to the district, i.e. the distance from the farm, the organization of the trade, and the extent of the services rendered. It is especially noticeable in the case of bulky or highly perishable articles which are sold retail at relatively low prices, as, for example, the cheaper vegetables and fruits. The difference between the two prices represents transport charges (generally impervious to the pressure of falling prices), cold storage, packing, and wholesale and retail distribution, including profits. Generally speaking, the sum total of charges is heavier than before the War, as is probably inevitable in view of the incidence of fixed charges of rent, rates, taxes, interest on capital, and of labour costs, at each stage of the marketing chain. Unless rationalization of distribution can reduce expenses by telescoping the middleman's operations, by handling commodities on a larger scale, and by more economical methods, the increased disparity will persist in any period of falling prices. Investigations under government auspices in Great Britain and other countries have failed to suggest any substantial saving which could easily be effected in distributive costs.

Obviously, conditions of this kind cannot be assessed universally; they vary from country to country and from year to year, according to the degree of organization of the producers and of the distributors in any given country. They vary even within the same country; in Great Britain the margin between the farmer's price and the retail prices for meat and milk is probably greater in London than it is in provincial towns, because more elaborate organization is required than in country towns and rural districts, where the consumer is near the farm. In industrialized districts direct trade has little importance, though some farmers may do a certain amount of retailing of milk, vegetables, &c. In rural areas the farmer markets some proportion of his output direct, so that the spread is saved on a certain amount of the total output. The cost of distribution depends partly on the habits of the consumer; where the housewife requires a wide selection and delivery at her door, the middleman's

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charges are necessarily higher. The price of the best cuts of meat is now higher in England than it was, because the full value is not obtainable for the second and third best cuts; much serviceable meat is wasted because the housewife insists on the better joints. This again is due to change in the habits of the consumer. The customer's demand for credit and for immediate delivery of small quantities also involves higher retail costs.

Generally speaking, the consumer must pay for efficient service. Milk margins are high in American cities where a full hygienic service and delivery is provided; they are comparatively moderate in London and Copenhagen, where a better and more hygienic service is available than in most European cities; they are low in France and Germany where the service is not complete in treatment or in delivery. (In Berlin and Hamburg, where extra service is provided, there is an addition to the German standard rate.) The evolution of the dairy trade on American lines has meant higher expenditure on machinery for cooling, pasteurizing, cleaning, and the handling of containers. The 'margins' in 1928-9, reckoned in pence per imperial gallon, were:¹

| | | | | | |
|-------------------|---------|----------------------|------|--------------------|-----|
| London | 11½-11¾ | Hamburg | 6 | New York | 18½ |
| Glasgow | 9½-10¾ | Copenhagen | 9-10 | Chicago | 19 |
| Berlin | 6½ | Paris | 5-5½ | | |

Even when the normal 'margins' secured by the various middlemen are not considered to be excessive, farmers contend that the middleman profits by the lag in the adjustment of retail prices to a fall in wholesale prices; in short, that middlemen in general base their selling price upon replacement cost² during a rise and, on the other hand, make the producers bear the loss due to depreciation in the value of stocks in hand. Retail prices fall slowly. General wholesale prices in Great Britain fell 21 per cent. between December 1928 and December 1930, but retail prices fell only by 8 per cent.; in the United States in the same period the relative figures were 19 and 9 per cent.; and in the Netherlands 28 and 7 per cent.³ An investi-

¹ R. B. Forrester, *Milk Price Margins*, p. 57, Empire Marketing Board, 1932.

² 'So far as pricing their goods on the replacement value of their raw material is concerned, I think that British millers and bakers work the system quite fairly, but there is this to be said. In this country the cost of the wheat required to make a quartern loaf forms only about 45 per cent. of the price of the latter. It follows, therefore, that if, as they do, the expenses between the ship arriving in the port and delivery of the bread to the ultimate consumer, remain practically constant, only 45 per cent. of the fall or rise in the price of wheat should be reflected in the price of the bread. I have taken this as an illustration, but the principle generally holds good.' (Sir A. C. Humphries in a note to the Study Group.)

³ *Memorandum on Production and Trade, 1923 to 1929-30*, League of Nations, 1931, p. 115.

gation into the price of potatoes in Great Britain shows that when prices were falling up to 1929 the fall was passed back to the grower, and the wholesalers' and retailers' share of the consumers' price increased. With the rise in prices in 1930-1, the growers' share again increased.¹ This means in effect that the absolute margin taken by the distributors did not vary, or varied less than the return to the grower.²

The following examples of the present substantial divergence between the farm-gate price and the consumers' price are taken from the contributions made by economists of various nationalities to the inquiry made by the League of Nations into the agricultural crisis.³ They include some 'processed' commodities such as bread, sugar, and butter.

In Vienna in 1925 the mixed rye and wheat used in the flour from which the ordinary Viennese loaf is made represented 65 per cent. of the price in 1914 and in 1925; in the years from 1925 onwards the value of the grain represents 54, 59, 56, 48, and, in the first six months of 1930, only 41 per cent. of the price of the loaf. The primary producers' share had gone down to less than half. In the first six months of 1930 the price of oxen for slaughter represented 41 per cent. in the price of beef, pigs 44 per cent. in the price of pork. The Austrian producers' share in the price of milk was 69 per cent., country butter 58 per cent., vegetables 43 per cent., fruit 28 per cent. It can be argued that the Austrian farmer is not getting his fair share.

In Hungary the price paid in 1930 to the farmer was, in most commodities, except sugar and milk, below the 1913 level, but the retail prices were much higher. In Switzerland the producers' percentage of the price charged in the towns for milk varied from 62.6 per cent. to 63.12 per cent. in 1927; in the country, conditions were very

¹ Percentage of Total Retail Price of Potatoes paid to:

| | Grower. | Wholesaler. | Retailer. |
|---------|---------|-------------|-----------|
| 1926-7 | 56 | 13 | 31 |
| 1927-8 | 53 | 12 | 35 |
| 1928-9 | 43 | 16 | 41 |
| 1929-30 | 34 | 19 | 47 |
| 1930-1 | 57 | 12 | 31 |

See R. F. George, *Journal of Royal Statistical Society*, March 1930.

² Very complete data are available for Germany in *Deutsche Agrarpolitik*, vol. i, Dr. Joseph Diel and Dr. Adolf Vogel: 'Preisspannen bei landwirtschaftlichen Erzeugnissen.'

³ See also vol. i of *The Agricultural Crisis*, p. 67 seq.: 'The Spread between the Prices obtained by the Producers and the Prices paid by the Consumers.'

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different. Swiss wine-growers receive only about 50 per cent. of the consumers' price.

Details on the composition of the foreign buyers' price of Rumanian barley from a farm 250 miles inland are given by Professor Răducanu.¹

| | |
|--|------------------|
| Producer | 1,006.70 lei. |
| Transport to port, handling and warehousing | 773.5 .. |
| Insurance and wastage | 94.0 .. |
| Dues and charges | 188.0 .. |
| Middleman's profits | 147.0 .. |
| Transport from Rumanian port to foreign port | 490.8 .. |
| | <hr/> 2,700.0 .. |

(c.i.f. price foreign port)

Thus, the producer receives less than 38 per cent. of the c.i.f. price in a European port, and the greater part of the margin is absorbed before the grain-ship leaves dock. The producer's share of the *ultimate* millers' price would, of course, be appreciably less, since the final price would include inland freight and other charges, and profit.

V. *The Fall in Prices and the Balance of Trade*

The price fall of agricultural commodities has changed fundamentally the trading position of the countries exporting agricultural products—particularly cereals—who find the value of their products reduced by half.

The political aspect of the situation is well stated in *The Survey of International Affairs, 1930*:²

'The civil disobedience movement of 1930 in India was greatly strengthened by forces of economic discontent occasioned by the fall in the prices of agricultural products, while the operation of the same cause in Australia appeared likely to have a profound effect on the future of inter-Imperial relations. Those countries especially which relied on one or two articles of commerce for their prosperity showed themselves liable, when the prices of those commodities suffered violent fluctuations with a downward trend, to equivalent fluctuations of political feeling with a general tendency to discredit the established order. [Much of the political insecurity of the South and Central American States, which came to a head during the violent slump of 1930, might be traced to this instability in their economic affairs. Brazil, for instance, relied for external purchasing power principally on coffee, Argentina on beef and wheat, Chile on nitrates, Mexico on silver and oil, the West Indies on sugar; countries such as these were at a disadvantage compared with those possessing diversified exporting industries.

¹ *The Agricultural Crisis*, vol. ii, p. 102.

² p. 462.

That difficulty was enhanced by the existence of large foreign debts, and by fluctuations in the willingness of foreign lenders to invest, since the effort to maintain a balance of trade which would pay the debt service and make up for the cessation of new imports of capital still further depressed prices and discouraged investors . . .

The following table¹ shows the fall in trade of seven countries which in 1930 accounted for over 50 per cent. of total world trade:

TABLE XXIII
Foreign Trade Indices
(1929 = 100)

| Country. | 1930. | | 1931. | |
|--------------------------|--------------|-------------------|--------------|-------------------|
| | Net imports. | Domestic exports. | Net imports. | Domestic exports. |
| France | 99 | 85 | 72 | 61 |
| Germany | 77 | 90 | 50 | 73 |
| Italy | 80 | 79 | 54 | 66 |
| Switzerland | 94 | 84 | 82 | 64 |
| United Kingdom | 86 | 78 | 72 | 53 |
| United States | 70 | 73 | 48 | 46 |
| Canada | 78 | 75 | 48 | 50 |

The shrinkage is partly due to the fall in prices, but the contraction is less in France and Germany, whose normal export is largely to European countries, and greater in the United Kingdom and the United States, whose outlets are mainly to the countries producing primary products. Not only do the latter suffer from a decline in purchasing power due to the rapid fall in the prices of agricultural commodities and raw materials; they are, necessarily, debtor countries, and it is a truism that the debtor suffers heavily in periods of falling prices.

The following statement shows the position between industrial countries and countries producing primary produce clearly enough. It shows, too, how intimately the general monetary question is bound up with the disequilibrium between prices:²

'The fall in commodity prices and the interrelated diminution of international capital movements determined during the year 1930, and continue to determine to-day, at once the *quantum* and the value of trade, its balance

¹ *The Economist*, 23 January 1932, p. 165.

² *Review of World Trade, 1930*, League of Nations, 1931, pp. 12-13.

and its direction. In 1930, a number of debtor countries were forced off the gold standard as a result of their failure in the face of these circumstances to sell their products in quantities and at prices sufficient to meet their fixed obligations and simultaneously to cover their current needs for foreign goods. In recent months the endeavour of others to maintain the value of their currencies by means of systems of exchange control which imply a contraction of imports and stimulation of exports must inevitably lead to a further contraction in the total value of world trade, unless these countries to which debts are due and from which capital has ceased to flow allow their balance of trade to change without concern and goods to enter without hindrance. In fact, they do not.

How great the influence of the price factor was during the year 1930 and how unevenly it affected different countries may be judged from the following data showing the percentage change in 1930 as compared with 1929 in the average export prices of a number of important articles in principal producing countries.

TABLE XXIV
*Percentage Change in Average (Gold) Export
Prices from 1929 to 1930*

| | | | |
|--------------------------------------|-----|--|-----|
| 1. Coffee (Brazil) | -43 | 13. White cotton piece-goods (United Kingdom) | -11 |
| 2. Rubber (British Malaya) | -42 | 14. Petrol (U.S.A.) | -11 |
| 3. Wool (Australia) | -40 | 15. Frozen meat (Argentina) | -9 |
| 4. Maize (Argentina) | -40 | 16. Silk tissues (France) | -9 |
| 5. Raw silk (Japan) | -30 | 17. Wood pulp (Sweden) | -8 |
| 6. Tin (British Malaya) | -28 | 18. Motor-cars up to \$1,000 (U.S.A.) | -2 |
| 7. Cotton (U.S.A.) | -25 | 19. News-print paper (Sweden) | -1 |
| 8. Copper (U.S.A.) | -25 | 20. Steel girders (Belgium) | -1 |
| 9. Wheat (Australia) | -22 | 21. Pig iron (United Kingdom) ¹ | +3 |
| 10. Sugar (Czechoslovakia) | -20 | 22. Coal (United Kingdom) ² | +3 |
| 11. Butter (Denmark) | -19 | | |
| 12. Bacon (Denmark) | -15 | | |

Coffee, cereals, raw textiles, non-ferrous metals, and certain other raw materials fell by 20 to 45 per cent. in price, dairy products and meat by 10 to 20 per cent., petrol by 11 per cent., and most industrial products by a smaller amount. Certain raw materials and semi-manufactures mainly produced in industrial countries fell comparatively little or even increased in price (coal and pig-iron).

The average prices of the export products of most non-industrial countries were roughly 20 to 35 per cent. lower than in 1929, while the drop in the export prices of industrial countries was only 5 to 10 per cent. The temporary revival of international capital transactions in the first half of 1930 made it possible for a few non-industrial countries to spend more on imports than their exports yielded; others had recourse to gold exports.

¹ Pig-iron exported from Belgium, however, fell in price by 4 per cent.

² Coal exported from Poland, however, fell in price by 3 per cent.

Even in such cases, however, a considerable contraction of imports was unavoidable. The repercussion upon the activity of the export industries in industrial countries in turn affected the demand for their export products so that even the *quantum* of their exports in many cases declined.'

By the end of 1931 the price level of South American products had fallen to approximately 40 per cent. below the pre-War level. Perhaps the least hard hit of the South American countries has been Argentina, and yet even here an extraordinary state of affairs existed. Although the exports of Argentina for the first eight months of 1931 were 72 per cent. greater in volume than they were for the first eight months of 1930, yet the total value was 3 per cent. less.

Other South American countries, whilst experiencing the same phenomenon of a catastrophic fall in the price level of their main products, have not been able to increase the quantities of their exports, and they are in even worse case. Of South America in general—and the observation is equally true of primary-producing communities in all parts of the world—large crops which should be a source of wealth appear as positive dangers owing to the low level of prices and the existence in many cases of stocks carried over from the previous season. South American countries are further handicapped by the fact that they are debtor countries. In normal times they borrowed money from industrial Europe and America for the construction of public works, railways, docks, &c., for the exploitation of undeveloped areas. The loans were undertaken to finance the purchase of capital goods in the creditor countries. During the years 1926 to 1930 South American public long-term loans contracted abroad amounted to the equivalent of £300,000,000. If, to the necessary service of these loans be added the service of previously existing loans, 'the principal South American countries now have to find an annual amount to meet the service of their public long-term external debts of the equivalent of something like fifty millions sterling at par of exchange'.¹ They can only pay this debt in two ways: by the export of goods and/or shipments of gold. Through attempting to pay in gold, some South American countries have been obliged to suspend the gold standard.

The repercussions on industry in the industrial creditor countries are obvious. It has been impossible for South Americans to contemplate the import of manufactured goods for whose payment they can export nothing of equivalent value. The South American making

¹ See the *Report of the Proceedings at the 43rd Annual Meeting of the Anglo-South American Bank.*

no profit on his own produce has nothing with which to pay for the produce of the machines, nor can he borrow funds with which to pay for manufactured imports, for already his weight of debt is overwhelming. Not only industrialists, but bankers, railwaymen, shippers, and retailers can obtain no business.

Australia exports nearly a third of the goods she produces. Her chief exports are wool and wheat. During the period 1923 to 1929 the average price obtained for her wool was 19*d.* a lb., and for her wheat 5*s.* 7*d.* per bushel. Both her wool and her wheat sold in 1931 for about half these prices. A variation of 1*d.* a lb. in the price of wool means a difference of over three millions sterling in Australia's credit balance, and the fall between 1927-8 and 1929-30 represented a loss of nearly 30 millions sterling in the Australian balance of payments.

The prices of the goods Australia sells have declined heavily; the prices of what she buys have also declined, but to nothing like the same extent. On the basis of the trade of 1924-5 the average value per unit of export has fallen by about 67 per cent., while the average value per unit of imports has only decreased by about 34 per cent. The reduction in the prices of her exports means that for every £100 of interest payable overseas (and Australia, as a country still in a comparatively early stage of development, is a debtor country with an overseas debt now much greater than in 1924-5) Australia had to send three times as much wheat, wool, and other commodities in 1930-1 as in 1924-5; imported goods cost about twice as much in terms of Australian products. Clearly the position has placed great difficulties in the way of maintaining the balance of payments, and the Dominion has only achieved this result by restricting imports severely.

In explaining the decrease of 45 per cent. in sales of French cotton to French colonies in December 1930 as compared with the same month in 1929, M. R. A. de Beaumelle stressed¹ the decreasing purchasing power of agricultural products. He points out that, in Indo-China, rice, which represents 65 per cent. of the export from the colony, fell in price by 53 per cent. between September 1929 and January 1931; in Madagascar prices of staple commodities fell in the same period—coffee (39 per cent.), butts (55 per cent.), manioc (48 per cent.); in French West Africa the price of peanuts, representing 43 per cent. of exports, fell in two years, 1929-31, by over 58 per cent. The decrease in purchasing power in these colonies undoubtedly affected the sale of cotton goods.

¹ Official Report of 15th International Cotton Congress, *International Cotton Bulletin*, August 1931.

The main stream of international trade is the flow of raw material and agricultural products to industrial countries, and the counter-flow of industrial products to agricultural and raw-material producing countries. It is clear that if the latter receive in return for their goods an inadequate price reckoned in terms of industrial goods, the result must be in time a starvation of capital for necessary development in those countries, and eventually the curtailment of production, with its accompanying stresses.

CHAPTER VII

NATIONAL AIMS AND CONDITIONS IN AGRICULTURE: OVERSEAS

Introductory—The United States—Argentina—The British Dominions.

In the following pages some attempt, necessarily inadequate because of the scope of the subject, is made to describe the special kind of problem in respect of agriculture presented in different parts of the world. Climate, soil, density of population, and the political and social background provide widely differing national conditions which need to be borne in mind in considering the general questions raised in the first part of this book. These cannot be dealt with in any detail, and we do not pretend to give an exhaustive account, which must be sought in separate works. Nor are all countries covered, though representative examples are dealt with.

Roughly speaking, the countries of the world fall into five or six main groups:

1. The United States of America with a great agricultural area and a highly developed technique, once the greatest single exporter of food and raw materials produced by the farmer. She has still considerable export surpluses of grain, cotton, fruit, &c., but the rapid industrial development and expanding population have provided a great internal market and have reduced surpluses. Nevertheless these surpluses are still considerable.

2. The comparatively newly developed countries in the temperate zones, Canada, Argentina, South Africa, Australia, New Zealand, thinly populated, but with technically well-developed cereal and livestock production, providing large exportable surpluses for which Europe is the main market. All of these have made great advances in what is known as 'orderly marketing' in the past twenty years.

3. Europe (including the British Isles), providing the main market for the surplus-producing countries, but loth to endanger the livelihood of her own farmers by the free entry of grain, meat, and dairy products from Group 2 producing on larger units and with generally lower costs. Europe herself falls into two main groups, East and West, the East with a surplus which she desires to market in western Europe. Eastern Europe has certain disadvantages vis-à-vis of overseas competition. Speaking generally, peasant farming based on mixed cropping and animal husbandry is the basis of European agriculture.¹

¹ For a defence of the economic position of the European peasant farmer see the contribution by Dr. Karl Brandt in Appendix I, p. 277.

4. Russia, approximating to Group 2, but possibly not for an indefinite period. Her growing population and the ambitious programme of industrial development, and the development of the Siberian East, present certain analogies with the position of the United States eighty years ago.

5. China, India, and Japan, alike in having great populations pressing close on the means of subsistence, but in varying stages of industrial development.

6. The tropical and sub-tropical countries of Asia, Africa, and America, still only partially developed. The main question in their case is to secure the best means of development. India has her place in this group as well as in Group 5. Economically, the situation is simpler than with any of the other groups. None of these countries, with the exception of India, has any considerable industrial development of her own. Their production is supplementary to that of Europe and America, where they have their principal markets. The commodities they furnish—tea, coffee, cocoa, oilseeds, hemp, cotton, jute, spices, gums, hard timbers, rubber, &c.—do not in the main compete with the products¹ of Europe and North America. Neither have they industries² whose existence or growth is threatened by the import of European and American manufactured goods. In other words, the conditions for the exchange of the produce of tropical and sub-tropical countries with those of the industrialized countries are not hampered by the factors which have given rise to high tariffs. There are other difficulties, as we shall see.

I. *The United States*

Generally speaking, the outlook in the great exporting countries differs profoundly from that in the older settled countries. In the American West every nerve is strained to secure the maximum production per man and per dollar of cost. The farm worker is a man heavily equipped with machine power; equipment cost per man was \$36 in 1870 and \$200 in 1925,³ and to-day it is more.

Throughout the United States the main preoccupation of the farming community may be fairly stated to be the reduction of costs by reducing labour. The intention is to make two blades of wheat grow where one grew before, not by putting more workers on the land, but by equipping each worker with mechanical means

¹ Sugar and American cotton are exceptions, and, to some extent, rice.

² Except in India and Brazil.

³ See *Year Book of Agriculture, 1930*, United States Department of Agriculture, p. 16, for description of advance in mechanization.

to enable him to achieve a maximum output. In theory, the Governments wish to prevent too great a drift to the towns; but the same criterion prevails to some extent in agriculture as in industry—the maximum efficiency per unit of labour power. The approximate increase in individual efficiency in farming in the United States was put as 18 per cent. higher in 1922–6 as compared with 1917–21.¹

Mechanization has not yet been applied in all districts or in all branches of the industry. Maize and cotton crops are still mainly dependent on hand labour, though changes are taking place in these branches of agriculture also. Even in cotton-growing, machinery is making great headway in Texas and Oklahoma and, where employed, has increased human efficiency from ten- to twenty-fold in certain operations. On light, dry soil cereal-growing, with the aid of the tractor and the combine, allows a greatly increased output per man. The man with the oil-can is replacing the man with the spade. Agriculture is regarded as an industry which must be organized to secure the highest production with the minimum of labour, to spend capital lavishly on machinery, and to secure a quick return on capital. This means a displacement of labour and a gradual approximation of American agriculture to the conditions of other industries. It implies larger capital charges and smaller expenditure on labour. The methods of industrialism are being applied to agriculture. Just as the industrial revolution of the nineteenth century began with English inventors and the English development of the factory system, so the agricultural revolution of the twentieth century has been largely due to American development of the 'mechanized prairie farm', with its mechanical tools of production, its packing departments, and its organized marketing. In spite of the displacement of labour due to the increased use of machinery, there was, in 1930, for the first time for many years, a net increase in the farm population. It is true that the number of persons leaving the farms was greater than the 1,396,000 who left the cities for the land, but the natural increase in farm population more than made up the difference. The net increase in farm population was 200,000. But whether this is the beginning of a new movement, or merely the result of severe depression in industry, cannot be stated.² Many unemployed families from the cities have moved out into the country, where they rent or buy a house and a small plot of ground, with the intention of growing

¹ L. E. Matthaei, *More Mechanization in Farming*, International Labour Organization, Geneva, 1931, p. 31.

² *The Agricultural Situation in 1930–1*, International Institute of Agriculture, 1932, p. 411.

their own food and so providing absolute necessities until times change.¹ The cultivation of small plots of land to provide something to fall back on in case of unemployment or short time has been constantly advocated by industrial leaders.

There is a general impression that the United States is a country of large farms. This is not the case. There is no marked tendency to an increase in the size of holdings; indeed the effect of the recent slump has been the reverse. Even over a considerable period there is little substantial change; there were 6,362,000 farm units in 1910, and there were 6,298,000 in 1930. Sixty per cent. of the farm population of the United States were, in 1925, living on farms of less than 100 acres; of these about 40 per cent. on farms of less than 50 acres, and 15 per cent. on farms of less than 20 acres. Some of these are divided up into acreages of cotton and tobacco areas, but many are in the Middle West and are ordinary general farms. Dairying is now the most important branch of agriculture in the United States, and dairying does not lend itself to extensive farming. It supplies practically the whole domestic demand, only 1 per cent. of American requirements in milk, butter, and cheese being imported.

No country in the world does more for its farmers, by encouraging research and by studying marketing methods and by making technical expert advice easily available, than the United States. The work of the Federal Department of Agriculture is most important, but the States also do remarkable educational work. The Federal Farm Board² gives active assistance to schemes of co-operative marketing and orderly marketing of all kinds.

The Department of Agriculture lays down as the ideal what in effect is national planning,³ but planning is at present not more than an ideal. In February 1932 two committees were nominated by the Department to develop a land-utilization programme. The 400 million acres under cultivation are not all employed to the best purpose, and some part of them is 'marginal' land which might be allowed to go out of cultivation. A complete re-shaping of the industry is, they say, necessary, if farming is to be adapted to the new economic conditions. The character of the American demand is changing in favour of more milk, pork, sugar, and perhaps more vegetables and fruit, and opportunities for export to Europe are lessened by the recovery of European agriculture and by the

¹ *United States Daily*, 4 June 1932.

² For its operations on wheat and cotton see p. 226.

³ *Year Book of Agriculture, 1931*, United States Department of Agriculture, p. 38.

competition of Argentina and of the British Dominions in export trade. The American farmer is always more economical in labour than in land, that is, he favours extensive farming. But is development of this kind economically desirable? Many farms have had to be abandoned, and it has been suggested that it might perhaps be desirable that these, and sub-marginal land in general, should be acquired by the public authority to be used for afforestation, for game and fish preserves, or for other purposes. In some areas farm acreage should be expanded, in others, contracted. The whole of the available land should be scientifically surveyed, so that the best use may be made of the soil, and the available knowledge should be used in land settlement. The Department thinks that the homestead policy of the last twenty years has stimulated over-production, and caused heavy losses to the homesteaders. In general, it concludes that what is desirable is not expansion but contraction of agricultural area.¹

The Department justifies the high tariff measures of 1930 on the ground that agriculture is becoming less and less an exporting industry, and is increasingly concerned with the home demand. Fifty years ago 80 per cent. of American exports were farm products; to-day farm products represent less than 35 per cent. of the total. Only about 15 per cent. of agricultural produce is exported, and the domestic market is increasingly important. Under the protection of the tariff, production could be shifted from the existing surplus crops to the additional vegetables, dairy, and cattle products which are at present imported. The schedule on agricultural products in the Hawley Smoot Tariff Act raises the average ad valorem rates on agricultural produce from 20 per cent. to 34 per cent. Cattle, meat, hides, long-staple cotton, oilseeds, dairy products, sugar, fruit, and vegetables receive additional protection.

The United States, for nearly 100 years a great exporter of agricultural products, contemplates a comparatively self-contained economy in agriculture, to which the new tariff rates are designed as a step. But the organization and the bureaucratic control necessary for schemes of this kind, involving the diversion of cropping and restrictions in acreage, is hardly feasible in a State with a federal constitution like that of the United States.

The Federal Bureau of Economic Research no longer interprets the information given in so far as any such interpretation might be construed as directing farmers as to cropping. In fact, actual planning can hardly be effective except as devised by individual

¹ *Year Book of Agriculture, 1931*, United States Department of Agriculture, pp. 37-40.

States. One or two States have schemes for dealing with marginal land, and some southern States are seeking to provide alternative crops for cotton.

II. *Argentina*

Argentina's development as a great exporter of the products of agriculture and of pastoral products has been very rapid during the present century. She has played such an important part in the growth of world trade in agricultural products that it is necessary to understand her past achievements and her future possibilities. The earliest development was in sheep-rearing for the production of tallow, wool, and skins; then, with refrigeration chambers in ships, came the export of frozen mutton and beef. The great development in beef production followed on the introduction of the alfalfa (lucerne) crop. Side by side with the increase in the cattle industry great strides were made in the cultivation of wheat, linseed, and maize. The country possesses the most varied agricultural resources. The Pampas, extending for 300-400 miles from Buenos Aires, and the Mesopotamian area between the rivers Parana and Uruguay, is given over to cattle and cereals; Patagonia to sheep-rearing; and the Chaco or northern lowlands produce forest and semi-tropical products.¹

Life on the Argentine pampas in earlier days is familiar to students of modern English literature in the exquisite pictures of W. H. Hudson's *Far Away and Long Ago*, and other studies. We have as clear a vision of the Argentine estancia of those days as of the Sussex farm of to-day. Many conditions have changed since then. One of the changes for the worse is the sense of instability induced by the economic and financial crises of the post-War years.

Progress in the post-War years has been rapid. The area under wheat averaged 16 million acres in 1909-13; in 1930 it was 21½ millions. The maize acreage varies from 9 to 13 million acres. Cattle increased from 25.8 millions in 1914 to 31.9 millions in 1930; sheep from 43.2 to 44.4 millions, and pigs from 2.9 to 3.8 millions. Besides animal products and cereals, there is an important production of sugar, tobacco, fruit, honey, wine, and yerba maté, the South American 'tea', which is the universal beverage in the southern parts of the sub-continent.

Argentina stands second in the list of wheat exporters, with an average of 165 million bushels in the three years 1928-9 to 1930-1. She is the principal world supplier of maize (183 million bushels in

¹ For an excellent sketch of the national resources of Argentina see E. W. Shanahan, *South America*, London, 1927.

1929-30), and of linseed (63 million bushels), and of beef (350,000 tons); in none of these three commodities does any other country approach these surpluses. She is, therefore, one of the world's great suppliers of food for man and beast. Agricultural, live stock, and forest products account for over 65 per cent. of the total exports.

Not only has the sown area and the number of stock increased, but there has been an increase in yield per acre of the principal crops. But this increase of real wealth has not brought prosperity to Argentina. Depending, as she does, for the purchase of the necessary manufactured commodities and for the payment of interest and dividends on foreign loans and investments on the export of staple agricultural products, the price of which has fallen violently on the world market, there is no purely national solution for her difficulties. The international 'scissors', in her case, have opened very wide indeed. On the one hand, there are fixed payments to be made on her external debt and payments for imported industrial goods; on the other hand, receipts for exported produce were reduced in value in the last three years by 40 per cent. Taking the figure 100 as a basis for the pre-War period, index figures¹ in 1931 were as follows:

| | |
|--|-----|
| Average price of agricultural products | 95 |
| Average rent of farms | 165 |
| Rail transport | 162 |
| Agricultural machinery | 193 |
| Food-stuffs and clothing | 200 |

The rigidity of overhead payments in a period of falling prices is the farmer's difficulty all over the world. It operates in Argentina on the national scale in the requirements of the foreign debt service.

The country is severely impoverished, owing to world financial conditions quite beyond her control. Argentine agricultural interests generally complain of the high protection prevalent in Europe. They ask for the denunciation of treaties containing the most-favoured-nation clause and for the substitution of bilateral agreements providing for commercial reciprocity.²

The special relations between Argentina and Great Britain have been emphasized in recent years by the D'Abernon mission and the visit of H.R.H. the Prince of Wales. The amount of British capital invested in the country was estimated in 1929 at £432,700,000 (including only those securities quoted on the London Stock Exchange) of which over £258,000,000 was in railways. Great Britain draws a substantial proportion of her wheat requirements from Argentina:

¹ M. Carlos Brebbia in *The Agricultural Crisis*, vol. i, p. 83.

² *Ibid.*, p. 86.

over 40 per cent. in 1929. During the 2½ years ended 30 June 1930 the United Kingdom took 99.9 per cent. of Argentine exports of chilled beef,¹ a commodity in which Argentina has no serious rival among exporting countries. The new proposals for Empire Preference (1932) are, therefore, a matter of vital importance to Argentina.² The United Kingdom is her best customer; but the first place in the import list is headed by the United States, which is the chief supplier of agricultural machinery, motor cars, and many other manufactured goods.

Argentina is admirably fitted for beef production.

'She has', writes Mr. Christopher Turnor,³ 'some 10 million acres under lucerne (alfalfa); but the important factor in meat production is the millions of acres of grass which will feed one bullock to 2 acres (in many cases less). The cattle remain out all the year, the feeding period for grass is longer than in England, droughts are rare, and the net result is that, owing to these conditions and the importation of pedigree stock from England, the field-fed (grass, lucerne) bullock is ready for the English market at two years and seven months.'

Thus, natural conditions make it economically advantageous for Argentina to remain a chief source for the provision of beef to meet deficiencies in other countries.

American influence on farming methods has been very strong, and the shortage of labour under the peonage system has given impetus to the use of machinery on the great estates. But in the grain-growing provinces farms are smaller. Here farmers suffer from the methods of land tenure. The general system is to hire land at a fixed rate per hectare or at a rent proportionate to the production. The métayage system is also employed. Only about 30 per cent. of arable farmers in the grain-growing provinces own the land they farm. Although progress has been made in agricultural methods, the grain-grower is hampered by heavy transport costs and by the absence of an organized marketing system with warehouses and elevators permitting standardization and economical handling of the products which have done so much for Canadian and American export.⁴

Steps are being taken by the Wheat Producers' Co-operative Societies of Santa Fé and Cordoba for the formation of an Argentine Wheat Pool on the Canadian model. A new terminal elevator, with a capacity of 80,000 tons, under construction by the Buenos Aires

¹ *Economic Conditions in the Argentine Republic*, Department of Overseas Trade, 31 October 1930, p. 71.

² See Appendix II for Summary of the Ottawa Agreements.

³ In a note to the Study Group.

⁴ M. Carlos Brebbia in *The Agricultural Crisis*, vol. i, p. 77 seq.

Great Southern Railway Company, will be completed by the end of 1932. Two country elevators have now been completed for the co-operative agricultural interests, and the Argentine Agrarian Federation have asked for tenders for twenty-five elevators of a uniform type of 3-4,000 tons each.¹

III. *The British Dominions*

Canada, Australia, and New Zealand have each their own special problems, but some important conditions are common to them all. They are thinly peopled, have large surpluses of staple agricultural products, and are primarily developed by white labour working with European standards and safeguards. 'Town life', writes Dr. Knowles,² 'a money economy, free contract, free choice of an occupation, are all part of their European economic heritage.' This is in certain respects true of the Union of South Africa, though with modifications as we shall see. Broadly speaking, the Dominions believe in the necessity of maintaining a high tariff on industrial goods, in order to develop industry. But all of them have large surpluses of wheat, wool, butter, or other products for export. These exports pay the interest on their debts, any surplus above the debt charges being used to meet imports of manufactured goods. Their tariffs restrict these imports within certain limits. Hence the familiar dilemma—how to expand the exports of primary products and at the same time to encourage home manufacture.

The reasons generally assigned for the protection of industry in these predominantly agricultural countries are two. The first is that the development of industry is necessary to provide a growing body of consumers for the products of their own agriculture to lessen the dependence of the farmer on the export market. The second contention is that the income per head at present to be derived from farming would be less if the rural population and with it agricultural production were greatly increased, and that, to maintain it, the excess population of the countryside must find remunerative employment in the town.

Canada.

The national agricultural outlook of Canada³ is in some respects

¹ *Economic Conditions in the Argentine Republic*, Department of Overseas Trade, 31 October 1930, p. 68.

² *The Economic Development of the British Overseas Empire*, 1924, vol. i, p. 32.

³ See *Canada Year Book*; Dr. Riddell, in vol. ii of *The Agricultural Crisis*; and Alexander Brady, *Canada*, in the *Modern World Series*.

similar to the American outlook. The Canadians are mechanically-minded like their American neighbours, and in the prairie provinces they have made great progress in mechanization. A Canadian observer says that in one district eighteen men, supplied with improved machinery, harvest as much as ninety men did five years ago, and that in Canada as a whole, man-power on the larger farms is four times as effective as it was a decade ago. But the differences between United States and Canadian conditions are fundamental. United States production (except cotton) is mainly for home consumption, though exports of wheat, tobacco, lard, and fruit are an important consideration; Canadian production is more and more for home consumption, but there is and is likely to be for years to come a great export surplus in Canadian wheat and barley.

The Canadian prairie farmer works at high pressure during the months in which farming operations are practicable. The need for rapid maturing of the harvest before the snow comes and the shortage of labour have made the Canadian farmer in the prairie provinces eager to avail himself of scientific knowledge and of mechanical appliances. The fact that he produces mainly for export has encouraged co-operation; circumstances have driven him to co-operative action for export. By 1929 the Canadian Wheat Pool had become the greatest co-operative producers' enterprise in the world, handling about one-fifth of the wheat entering into international trade.¹ In the older provinces co-operation in the collection, standardization, and marketing of dairy produce, eggs, and fruit, had made considerable progress, and was a great aid to farmers. But undoubtedly the great achievement of co-operation was among the grain-growers of the prairie provinces depending on the export trade.

The great expansion of Canadian agriculture dates from 1869, from the purchase of the Western Territories from the Hudson Bay Company, who had exploited them for fur only. Climatic and soil conditions make these provinces admirable wheat-growing areas. The area available for use in agricultural production in Canada as a whole is estimated at over 358 million acres, of which less than 141 million acres are in actual occupation. Canada is, therefore, capable of supporting a much greater population on the land than at present.

In the last twenty-two years the wheat and barley crops have been trebled, the oat crop doubled; seven times as much alfalfa and thirteen times as much rye is grown.² Even in the last nine years

¹ For particulars of the Canadian Wheat Pool, see pp. 232-3.

² See figures in *Canada Year Book*, 1931, p. 218.

there have been great changes. Wheat and barley have increased, oats diminished. The area under wheat was 26,115,000 acres in 1931 as against 23,261,000 acres in 1921. There can be no expansion of crop production under existing price conditions. Total acreage¹ under crops has increased since 1925, but the total yield in money shows, not a corresponding increase, but an actual decrease due to the fall in prices.

Agriculture now employs 32.8 per cent. of all employed persons. The population on the land does not necessarily increase proportionately with the increase in the agricultural area, because of the increasing use of machinery, and because the farm is now a raw-material organization; manufacturing processes, the making of cheese, butter, and of bread and other commodities of domestic consumption, which were once carried out on the farm, are now transferred to factories.

The staple export is wheat, and its importance on the world market tends to obscure the fact that mixed farming, dairying, grazing, and fruit-growing, the products of which are mainly consumed in Canada itself, are all of great importance. The exigencies of the world wheat market have driven the farmer in the older provinces to mixed farming and special crops, while wheat pushes up to newer lands farther north.

Of the major groups of farm products, the gross returns from dairying have shown the least decline in the past two years, though there has been a decrease in the cow population.² In

¹ *Canada Year Book, 1931*, p. 220, and for 1932, p. 1029.

| | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. |
|--|-------|-------|-------|-------|-------|-------|-------|
| Crop acreage (million acres) | 52.9 | 56.1 | 56.2 | 59.3 | 61.2 | 61.2 | 58.0 |
| Money value of crops (million dollars) | 1,098 | 1,105 | 1,173 | 1,125 | 949 | 662 | 425 |

² *Ibid.*, 1931, and 1932.

| | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. |
|--|-------|-------|-------|-------|-------|-------|-------|
| Cow population (thousands) | .. | .. | 3,883 | 3,782 | 3,684 | 3,683 | 3,513 |
| Value of Milk con- sumed fresh or otherwise used (million \$\$) | 136.2 | 140.6 | 154.3 | 152.7 | 153.2 | 155.6 | .. |
| Value of all dairy products (mil- lion \$\$) | 284.9 | 277.3 | 294.9 | 297.6 | 291.7 | 272.5 | 237.9 |

fact, figures taken for the whole of Canada, including the grain-growing West, show that the revenue in 1931 from animal husbandry represented about 46 per cent. of the gross agricultural revenue.¹

Exports of dairy produce tend to diminish with the increasing importance of the home urban market. Canada at one time exported 240 million lb. of cheese a year; last year she exported less than 80 million lb. She actually imported large quantities of New Zealand butter until the operation of the tariff practically stopped the trade in 1931. Ontario, Nova Scotia, and Quebec have always been fruit-growing districts, and commercial orcharding has developed within the last sixty years with the opening up of the English market. British Columbia was only opened up as a great fruit-growing area after the completion of the Canadian Pacific Railway. Apples are the most important crop, with a value averaging over 10½ million dollars in the last three years, even though prices averaged only one-half of the price in 1923-5.

In Quebec and Ontario farming is generally on a 'European' basis—i.e. it is a way of living, not merely a profit-making business. Holdings are small and mixed farming is the rule.

In the three great wheat-growing provinces of Manitoba, Saskatchewan, and Alberta, where holdings are larger, nearly 80 per cent. of the area is in holdings of over 300 acres. By far the greater part of the farms are worked by their owners. There are, however, some large holdings worked by managers on behalf of owners, but they are the exception, not the rule.² A survey of 119 farms made by Dr. Allen, of the University of Saskatchewan, in 1926, in the grain-growing district of Belbeck, where the farms are larger than the average for the provinces, gives a good picture of conditions in the West. The average size of the farms was 487 acres, with 448 acres under cultivation. Households averaged four persons; 40 per cent. of the farmers hired at least one man for the whole year, and almost all required extra help in harvest. Forty-six per cent. of all the land was under wheat, 13 per cent. under oats, and 4 per cent. under barley. One-third of the area is in summer fallow each year. Horses averaged 12 per farm and were the most important live stock; there were some large herds of cattle, but on most farms only a few cows; pigs and poultry were kept on most farms, sheep only on three. All the farms were well equipped with machinery, the average value being about £600 per farm. For most agricultural operations horses

¹ See figures in *Canada Year Book*, 1932, p. 1024.

² D. A. MacGibbon, *The Canadian Grain Trade*, Toronto, 1932.

were used, the standard outfit being a six-horse unit. On no farm was all the work done by gasoline tractor power.¹

The principal outlets for Canadian exports of all kinds are the United States and the United Kingdom, whose relative positions as customers have been altered in the last ten years. In 1922 the proportions of Canadian exports going to the United States and the United Kingdom were about equal—39·5 and 40·4 per cent. The United States now holds chief place, taking 46 per cent., while the United Kingdom took only 25·2 per cent. of Canadian exports in 1930.²

Canada has been especially hard hit by the decline in cereal prices, because for the last twenty years wheat has been the leading export. Second on the list comes printing paper, a product of the forest industry.³

Transport facilities play a great part in the direction of trade. Thus the farmers of Alberta and Western Saskatchewan are now beginning to look West instead of East. In 1925 the grain rates for the shorter railway haul to Vancouver were made more favourable and crops from the West began to move in that direction. Export from Vancouver in 1921 was one million bushels; in 1928 it was 94 millions. Export to the markets of China and Japan was greatly facilitated and opens up great possibilities for the future. Even to Europe the shorter railway haul and longer sea route by the Panama Canal is cheaper for Alberta farmers than the eastern route. Development of the St. Lawrence—Great Lakes waterway to take ocean-going ships and the opening up of the Hudson Bay route to Port Churchill may alter this orientation.

The Canadian problem, writes an acute observer,⁴ is a problem different from that of the European peasant countries, where the farmer is content with an immemorial tradition of frugality. The

¹ D. A. MacGibbon, *op. cit.*, p. 459 seq.

² But these proportions are subject to certain reservations, owing, on the one hand, to shipments of Canadian and United States produce through the ports of the neighbouring country, and, on the other hand, to the quantities of goods, nominally destined to the United Kingdom, which actually go to other destinations.

Exports (million dollars).

| | 1900. | 1910. | 1920. | 1929. | 1930. | 1931. |
|-------------------------------|-------|-------|-------|-------|-------|-------|
| Wheat | 12·0 | 52·6 | 185·0 | 428·5 | 215·7 | 177·4 |
| Printing Paper (Newsprint) | .. | 2·6 | 53·5 | 142·3 | 145·6 | 127·4 |

(See *Canada Year Book*, 1932, p. 408.)

⁴ Alexander Brady, *op. cit.*, p. 208.

Canadian farmer tests his occupation by its monetary return. He expects a standard of living equal to the general urban standard of North America, which is a high one. This urge drives him to co-operation with his fellows. It also adds to his difficulties, for in good years he spends freely on improved farm buildings and equipments, and mortgage interest or the completion of the payments lies heavily on him in the bad years.

'The wheat-growers, even those who are intelligent and in possession of good lands, are exposed to uncertainties numerous enough to drive out men with the most virile courage and the most unflinching hope. The danger of frosts, hailstorms, stem rust, drought, or excessive rain in the wrong season, and the caprices of a world market, all on top of heavy charges, are an ever-present threat to the grain-growers' livelihood and standards of consumption. Canada's agricultural problem is that of obtaining in the face of those unfriendly hosts, a return that will adequately repay the enterprise of numerous small proprietors. Over the years many reap such a return. A comfortable standard has been attained by a goodly number of Canadian farmers. Many more fail to achieve much comfort, and returns are ever precarious enough to necessitate ceaseless demands for energy and judgement.'¹

The drought of 1930-1 made the position of Canadian farmers in the West—already acute on account of low prices—excessively serious. In July 1931 the Ottawa Correspondent of *The Times* wrote that the majority of the farmers in the devastated area had the proceeds of their life work invested in their farms and could not contemplate their abandonment. Many farmers have in fact had to be carried through the winter by public relief, and the Federal and Provincial Governments devised plans for coping with the situation. The chief burden fell on the Federal Treasury, for many rural municipalities in the West were for all practical purposes bankrupt through their inability to collect taxes.² The better crop of 1932 brought new hope to the Prairie Provinces after the hard experiences of the three preceding years.

Australia.

The problems confronting Australia resemble in many ways those with which Argentina is confronted. Australia also is a producer for export on a large scale of primary products, wheat and wool, which have suffered in a marked degree from the economic crisis. She also has only a small consuming population (approximately 6½ millions), and must have an outlet for her exportable surpluses; she is in an

¹ Op. cit., p. 210.

² *The Times*, 21 July 1931.

early stage of development, with large capital indebtedness, mostly in the form of public loans, and is now faced with the necessity of meeting fixed interest charges by exports, the unit value of which fell by nearly one-half in the years 1929-31. It has been estimated that the fall in wheat and wool prices in one year, June 1929 to June 1930, reduced the farmers' income by £35,000,000.¹

Australian farmers have had many difficulties to overcome. The pastoralist in the interior has to face a constant menace of drought; the farmer in the arable areas has found it necessary to adjust his methods of producing European crops to a climate markedly different from European conditions. To remedy deficiency in rainfall, irrigation works, water conservation, and the boring of artesian wells have been undertaken, and further schemes are in prospect, but no human effort can conquer the difficulty entirely.

The extension of Australian agriculture has been assisted by the breeding of special wheats adapted to semi-arid regions, by labour-saving machines in harvesting the wheat crop, in shearing the sheep and milking the cows, and by the application of the results of scientific research in agriculture. The average value of the production per head of persons employed has been greatly increased in the last twenty years in agriculture and in dairying; the advance in the pastoral industry is less, principally because the main labour-saving devices in handling cattle and sheep were already in operation before 1911.² It is estimated that, with proper appliances and machinery and sufficient horse-power, one man can now, single-handed, plough, sow, cultivate, and harvest 300 acres.

The general trends of agriculture in Australia since 1919 have been: (1) a steady opening up of new wheat areas, especially in West Australia, and a general increase of the area under crops, especially wheat; only once before the War did wheat production reach the level of 100 million bushels, but three years since 1919 have seen a crop of 150 million bushels; (2) the increase in the sugar-cane area from 160,000 acres in 1919 to over 300,000 acres in 1929-30; (3) an increase in sheep flocks—mainly of the merino type—from about 91 million head in 1919 to 107 millions in 1930; (4) a decrease in cattle—but not in dairy herds—due partly to the droughts of 1922-3 and 1925-6, and partly to the difficulty of competing in the beef export trade with Argentina; and (5) a development in dairying, accompanied by a greater use of ensilage; a good index of the advance made is the increase in the average milk yield from 320 to 341

¹ F. L. McDougall on 'Australia' in *The Agricultural Crisis*, vol. i, p. 90.

² *Ibid.*, p. 89.

gallons in the years 1925-30. Since 1929 there has been a pronounced tendency towards an intensification of agriculture in place of the extensive trend of the previous years. Australia has also sought to meet her oversea obligations through an expansion of production for export, and, in spite of falling prices, has achieved this objective, but at the cost of increasing supplies of certain products on an already overloaded world market.

Australia was second only to the U.S.S.R. in the number of sheep on her farms; and, after the excessive slaughter of live stock following on collectivization in the U.S.S.R., she took first place. She is the world's greatest exporter of wool. In 1929, a peak year in wool production, exports were over 764 million lb., Argentina coming next with over 282 million lb. In 1930 Australian exports amounted to 852 million lb. As an exporter of wheat she came fourth in the world's list in 1929-30 with 61,892,000 bushels. These two commodities provide in value half of Australia's total export under normal price conditions; in 1928-9 they formed 60 per cent., in 1929-30—owing to price changes—40 per cent. of the total value of exports. The other principal products of her farming industry for export are butter, hides and skins, meat, fruit, sugar, preserved milk, and wine. Cotton-growing in Queensland has been fostered by a bounty from the Commonwealth Government. Sugar-growing is also fostered by Government aid, and the supply of sugar from the cane industry in Queensland is more than sufficient for Australian needs. There are export bounties under the 'Paterson plan' for butter, and bounties on the export of wine, and at different times bounties have been granted on the export of canned fruits and of beef.

Australian policy is guided by two dominant ideas—the intention of retaining a 'White Australia' in spite of the fact that 40 per cent. of the total area lies within the tropics, and the determination to maintain a high level of wages for the workers. The first, by the exclusion of Asiatic labour in the Queensland plantations, means that all possible mechanical aids to production must be used. The second has led to the high protection policy adopted by Australia, and the determination to develop industry.

New Zealand.

New Zealand farming is not handicapped by drought as in Australia. The country is naturally adapted to the pastoral and dairy industries. Both are admirably organized for export, and good quality is ensured by careful government inspection. With a small population of less than 1½ millions, New Zealand had an export of

£55,579,000 in 1929, of which nearly £41,000,000 was to the United Kingdom, but by 1931 exports had fallen to £34,300,000, of which the United Kingdom took nearly 90 per cent. The principal items of export are wool, butter, and cheese, frozen mutton and lamb, sheepskins and apples. All these have declined heavily in price, and New Zealand has been severely affected by the world depression. Wool exports in 1931 were valued at £5,515,000 as against an average of £15,000,000 in the three years 1927-9, the fall in prices being most serious in this product. In the other principal commodities exported the fall in prices was to a great extent counterbalanced by increased export in 1930 as compared with the average of the three preceding years; but, in spite of still further increases in the quantities shipped, prices fell in 1931 to so great an extent that nearly all the chief products showed an appreciable decline in the export returns.

New Zealand is the greatest exporter of frozen lamb in the world. Her export of butter and cheese has developed enormously in the past twenty years, from £2,744,000 in 1909 to £20,245,000 in 1929. New Zealand is second only to Denmark as an exporter of butter, and second only to the Netherlands as an exporter of cheese. The great development in her dairy industry has been aided by mechanized processes in manufacture of the products and by the admirable co-operative organization both in manufacture and in trading. The most economical size of dairy farm in New Zealand appears to be about 100 acres, which can be conveniently worked by the farmer and his family without outside help. But, if dairy farm units are small, the butter and cheese industry itself is carried on in large, highly mechanized factories, where the quality of the product is kept high and uniform. The link between the farm and the factory is the co-operative society.¹

Since the War the area under sown grasses and clover has been expanded, chiefly at the expense of natural grassland; supplementary fodder crops remain about the same, except for a reduction in the amount of oats and other grain crops for animal consumption on the farm. Great attention has been paid in New Zealand to the improvement of pastures; carrying capacity has been increased within recent years by top-dressing with artificial fertilizers. At first only dairy pastures were treated, but the practice has spread into the hilly country and other sheeplands. This top-dressing of pastures is the most notable feature in New Zealand post-war agriculture, and should enable the country to carry a much larger head of stock in the future. Improved stock management has gone hand in hand

¹ J. B. Condliffe, *New Zealand in the Making*, 1929.

with this development. In 1929 the Department of Agriculture estimated that the grass land farmer was at that time producing over 40 per cent. more products per acre of occupied land than he had been producing eight or nine years before. In two years the number of sheep had been increased by three million.

New Zealand has pursued an agricultural policy similar to that of Denmark, in that she aims at the production for export of animal products. Arable farming is practically limited to crops required for domestic consumption and for the feeding of animals, animal husbandry being the first consideration. But the method is entirely different; while Denmark pursues animal husbandry on an arable land basis, New Zealand is a grass country, and animals are not housed and stall-fed as in Denmark. Grass seed (for which New Zealand is famous) and peas are the only crops which have a regular surplus for export. By this policy New Zealand has escaped the severe competition in cereals which has made the position in Canada, Argentina, and Australia so acute.

South Africa.

The Union of South Africa presents problems in agriculture differing from those in the other great countries overseas settled by Europeans. In the first place, the trade balance does not depend mainly on the export of agricultural produce, but on gold and diamonds. Secondly, it is a great country with a small population, one and three-quarter millions, of European origin, and about 26 per cent. of the occupied persons are engaged in agriculture. Consequently the home market is a limited one. The mass of the population are Bantu, with simple requirements, and the existence of this large native population and of considerable native reserves complicates questions of agricultural development. Thirdly, settlement by Dutch farmers began three centuries ago, and, except in certain districts, notably in the Western Cape Province, they are conservative by tradition, and in some districts not quite so open to modern ideas as is the case with agriculturists in Canada, Argentina, Australia, and New Zealand. Fourthly, climate and soil conditions, frequent drought, insect pests and animal diseases in large areas of the country make intensive cultivation impossible; pastoral farming by extensive methods is the only form of utilizing these arid districts.

The peculiar obstacles encountered by the South African farmer have demanded special measures. Vaccines are prepared on a large scale for the inoculation of cattle against the many diseases which devastated the flocks and herds in former years, and they are being

increasingly used. Live stock are dipped for protection against parasitic diseases. Drought is combated by the planting of drought-resisting plants for stock-feeding; the cultivation of lucerne (where irrigation is practised) and of teff grass has largely increased. In addition to the irrigation work carried out by individuals and by local boards, there are now some important State schemes. But irrigation is only possible, owing to the lie of the land, in certain areas. The whole problem of water-supply is exceedingly complicated in South Africa.

Agricultural and pastoral produce account in value for a proportion varying from 25 to 33 per cent. of the total exports, the first place, 60 to 68 per cent., being taken by the products of the mining industry. The chief agricultural and pastoral products exported in 1928, in order of importance, were wool (about £17,000,000), hides and skins, maize, fruit (fresh and dried), sugar, and wattle bark.

The most important cereal crop is maize, which is grown by European farmers, and also on all native holdings, as it is the staple food of the native. Of the total area under crops in 1928-9 maize accounted for over 65 per cent. Maize for the market is strictly graded and is scientifically handled in elevators established in the principal growing centres and at the ports. The tonnage handled at the elevators in 1928-9 was 425,000 tons, of which 219,000 tons were exported. These figures leave out of account the large quantities grown for immediate local consumption, especially on native holdings. The scientific handling of the maize crop is typical of the great advances which are being made in the handling of products. Fruit farming for export has been largely developed since the War on the most modern principles, and large quantities of graded produce are placed on the London market. There has been marked success, especially in the Western Province of the Cape Province, with deciduous fruit (pears, plums, peaches, and grapes), which has the advantage of the winter market in Europe. But the main staple of South African farms is wool. Here again there has been great improvement in the quality of the product, partly due to the importation of Australian stud sheep. The number of 'woolled' sheep in the Union rose from 25.8 millions in 1923 to 44 millions in 1931; the increase has been effected partly at the expense of other sheep, but more at the expense of the Angora goat. Increased export of raw wool has brought the Union to the position of competing with Argentina for the second place among wool-exporting countries. There is also a considerable and growing trade in woolled sheep-skins, of which France is the principal purchaser.¹ Wool sales have not yet been so completely organized as

¹ See *Wool Survey*, Empire Marketing Board, 1932.

the marketing of maize, but an important step towards securing standardization of the various grades has been taken by the formation of wool-growers' associations, and a wool council was set up in 1930 for research and investigation and to consider co-operation with Australia. The council is financed by a levy of 10*d.* per bale of wool exported. In Natal, Zululand, and part of the Transvaal, sugar, tea, coffee, cotton, and tobacco are of increasing importance. Ground-nuts are another crop of great promise. The wine and brandy industry of the Western Cape Province is of old standing.

Apart from fertile areas in the more thickly populated and advanced districts, where special crops are produced under up-to-date conditions, the general character of farming is governed by the large size of farms, usually under-capitalized, with little local market for produce. The average size of holdings farmed by white men in the Union is 2,200 acres, and in the Cape Province 63 per cent. of the farm holdings are over 10,000 acres.¹ It has been estimated that the capital invested is only 8*s.* 6*d.* an acre, and that the sale value of the products derived from 100 acres is only £16.² The potential agricultural and pastoral wealth of the country is very much greater than the actual production. But many farmers are content with subsistence for themselves and their Kaffir labourers, and the local demand is small; production for export, under Union regulations, rightly entails high standards. The production of high-class crops involves heavy expense and is subject to many natural plagues and accidents, and often to heavy loss. There are many reasons for the comparatively slower development of agriculture over large areas of South Africa than in other countries lying in the same latitude. It seems probable that, under the natural and economic conditions of South Africa, future prosperity depends on the development of animal husbandry. In a country subject to drought and with large areas unfit for grain production, stock-raising has many advantages. In lean periods animals can be moved or feedstuffs transported to them. Many districts will grow fodder, though not grain, and it has been contended that feeding crops, not grain, should be raised on the irrigated areas where night frosts are often a serious matter. The surpluses of maize, ground-nuts, cotton-seed meal, at present exported, would be consumed locally.

¹ See *Agricultural Census, 1929-30 (preliminary figures)*, Special Report, No. 79, Union of South Africa Office of Census and Statistics, February 1932. It should be borne in mind that only in exceptional cases would the whole area of these large farms be suitable for cultivation.

² *The Agricultural Situation in 1929-30*, International Institute of Agriculture, 1931, p. 122.

'Obviously, then,' writes Mr. Leppan,¹ 'a properly conducted animal industry must form the keystone to the country's farming arch, and so must add to the security of the Union's economic structure. If production, apart from fruits, is focussed on catering for the needs of a well-maintained animal industry, an interlocking rural enterprise is brought about which must result in securing a more stabilized outlook.'

The South African agricultural problem is more difficult than in other Dominions because of special political and social conditions. Its development is hampered by the low standard of wants and consequent disinclination for hard work on the part of the native population, which must persist under existing social and political conditions; by the desire to maintain the present social balance between the races; and by the controversy on the allocation of native lands, aggravated by the relatively slow increase of white population and the high native birth-rate.

¹ Herbert D. Leppan, *Agricultural Policy in South Africa*, Johannesburg, 1931, p. 60.

CHAPTER VIII

NATIONAL AIMS AND CONDITIONS IN AGRICULTURE: EUROPE

The European Outlook—France, Germany, and Italy—Eastern Europe—Russia.

I. *The European Outlook*

THE European attitude towards agriculture is entirely different from that of the great exporting countries beyond the seas. Europe, as a whole, excluding Russia, has a conservative and traditional outlook on life. It is relatively over-populated, has limited resources in land, and is concerned with the maintenance of the balance between agriculture and industry. Great Britain alone among European countries has not made the maintenance of agriculture a primary and over-riding element in policy. State effort in the principal countries is directed to the maintenance of a large population on the land and to the retardation of the drift to the towns, for social, political (and even military) reasons. Production is important, for a measure of self-sufficiency in food is regarded as one of the primary elements in natural defence; there is no desire to get the last ounce per man by means of machinery—rather the reverse, the farm is to provide work for the family.

Rural population, especially if attached to the soil by ownership, is regarded as a stabilizing conservative force, invaluable to the maintenance of the existing national order. A peasant population, where the women and children take an active part in agriculture, can maintain a larger population on the land, so that migrants from the land to the towns do not swell the ranks of unemployed industrial workers; it can also supply a higher proportion of men for military service with less disturbance of production than a population where agriculture is mechanized and is less dependent on man-power. In fact, the present degree of mechanization is as much as is desired, and change is only forced on Europe by the pressure of competition of exports from overseas countries. Agriculture in Europe is an immemorial art. The plough is a sacred symbol, as it was in Cato's time. Ploughing, sowing, and harvest are semi-religious occasions, and today the blessing of the fields may be witnessed in many parts of Europe. Karel Capek, travelling in Andalusia, woke to think himself in his own Czech country, for were not the ways of the farmer the same everywhere? In fact, agriculture in all southern European

countries is still bound up with magic; its magical significance in pagan times has survived the transition to Christianity. It is a matter of tradition and of the social order.

The almost universal system of peasant holdings is the basis of a special economic and social outlook. Farming in Europe, indeed, is a tradition, a way of life, a civilization, and any attempt to regard it merely from the cash aspect, essential as that aspect is, must fail. The European farmer is attached to the soil by strong ties. In France, ownership of a bit of land is the ambition even of confirmed townsmen, and this strong desire for possession must be reckoned with in any serious consideration of the relative advantages derivable from labour in industry or from farming. What connexion has this peasant economy with the importance attached in Europe to wheat-growing?

A French delegate at Geneva who exclaimed: '*Le blé, c'est un élément sacré pour nous Latins,*' was expressing a conviction (cherished by many European Governments for various reasons) which lies at the root of agrarian protectionism, especially the protection of grain-growers.¹ It must be emphasized that this is an official standpoint. Some of the Governments want more export of wheat (Rumania, Yugoslavia, Russia), others less import (France, Italy, &c.), for the maintenance of the trade balance and other reasons not purely agricultural. That is not the standpoint of the agriculturists themselves. For economic and technical reasons they would, if left to themselves, probably grow less wheat all round. This is proved by the very fact that in both sets of countries the extension of wheat-growing has to be made a government policy, furthered by all sorts of artificial measures; which implies that under the given conditions wheat-growing, on the scale desired, is not a natural part of the country's agrarian economy.

The varying policy of all the European States need not be discussed here. But it is important to understand the attitude of the principal States towards agricultural questions. Their fiscal policy is extremely important, not only for their nationals and for their

¹ The extreme European case for protection was put by M. Jules Gautier, President of the French National Confederation of Agricultural Societies, in *L'Europe Nouvelle* of 6 September 1930. He asserts that the production of wheat in Europe is not merely an economic, but a political and social question. No European country, whether its agricultural economy is based on large or small farming, can dispense with wheat-growing. He thinks the suggestion that Europe should leave the cultivation of wheat to overseas countries, and produce other foodstuffs, impracticable. Why should Europe revolutionize her methods to provide a market for the wheat of the New World?

immediate neighbours, but for the great overseas producing countries which look to Europe as their principal market.¹

Great Britain stands in a class by herself. She has hitherto pursued a *laissez-faire* policy in agriculture, and has been content to rely largely on overseas supplies for feeding her dense population. A changed attitude began to show itself after the War, and became more definite in 1932, but her resources will not in any measurable time, on the present population basis, permit her to seek independence of outside supplies, though it is certain that, given the will for development and readiness to spend money on developing her agricultural resources, she might meet requirements to a much greater extent than is the case to-day. These conditions determine to a great extent British agricultural policy, which it is not proposed to discuss at any length here,² for the reason that the great importance of this country, from the standpoint of international trade in farm products, is as a market. But it may be briefly stated that climate and other natural conditions over the greater part of the British Isles favour animal husbandry rather than grain-growing. The Cambridge School of Agriculture have recently analysed the financial returns from 1,000 East Anglian farms. Even in this corn-growing area the sales of live stock and live-stock products amounted to 68 per cent. of the whole, and farm crops to only 29, in which wheat, of which so much has been heard, contributed 5.3 per cent. Thus, even in East Anglia, the growing of wheat—indeed, of all crops for sale—is a small part of the average farmer's activities. From this it is seen that Great Britain is predominantly a live-stock country, and the development of all branches of the live-stock industry, including research into animal diseases, the most important consideration in British agriculture.

The notable features of the agriculture of post-War Britain are the diminution in the principal farm crops for sale—wheat, barley, and potatoes; the increasing tendency towards grassland stock-farming with a view to reducing costs; the increase in poultry and egg production, greatly assisted by improved methods; the extension and improvement of market-gardening and horticulture; and the slow increase, in comparison with that achieved in Holland, Belgium, and Denmark,³ in the number of stock units kept per 1,000 acres of land

¹ Some account of their fiscal policy in respect of agricultural products is given in Chapter X.

² For a recent analysis of British agricultural problems see Viscount Astor and W. Keith Murray, *Land and Life, 1932*; C. S. Orwin, *The Future of Farming, 1930*.

³ Live-stock units (calculated as 7 sheep or 5 pigs to one cattle or live-stock unit—horses, goats, and poultry excluded)—per 1,000 acres of crops and grass

under crops and grass. This latter figure has only increased by 18 per cent. as compared with 1913. The transfer from arable to pasture,¹ which has been proceeding more rapidly since the War, may now be arrested in consequence of the encouragement to grain-growing provided by the Wheat Act, 1932.

Norway, Sweden, Denmark, Finland, Holland, and Belgium all have their special problems, but in none of them, except Finland, which has lost her former Russian market, has there been fundamental change of circumstances since the War. Finland, Denmark, and Belgium have an element of stability in their very high development of the co-operative system, linked with efficient animal husbandry. In Denmark the high standard of farming, the excellent system of education for generations past, and the co-operative system have helped to delay the worst effects of the fall in prices. The dairy industry is the mainstay of the national economy. The greater part of the feeding stuffs required for animal husbandry are grown on the farm. About 20 per cent. only of the cattle food used by Danish farmers is purchased. Denmark appears to be the one country whose farms showed in 1929 an increase in gross returns and a fall in working expenses, chiefly in feeding stuffs. The net return on agricultural capital in farms surveyed by the Denmark Bureau of Farm Management and Agricultural Economics rose from 1.8 per cent. in 1927-8 to 6.2 per cent. in 1928-9.² The Danish position is vulner-

in various countries) are given in Astor and Murray, *Land and Life, 1932*, as follows:

*Live-stock Units per 1,000 acres of Crops and Grass in Various Countries at different periods.**

| Country. | <i>Live-stock Units per 1,000 acres. Percentage increase over 1887-9.</i> | | | | |
|-------------------|---|----------|----------|----------|---------|
| | 1887-9. | 1909-13. | 1927-9.† | 1909-13. | 1927-9. |
| Denmark . . . | 254 | 384 | 532 | 51 | 109 |
| Belgium . . . | 283 | 488 | 454 | 72 | 60 |
| Holland . . . | 346 | 465 | 515 | 34 | 49 |
| Germany . . . | 325 | 327 | 324 | 1 | .. |
| France . . . | 193 | 212 | 198 | 7 | .. |
| Great Britain . . | 318 | 339 | 375 | 7 | 18 |

* Seven sheep or 5 pigs were considered as equivalent to one cattle or live-stock unit. No allowance was made for horses, goats, or poultry.

† For certain countries data were not available for all three years.

¹ For comparative figures, see *The Agricultural Output of England and Wales* (Cmd. 2815 of 1927).

² *The Agricultural Situation in 1929-30*, International Institute of Agriculture, 1931, p. 95.

able from one side. She is dependent on external markets, and the advance of the doctrine of self-sufficiency in European countries threatens her very life. Further, she has to face increasing competition from the dairy products of Australasia. She was the pioneer country in the organization of small holdings for intensive production of dairy products for export purposes; and, when she carried out her great reorganization in this sense, the competition of overseas countries in this respect was non-existent and European tariffs were on a moderate basis.

The special conditions of Dutch agriculture are partly due to the free-trade policy so long pursued by Holland, which has compelled scientific development in cultivation and in marketing. But, as there is no highly developed industry in Holland, there is a great competition for land which has forced up the price to burdensome levels for the farmer. Moreover, in the export of fresh vegetables, in which Dutch growers specialize, there is heavy competition from France, and recently from Italy. Recent increases in the German and British tariffs on dairy produce have hit Dutch agricultural exports very hard.

Finland also depends largely on the export of foodstuffs for the maintenance of her balance of trade, and suffers severely from the high tariffs of her European customers. Before the War the Russian market was open to her. It is now closed, and she has had to build up new markets.

Spain is nearly self-supporting, and imposes what is practically a prohibitive tariff on wheat. The wet summer of 1931 and a smaller harvest made it possible to reduce existing stocks, and restored the market. In the wine industry, also, stocks were decreased, and prices were somewhat restored; this was the result of a scarcity in France in 1931, which induced the French Government to lift their embargo on Spanish wine. Olive producers have been seriously affected by the increased use of other vegetable oils than olive oil for food purposes. This makes it difficult to dispose of the very large surplus for export. Great headway is being made in the production of cotton, the area under that crop being increased from 3,638 to 19,233 acres. Spain is a large producer of wool, mainly for use in her own mills. Export is only about 15 per cent. of production. The trade in oranges is well maintained in spite of competition from overseas. It is too early to say what will be the effect of the agrarian legislation passed under the new republican régime.

II. *France, Germany, and Italy*

The great western European countries, with the exception of Great Britain, aim at being as nearly self-sufficing as possible in food requirements, and the basis of the policy pursued by France, Germany, and Italy requires closer examination.

France.

French national policy has always been directed towards maintaining a just balance between agricultural and industrial production and between the urban and the rural population. Ever since the 'eighties there has been progressive protection of agriculture. The aim is the nicely balanced economic unit, self-sufficing in essentials—almost completely so if the rich French areas of Northern Africa and Indo-China are taken into account. But even these outer areas (Algeria is an integral part of France and is represented in the Chamber) are not sufficient for all essentials—not, for instance, for cotton and wool. There is, of course, no question of complete isolation, for France wishes to maintain and extend her export of certain agricultural products, notably wines. Drastic steps for the reorganization of the wine-growing industry were taken in 1931.

Tradition is very deeply rooted in the French countryside, and there is little interest in new ways, though, even within the tariff wall, economic pressure has made some change. Shortage of labour since the War has made some labour-saving essential. The character of the peasant varies, north and south, east and west. But two characteristics seem to be universal: a capacity for endless toil in the service of the farm, and a strong individualism.

One of the reasons for the preoccupation of the French Chamber with agriculture may be explained by the fact that half the population still lives in communes of under 2,000 inhabitants,¹ and Parliament has a predominant representation of rural industries. Nearly 9 million persons out of a total occupied population of 21½ million persons in 1921 were engaged in forestry and agriculture. At that date there were 5,219,000 independent farmers, and 2,834,000 agricultural labourers. Agriculture is still mainly a family business, and in 1921 85 per cent. of French holdings were of less than 25 acres.

¹ J. R. Cahill, *Report on Economic Conditions in France in 1928*, Department of Overseas Trade, 1928, p. 228.

By tradition and policy the most important crop is wheat. There is no tolerance by the French Government of the proposition that wheat might be more cheaply imported and the land at present under wheat devoted in part to other purposes. Every reduction of the wheat area is regarded as a national disaster. Nevertheless, the wheat area declined during the War and the post-War years from an average of 16½ million acres in the pre-War quinquennium to an average of 13½ millions in the five years 1921/2-1925/6. The acreage in 1930-1 was slightly less than the last-named figure, but in 1931-2 the harvest was so great that it was even suggested there might be a surplus for export. A further addition of three-quarters of a million acres was made to the wheat acreage in that year.

Peasant life is the basis of French civilization. Industry and finance remain merely a superstructure, even since the return of Lorraine. 'Le socle de la société française demeure toujours paysan', writes M. André Siegfried. The economic autonomy of France, based on peasant production, determines French mentality—its individuality, its distrust, its desire for security. The whole conception of the objective of production is different; it is production for its own sake, not for the sake of profit. The conception of wealth is a static conception. 'A ses yeux la richesse n'est pas chose dynamique, solidaire de la prospérité générale, mais plutôt une valeur juridique aux arêtes nettes; une terre, une maison, une hypothèque, même un sac d'écus.'¹ Ownership of the smallest piece of land is a real satisfaction in itself.

The aims of French policy are an all-round production to supply French needs, and a steady peasant population maintaining the hard-working, frugal tradition of country life. M. Augé-Laribé² writes:

'We may set down one first principle; industrial development ought not with us to be pursued at the expense of agriculture. We have always been essentially an agricultural country. We ought not to attempt to become a country essentially industrial. All the productive forces, all the natural dispositions, so numerous and varied, of France, would be difficult to use if accidental and temporary circumstances were allowed to lead us into one profession to the exclusion of others. Our future and our tradition alike, demand that we furnish to the world the example of a wise and harmonious balance. To ruin the culture of the soil for the purpose of making France into an industrial nation—that would be folly.'

¹ André Siegfried, *Tableau des Partis en France*, Paris, 1930, p. 40.

² Cited by R. W. Tugwell, 'The Agricultural Policy of France', in *Political Science Quarterly*, vol. xiv.

The aid given to agriculture by the Government includes: protection by means of a tariff, and, in the case of wheat, by a quota system¹ which requires a high percentage of French wheat in milling; the provision of good roads and communications, and the provision of electric light and power on the farm (the advantage of electricity is very great—there are no dark mornings in a French farm-yard in those departments where the electricity scheme has been carried through); the expenditure of care and money on vocational education of farmers, on seed-testing, veterinary services, propaganda for the use of fertilizers, on the recruitment of labour, and the establishment (in 1929) of excellently equipped departmental offices; support of co-operative societies and grants of credits for rural development.² In spite of all this, State expenditure on agriculture forms a smaller percentage of the Budget than in many other countries.³ Mr. Tugwell⁴ puts the contrast between the meagre sums spent by the Government on agriculture and the national love of the soil.

'If there is in France', he says, 'a desire to improve agriculture, if there is talk of bettering rural life and rationalizing cultivation there is also no suggestion for planning and working on any such scale as will save the situation. There is goodwill, but it is not of the heroic sort. There is a love for farming, but it is a love of the technique of the fine art of individual persuasion of nature, of immediate contact with the earth and its fruits. . . .'

Germany.

Germany, like France, aims at self-sufficiency. The self-sufficiency which France has attained by natural means is in Germany a permanent aim of agricultural policy, a policy which is supported by all parties and may be described as national. Agricultural policy has been directed towards encouraging the cultivation of those products of which quantities are now imported, and a reduction in others, in rye for instance, of which there is a surplus.

The extent to which Germany has advanced towards self-sufficiency in foodstuffs is shown by the figures published by the Institut für Konjunkturforschung in June 1932:⁵

¹ See Chapter X of this book.

² J. R. Cahill, *Report on Economic Conditions in France in 1928*, Department of Overseas Trade, 1928, pp. 24-9.

³ Denmark 4.67 per cent., Switzerland 4.30, Belgium 2.35, United States 2.05, Great Britain 1.69, Canada 1.68, and France 1.10.

⁴ Loc. cit.

⁵ *Wochenbericht des Instituts für Konjunkturforschung*, 5. Jahrgang, No. 8, May 1932.

Rate of Imports to Consumption

| | 1927. | 1931. |
|-------------------------|-------|-------|
| | % | % |
| Meat | 8 | 1 |
| Bread cereals | 24 | 4 |
| Feed cereals | 21 | 6 |
| Eggs | 37 | 30 |

Germany is entirely independent of foreign potatoes, rye, and sugar. It seems probable that the next year will see Germany self-supporting in wheat. Two qualifications to this policy must be borne in mind: (1) that Germany is still far from being self-supporting in milk, eggs, butter, and fats, and it does not seem likely that she will be in the near future; and (2) that the progress of self-sufficiency has been hastened by the crisis, and that when consumption expands again, an increase in agricultural imports may be necessary.

In Germany, as in France, peasant farms form the backbone of agriculture, but the agricultural population is relatively less important (23 per cent. of the total occupied population in 1926 as compared with 41 per cent. in France). But there is not the same conservative tradition in Germany. Many great estates still remain in northern and eastern Germany.

The larger German estates for the production of grain, sugar, potatoes and other produce use large quantities of fertilizers and an increasing number of machines; in fact, they have made great progress with rationalization. Even the peasants, who cultivate four-fifths of the farming area, are making increased use of fertilizers and simple machinery. Generally speaking, the large farms produce grain in a relatively higher proportion than stock. The peasant, though he also produces grain for sale off the farm, devotes his attention mainly to live-stock products, feeding his produce to his animals and, in many districts, notably in the north-west, purchasing additional fodder.

For over half a century the German farmer has been able to count on systematic encouragement by the State. Agricultural prosperity has been a main preoccupation of German statesmen ever since Bismarck's day. Under the alliance of agriculturists and industrialists which directed economic policy in the 'eighties, agricultural interests gained large measures of protection—large at the time, though the actual duties imposed were only a fraction of the present duties. The severity of this protection was mitigated by the commercial treaties negotiated by Caprivi in the 'nineties, but the policy of fostering agricultural production by fiscal means has never

been abandoned. The high protective measures taken since the war in this direction are described on pp. 181 and 188. They have operated largely for the benefit of large landowners producing grains on the poor soils of eastern Germany, and have been bitterly resented by the smaller men producing meat and dairy produce, who have been heavily mulcted in fodder costs. The German population, which, until the severe crisis of the last two years, had been consuming more butter and meat, are now turning, though to a slighter extent than might have been expected, to cheaper food.

Tariff policy has been accompanied by a systematic policy of land settlement throughout the whole of the thinly-populated provinces of the east, with a view to securing a larger peasant population, the maintenance of an abundant peasant stock for racial and social reasons, and the improvement of the capacity of defence against attacks on the eastern frontier. Economic, social, and political reasons have dictated this policy. Systematic 'home colonization' in Prussia and Brandenburg by means of credit banks and 'colonization' companies began early in the nineteenth century. It received a great impetus at the end of the century with the break-up of many Polish estates in Posen and West Prussia, undertaken partly to fortify the German element in those provinces, but mainly¹ with the governing idea of using all available land for settlement to counteract the growing industrialization of Germany. This settlement was carried out at relatively high cost, but on a scientific basis which deserves study. Since the War many great estates in Eastern Germany and elsewhere have been broken up. Between 1919 and 1931, 48,942 new holdings covering 503,643 hectares have been created, and over 85,000 inadequate existing holdings have been supplemented by the addition of a total of 121,659 hectares.² The peculiar conditions of East Prussia, cut off from the main body of the Reich and deprived of her former avenues of trade, have necessitated special expenditure for the relief of East Prussian farmers.

A five years' scheme for the assistance of East Prussian agriculture was embodied in a law on 18 May 1929, and involved large initial sums in that year and considerable recurrent expenditure. It was then proposed to extend the scheme to include all the eastern provinces, and a law was introduced into the Reichstag for that purpose.

Dr. E. Lang,³ Professor at Königsberg, East Prussia, explains

¹ Dr. E. Salin, 'Am Wendepunkt der deutschen Wirtschaftspolitik', in *Deutsche Agrarpolitik*, 1931, p. 721.

² Figures provided by Dr. Max Sering in a note to the Study Group.

³ 'Bedeutung und Organisation der ländlichen Siedlung in Deutschland', in *Die deutsche Landwirtschaft*, p. 695.

the philosophy of the movement for closer settlement as follows:

'The national political importance of land settlement lies in the fact that the mainly thinly-populated marches of the German East and North (Schleswig-Holstein) border on countries with a thickly-settled peasant population. Denmark has a denser rural population than Schleswig-Holstein, and the eastern border states, in consequence of the great agrarian reform executed after the War, have a very numerous population on our borders. Natural increase is greater in the Polish than in the German population, and gives dangerous weight to our eastern neighbour's desire for expansion. It is harder to drive a peasant population from its holdings than a small number of large landowners. It is not necessarily only a military attack on our borders that has to be considered; peasant districts can offer greater resistance to economic and political pressure than districts mainly occupied by large cities.

'Land settlement makes it possible to keep valuable men and women at home. In Württemberg and Bavaria, small peasant countries with a high birth-rate, and also in country districts in Eastern Germany, also with a large child population, many sons and daughters of peasant families have to emigrate. In the eleven years 1920-30, more than a quarter, 123,734, of the total number of emigrants came from rural and forest districts.'

There has been much criticism in Germany of the land-settlement policy in the less productive eastern regions. But that policy is only a part of the policy for increasing permanent settlement on the land, and of providing allotments, especially in the neighbourhood of the large towns, as a method of dealing with unemployment.

The difficulties in carrying out any rearrangements of this kind are many. Land settlement and peasant farming help the dairying and live-stock part of the scheme, but not the demand for more wheat. The regularization of peasant production presents extreme difficulties. In seeking to direct the trend of production by means of a tariff the Government are also hampered by the existence of unexpired commercial treaties containing Most-Favoured-Nation clauses.

It is argued with much force that self-sufficiency in agricultural products is a necessity in the present economic situation of Germany and under the changed character of international competition. It is true that determination to secure her population against starvation in the event of another blockade is one of the spurs to a self-sufficiency policy. But also, as Dr. Hermes points out,¹ Germany is now heavily indebted and can no longer, as she could before the War, rely on

¹ In a note to the Study Group.

paying for her imports by her exports, hampered by tariff restrictions, and by the interest on German capital invested abroad, and she can only hope to maintain her economic and political independence by the development of her resources to the utmost.

Italy.

To-day, under the Fascist régime, the agrarian policy of Italy is probably one of the most vigorous and comprehensive of any country in the world. With a high density of population, the growth of which is encouraged, and small outlet for emigration, even if emigration were desired, she has, until now, been obliged to import considerable supplies of food-grain for the general population and meat for the army. Her population increased from 35½ millions in 1913 to 42 millions in 1931; emigration (mainly of agricultural workers) was 872,000 in 1913, and is now about 200,000. Italy has to import raw materials for her rapidly growing industries. These latter imports cannot well be reduced, and should increase; consequently every nerve is being strained to make the country as far as possible independent of foreign food supplies. The programme involves heavy sacrifices and strenuous effort. Italians are contenting themselves with a modest standard of living, indicated by a falling wage index.¹

They are extending the area of cultivated land by extensive reclamation works; they are clearing malaria from districts otherwise suitable for settlement; and they are intensifying production on poor land by the extensive use of fertilizers, and in general by the use of improved varieties of staple crops. The State promotes the improvement of agriculture in many other ways, but it is only possible to indicate what is being done under the most important heads.²

The most spectacular efforts are concentrated on what is known as 'the Battle of Bread'. The campaign for increased wheat production was begun in 1925, when a Permanent Wheat Committee was established by Royal Decree. The object is not so much to increase the area under wheat as to secure increased yield per acre, by assistance in the shape of credits for machinery and fertilizers, the use of carefully selected varieties, and general improvement in technique. More than 35,000 demonstration stations have been set up, there are 2,000 demonstration stations for the mechanical selection of wheat, consortia for the production of selected seeds are encouraged, prizes are offered every year to farmers securing high yields and national

¹ *The Agricultural Crisis*, vol. i, p. 213.

² For a full statement see *The Agricultural Situation in 1930-1*, International Institute of Agriculture, 1932, p. 167 seq.

enthusiasm for the success of the scheme has been promoted by skilful propaganda. In 1931 the Permanent Wheat Committee recommended (1) the purchase for the Army of 50,000 metric tons of home-grown wheat direct from the producers; (2) the granting of loans to producers on the security of the crop, to prevent too precipitate sales; (3) an obligation on millers to use 95 per cent. of home-grown wheat in milling. At the same time the duty on imported wheat was raised. The result of the campaign is seen in a 20 per cent. increase in yield in 1926-30 as compared with the average in 1911-15, and a diminishing import of foreign wheat.

The schemes for land improvement include: public works carried out by the State such as draining and irrigation works and the improvement of mountain land; other improvements on a smaller scale such as building, local water-supply, and tractor ploughing, carried out by private enterprise but subsidized by the State in varying degrees. These schemes of land reclamation and improvement involved expenditure by the State in 1929-30 estimated at 937 million lire. Legislation in 1930-1 provided for improved credit facilities for farmers; the improvement of animal husbandry by various measures, among these being the granting of loans to farmers for the purchase of herding stock, and for the improvement of sanitary and other conditions; the encouragement of wine-growing by the protection of special qualities and the reduction of taxation and of transport charges; special measures of relief for maize and rice growers; and assistance in grading and marketing of vegetables and fruit for export.

This ambitious programme is being rapidly executed in spite of the difficult conditions due to the fall in prices. The intensification of agriculture and the extensive scheme of public works are providing occupation for an increased population on the land. Large numbers of families will be settled on the 8½ million acres of mountain and waste land which it is proposed eventually to reclaim. In considering Italy's agricultural programme the special conditions established by the Fascist régime are clearly of great significance.

III. *Eastern Europe*

East of the Alps, and east and south of the confines of Germany, special conditions have always existed, and they have been accentuated by the redivision of territory by the Peace Settlement and by the agrarian reforms which followed.

For nearly 500 years, from the time when most of the available land in central Europe had been brought under cultivation, down to 1870, the population of Europe existed by the cultivation of the soil.

Except in Russia, where new land continued to be opened up towards the east, there was no new area for cultivation, and population pressed on the means of subsistence, forcing the cultivation of inferior land, at the cost of long hours of labour and a low standard of subsistence. Agriculture was a means of supplying the cultivator with food, not a source of gain; except in the neighbourhood of the big towns, sales off the farm were a minor part of the peasant economy. The younger brothers worked on the plot inherited by the eldest brother, often without demanding money payment, and the women and children of the household took their share. The food requirements of the towns were mainly supplied from the estates of the big landowners. A peasant family, down to yesterday in Russia, reckoned its wealth not in terms of money, but in terms of grain and milk to fill so many 'mouths', from grandparents downwards. Homespun linen and wool provided clothing.

The contrast between east and west lies not only in the comparatively later date of the emancipation of the peasants in eastern Europe, but also in the circumstances under which emancipation was delayed. Emancipation came in western Europe as the culmination of liberal ideas. Industrial development would in time have compelled the abolition of the old self-sufficing type of economy, but before the economic development of the nineteenth century the emancipation of the peasant had been accomplished. In western Europe, the French revolution was decisive; the French peasant secured freedom and the possession of the land, and the new ideas crossed the frontiers with the Napoleonic armies. Stein's reforms in Prussia made the Prussian peasant a relatively free man, even in conservative eastern Prussia. The process of emancipation in the economic as well as the legal sense was carried further in the West by the industrial revolution, which enabled the peasant to leave the land for work in the towns if he so desired. Industry demanded regular food-supplies, and in return a market, and the peasants began to buy clothing and utensils—the self-sufficiency of the holding ceased.

But in the Balkans under Turkish rule, and in Hungary and Russia, the peasant was subjected to even more oppressive feudal exactions as the forces of reaction against liberalism gained in strength. In Austria-Hungary, Joseph II introduced reforms as early as 1781 for the whole Empire. But later the Habsburgs were compelled to withdraw these reforms in Hungary, owing to the resistance of the Hungarian landowners. In Galicia emancipation was handicapped in the same way as in Hungary.

The Rumanian peasantry had never known the feudalism of

western Europe.¹ At the time of the foundation of the Principalities in the thirteenth and fourteenth centuries, the villagers were free joint holders of the village land. In time, however, that yeoman status was more and more encroached upon, until the peasants were pressed into serfdom.² In the eighteenth century the claims of the overlords became increasingly insistent, and reached a climax when Russia assumed the protectorate of the Rumanian principalities³ in the Organic Statutes. 'Hardly had the Statutes been passed when slowly the reactionary waters began to recede and gradually to open up the broad valley of individual freedom.'⁴ The restoration of national autonomy to the Rumanian, Serbian and Bulgarian provinces was followed by abolition of the peasant servitudes. The emancipation in Rumania was accompanied by measures redistributing the land, which, unfortunately, failed to improve the position of the peasant, because they were too restricted in their scope and made the mistake of dividing up the land into uneconomically small holdings.

But when the servitudes were abolished the landlord still required labour for his estate. Political freedom did not mean economic independence. In Great Britain the small-sized peasant holding was able to continue long after the abolition of serfdom, owing to the advanced political position of the peasant; it was the industrial revolution which extinguished the peasant by necessitating a hasty transition to commercialized agriculture, and, therefore, the consolidation of holdings, the provision of capital and large scale ownership. In France the large estates for the most part disappeared after the emancipation of the peasants, but in eastern Germany, Austria-Hungary, Russia, and Rumania they remained. The landlords attempted to shut out the peasant from all direct share in political life, and to render him dependent on them by resisting his attempts to acquire land; consequently, there was abundance of cheap labour for the landowner, who paid sometimes in small sums of money, but frequently in kind.

Then came the opening up of America, and peasant families living on the verge of subsistence migrated in hundreds of thousands a year from the Ukraine, Slovakia, Galicia, and Bukowina to the new fields overseas.

The wheat lands of eastern Europe were able to export big surpluses. Hungary in pre-War times exported 40 per cent. of her wheat, a higher proportion of her production than any other European country. She had a free market in Austria. In Rumania and

¹ D. Mitrany, *The Land and the Peasant in Rumania*, 1930, p. 2.

² *Ibid.*, p. 31.

³ *Ibid.*, p. 21.

⁴ *Ibid.*, p. 42.

Russia wheat exports increased rapidly after the emancipation of the peasant, but at the cost of the peasant's food-supply, and the Government, both in Russia and Rumania, had to help the peasant every few years by granting relief in the form of food. The force of overseas competition was, therefore, felt chiefly by the owners of the profit-earning estates, not by the peasant himself.

After the War the subject nationalities in Russia and Austria-Hungary attained their national freedom. It is important to remember that for the peoples of 'Zwischeneuropa' the struggle for national freedom was a struggle against the economic power of the ruling class as well as against their political power. The overthrow of the old governments was necessarily accompanied by compulsory expropriation of land. It was inevitable that all the new States should be built up on a foundation of peasant proprietorship. The east European peasant saw the Russian peasant over the border seize the land of the big landowners for his own use. The only alternative to revolution was a more or less radical expropriation and re-allotment of the great estates.¹

'In Rumania the new viewpoint was put forward tersely by the peasant leader, M. Mihalache, when introducing his agrarian law in 1920. Land, he said, could be regarded no longer as a source of rent, but as a definite and limited means for employing the labour of a category of citizens whose regular occupation was tilling the soil.'²

Though the idea behind the reform was a revolutionary one, yet the reforms as they worked out in practice were not universal in scope. All the new States passed agrarian reform laws, but in Austria, Hungary, and Poland the results were inconsiderable. The extent of the expropriation differed: in Yugoslavia and Rumania were its effects really revolutionary. The legislation in dividing up the large estates fixed a maximum holding for the expropriated landowner to retain, a remnant of his former property. In Czechoslovakia the maximum holding permitted was 600 acres. In Rumania and Yugoslavia it was 1,236 acres, but in these two countries estates were rarely allowed to come anywhere near this limit.

The size of the new allotments also varied very considerably; in general they were small:³ in Poland between 50 to 86 acres; Czechoslovakia, 14-37; Rumania (Old Kingdom), 12-17, (Bessarabia) 15-

¹ A Hungarian correspondent, M. Stephen Varga, maintains that expropriations in the districts taken from Hungary to form the new States also served a nationalistic policy by the elimination of Hungarian owners.

² Mitrauy, *op. cit.*, p. 120.

³ H. J. Seraphim in *Berichte über Landwirtschaft*, xv. 4, 1931.

25; Yugoslavia 7-14; Hungary 1 $\frac{1}{4}$ -4; Lithuania 20-200; Bulgaria 12 $\frac{1}{2}$ acres.

The total amount of agricultural land affected by the reforms varied from 6 per cent. in Poland to 50 per cent. in Greece.¹

Percentage of Total Agricultural Land affected by the Reforms

| | <i>Per cent.</i> |
|---------------------------|------------------|
| Greece | 50.0 |
| Latvia | 42.4 |
| Rumania | 29.7 |
| Estonia | 25.0 |
| Lithuania | 17.5 |
| Czechoslovakia | 14.1 |
| Hungary } under | 10.0 |
| Yugoslavia } | |
| Poland | 6.1 |

In all these countries together 70 million acres have been transferred, equal to 18.47 per cent. of the agricultural land. Over 2 million new farms have been created, and 1 $\frac{1}{2}$ million tenants have been converted into owners.

In estimating the effects of the expropriations on production, it is essential to bear in mind that no change in conditions of production was involved when the reform was simply a transfer of ownership from the landlord to the tenant, as it was for the most part in Yugoslavia, Czechoslovakia, Rumania and Finland. In consequence, in these countries legislation cannot alone be held responsible for any change in production. In other countries, Poland, Hungary and Bulgaria, the legislation affected such a small proportion of the total land surface that the effect on production must have been negligible. In Rumania conditions brought about a serious decline in yields and output; in the years 1925-9 the year's average wheat production only reached 62 per cent. of the pre-War level, while exports declined by an even greater amount because of increased internal consumption and, especially, because of the peasant's greater interest in cattle-rearing and fodder crops.

The effect of the subdivision of the large estates should have been a turnover from extensive cultivation of cereals to intensive cultivation of live stock, and so, to some extent, it has been. But the transition to small size peasant ownership has unfortunately not been accompanied by any general improvement in methods of cultivation. This is inevitable so long as the financial position of the peasant

¹ M. Sering, *Die agrarischen Umwälzungen im ausserrussischen Osteuropa*, Leipzig, 1931.

is weak, as it is in Rumania. In Czechoslovakia the reform caused no decline in production, because everywhere the peasant could obtain credit on easy terms from well-organized co-operative credit banks.

At the time of the first stages of the land reform legislation in Rumania the Government intended to hand over the land to co-operative societies of producers, but this provision met with so much opposition from the peasants—who suspected the intentions of their rulers—and so many administrative difficulties, that it was eventually dropped and the land was handed over to individual peasants as soon as it was taken from the landowners.¹ Farming economy in eastern Europe will probably be based on a foundation of individual property. Co-operation will increasingly mitigate the drawback of that individualist ownership.²

The period of the land reforms has also seen the rise of a political peasant movement to consolidate and extend the achievement of agrarian reform.

The present movement in eastern Europe has been essentially practical in character, but some interpretation of its underlying principles may be tentatively stated.³

First, agrarian democracy is to be the instrument for uniting the divided States of central Europe. Agriculture is the common interest of all these States, but so long as they are organized on a capitalistic basis, their interests will be opposed. If they are organized on a peasant basis they will inevitably draw closer together, as indeed under the pressure of economic crisis they are beginning to do. It is also to be an instrument for securing the political independence of eastern Europe. So long as these States are dependent on west European capital, they will be involved in west European questions and divided by political allegiances to western Powers, and they will be unable to assert their existence as sovereign States.

¹ Mitrany, *op. cit.*, p. 158.

² So far co-operation has been chiefly confined to credit-giving; in some districts (Yugoslavia) the Government has founded compulsory societies, where there seemed no likelihood of voluntary co-operative banks being founded. All the agricultural co-operative credit banks rely to some extent on State subsidies. Marketing is much less advanced. But in Czechoslovakia 'the day is not far distant when the co-operative movement will take over its supreme aim—the complete centralization of the wheat supplies of the country' (Šašeci, in *International Review of Agriculture*, June 1931). In Hungary, wheat is sold through the Futura, a company formed jointly by the Government and the co-operative central union. In Rumania, Yugoslavia, and Bulgaria wheat is sold through an official central agency which the co-operatives are compelled to supply.

³ See Hodža, *Články, Reči, Štúdie*, vol. iv, *Cesty Stredo Evropskej Agrárnej Demokracie, 1921–31*, Prague, 1931.

Second, this new type of democracy will require the evolution of a new economic system, a system partly free, partly regulated by the State, which would in practice work out something on the lines of a co-operative commonwealth. The conditions of eastern and central Europe are not suited to the development of western capitalism, and the attempt to erect a capitalistic façade only leads them to disaster. On the other hand, there is no soil for communism to grow on; the peasant proprietor remains the basis of the State, even if he is not wholly free in the marketing of his product. The peasant States are already creating crop export syndicates and other institutions; they are inaugurating an economic order neither individualist nor communist. Agriculture is regarded not solely as an industry, but also as a means of dealing with the problem of the social order.

In the words of Chajánov: 'The usual aim of a practical agrarian policy is to produce as high a rent as possible. That is the only purpose of capitalist agriculture. . . .' But in agrarian countries with a dense population the practical politician must not hesitate 'to place other ends and other criteria in the foreground, as his first duty is to secure to the bulk of the population the highest possible standard of living and the greatest possible gross income. . . . He will inevitably have to correct the economic-technical standpoint with the social, and in many respects the agrarian problem will become for him a problem of population.'¹

Finally, although this type of agrarianism is rooted in economic needs, it has a wider significance for European civilization; its advocates see in it the basis of the cultural development of the smaller European peoples. All that is genuine and original in the contribution of the Slavonic races to European culture originates in rural life. Agrarian democracy, under that conception, does not exclude the intelligentsia, and it is based on co-operation with industry. It is to be the natural milieu for the development of a culture which still exists in a latent form (in spite of centuries of oppression), looking for inspiration to ideals not borrowed from the west.

The antithesis between the ideals and aims of agriculture in the great new overseas countries and in agrarian eastern Europe is profound. In the Americas and in Australasia agriculture was developed by pioneers imbued with the spirit of the late nineteenth century. They were children of the Machine Age, and they believed that production for profit was the natural and only basis of economic life.

¹ 'Die Lehre von der bauerlichen Wirtschaft,' 1923, cited by Mitrany, 'Marx v. The Peasant' in *London Essays in Economics: in Honour of Edwin Cannan*, 1927, p. 365.

They were unhampered by peasant traditions, and instead of the narrow boundaries of the small European State they had great unappropriated areas for development. The theory of the agrarian leaders of eastern Europe is diametrically opposed both to the American form of capitalist farming, to the Russian form of State and collectivist farming. Its realization, under circumstances in which the produce of eastern Europe must meet the competition of overseas and Russian products, is excessively difficult. The urgent problems of marketing the surpluses of eastern Europe led to the attempt, described in another chapter of this book, to form an agrarian bloc to secure preferences in western Europe. Russia, whose peasants were still serfs seventy years ago, has taken another path; she is seeking to emulate American methods of production and has adopted the methods of the Agricultural Revolution. Her success, under severe handicaps, still lies in the balance.

IV. *Russia*

The Russian Revolution of 1917 was accompanied by an agrarian revolution, which evened out the distribution of cultivable land, especially in those parts of European Russia, north-western Ukraine and the Baltic Provinces, where most of the large landed estates were to be found. Of the 200 million acres covered by large estates in European Russia part was wooded and part, perhaps one-third to one-half, was leased, usually on short terms, to peasants. The State domains were largely forest; the area of cultivated land was leased to peasants. Thus, the new area available for peasant settlement was not so large as is sometimes supposed, and the 'land hunger' was not even fully appeased by further confiscation from the land of the richer peasants. There were 12 million peasant households in 1905; 20 million in 1924-5. The Revolution decreased the number of landless peasants, but could not provide sufficient holdings for all. Over-populated districts remained over-populated. Moreover, though working capital in the shape of live stock and implements was also distributed, many small peasants lacked horses to work the land.¹

The peasant's tenure after the Revolution was what has been called 'occupying ownership', that is, he had the usufruct of the land so long as he cultivated it, and he could hand on his rights to his family. The events of 1917 and the division of Russian land among the peasants had, as we have seen, their repercussions in the countries

¹ *Wheat Studies* of the Food Research Institute, Stanford University, California, March and April 1932, 'Russia as an Exporter and Producer of Wheat', p. 287. See also V. P. Timoshenko, *Agricultural Russia and the Wheat Problem*, Stanford University, 1932.

bordering on Russia. But while the peasants of the Slav world outside Russia, and the Rumanian peasants, are laboriously building up peasant farming, Russia herself, where the movement started, has executed a violent *volte face*.

Political considerations had compelled Lenin to allow the peasants to share out the land, in violation of pure socialist theory. Later Stalin decided to reverse this policy, to embark upon large-scale farming and to attempt real socialization. In part his reasons were economic. The U.S.S.R. must export grain to secure foreign exchange for necessary purchases abroad, she must produce industrial raw materials, cotton, flax, hemp, wool, &c., to meet the requirements of her own manufacturing industries, as she cannot afford to purchase them abroad. The best way of producing these 'industrial crops' and of providing grain for export appeared to be the formation of large farming units. In Lenin's lifetime grants of large tracts of land near Odessa and in the Northern Caucasus were made to the Nansen organization for the purpose of demonstrating the possibilities of large-scale farming with the aid of tractors and up-to-date machinery. The co-operative organizations also had some large farms, and others, on State lands, were conducted by the State with hired labour. The State farms were directed from a special department in Moscow. By 1928 they were important producers, and new farms were opened up. The next step was the training of experts to run the new farms, the provision of tractors and other machinery, and the declaration that henceforth not only the peasants, but the industrial workers, were to have a direct interest in agricultural enterprise. Agriculture was to be industrialized. The group of 121 State farms already controlled by the Grain Trust in 1929¹ covered about 17,200,000 acres, the largest of them, the 'Giant', in Northern Caucasus, covering 420,000 acres, with about 80 per cent. of that area

¹ The distribution of the *sovkhoz*, which are grouped under different trusts according to the character of their production, was on 1 June 1931 as follows:

| | Number of 'Sovkhoz' grouped. | Total areas (in acres). |
|--|---------------------------------|----------------------------|
| Trusts for cereal production | 178 | 36,500,000 |
| Trusts for raising of cattle | 193 | 71,630,000 |
| Trusts for raising of sheep | 127 | 37,000,000 |
| Trusts for raising of pigs | 451 | 3,922,000 |
| Trusts for milk production | 70 | 5,439,000 |

(The Agricultural Situation in 1930-1, International Institute of Agriculture, 1932, p. 401.)

under cultivation.¹ Each great farm under the Grain Trust (the average size was 138,000 acres) was divided into several sections, each of which had its own tractors,² granaries, fuel-supplies, and temporary housing arrangements. Each farm was to have a central organization, with central offices, repair shops, and expert agricultural staff.³

In the meantime, in August 1928, under the stress of shortage of domestic food-supplies and of the necessity for export, the creation of more of these mechanized farms in suitable localities was decreed. Agriculture was to be industrialized. There were now two types of large farms, the *sovkhos*, or State agricultural unit described above, and the *kolkhoz*, or collectivized agricultural unit, created by the grouping of the peasants in a village or group of villages, and the pooling of land, and, within limitations, of implements, live stock, and labour resources.⁴ Part of the inducement to collective farming were the privileges in matters of credit, taxation, facilities for obtaining all kinds of agricultural requirements, and for the sale of produce.

The original Five-Year Plan contemplated collectivization up to 15 to 20 per cent. of all peasant farms by 1932-3. When collectivization on a large scale was first mooted in December 1929, when Stalin proposed 'the liquidation of the Kulaks as a class', most observers who were acquainted with the history of the country and of the Revolution, which was accepted by the peasants because it satisfied

¹ Anissimoff, 'Soviet State Farms and Agriculture' in *Proceedings of the Second International Conference of Agricultural Economists*, Menaska, Wisconsin, 1930.

² Actually, mechanization has only touched the fringe of Russian agriculture. The supply of machinery relative to the work to be done is small, and there is a high rate of depreciation owing to the lack of skilled workers, estimated at from 24 to 40 per cent (A. Cairns, speaking at Regina, Canada, 5 June 1931). The need for motive power is the more serious because of the lack of horses. Since the spring of 1931, the authorities have sought to reduce depreciation by removing tractors and complex machines from the *kolkhoz* and concentrating them in machine tractor stations, of which there are about 1,400. The whole supply of tractors, 146,000 in July 1932, is now in official hands, either on State farms or on these stations. Machinery was still so scarce in 1931 that about 40 per cent. of the crop had to be cut by sickle and scythe (*Wheat Studies*, March, April 1932).

³ Later on, in August 1931, experience led the Federal Commissariat of Agriculture to propose the subdivision of some of these large farms, and to favour smaller units generally.

⁴ The *kolkhoz* are divided into groups according to the degree of socialization achieved: the agricultural commune (*communa*), where all is communal, even housing; the *artel*, where the peasant retains some live stock; and looser associations for the joint working of the land. The latter form a rapidly dwindling proportion of the total number of *kolkhoz*.

their hunger for individual possession of the land, concluded that collectivization was politically impossible. The decision to hasten collectivization in advance of the original programme was published in the *Pravda* of 6 January 1930. By persuasion, by increasing propaganda, by the offer of better conditions on the State farms, by the ostracism of those who remained outside, and in the last resort by compulsion, collectivization was secured over large areas, but not without serious loss of resources in live stock. Rather than surrender their live stock to the collectivized undertakings, peasants in many districts slaughtered their animals; live stock on the collectivized farms suffered from the transfer. The loss sustained will take years to make good. In the years 1929 to 1930 cattle decreased from 67.2 to 52.9 millions, sheep from 132.7 to 100.5 millions, and pigs from 20.5 to 13.3 millions. Official figures of slaughterings for that year were 110.4 millions as against 92.2 millions in 1926-7.¹ Pressure on the peasants had to be slackened in the spring of 1930² because of the dangerous anger aroused, and many peasants left the *kolkhoz*, but with more lenient conditions many were induced to return, and possibly some 60 per cent. are now collectivized. Less resistance was encountered in the grain-growing areas of southern European Russia than in the north.³ The large pre-War estates covered a much larger proportion of the wheat-growing region than was the case in the north. On these estates periodic redistribution of the village land among the peasants was the rule. Peasants were familiar with the idea of the communal ownership of land underlying the collectivist idea. The greatest resistance to collectivization was encountered in northern Russia, where peasant cultivation had been almost universal.⁴

It is still too early to know how far collectivization will fulfil one of the purposes for which it was decreed, i.e. the provision of produce for export. Organization of collective farming on a large scale only began in 1929-30, and its effects could not be felt at all before the harvest of 1931, which was a poor one, less than the very good crop of 1930, or the more average one of 1929. The 2½ million tons of wheat exported in 1930-1 was purchased by the State trading organization mainly from individual peasants out of the 1930 harvest (a bumper crop), and partly provided from accumulated State reserves. The

¹ *Ghivotnovodstc S.S.S.R.*, 1930.

² Stalin's pronouncement, 'Giddiness from Success', 2 March 1930.

³ In 1931, 211,000 *kolkhoz*, grouping 13 million farms belonging to the poor and 'middle' peasants, had sown 198 million acres, the *sovkhoz* 25.9 million acres, and the farms under individual working, 115 million acres (*The Agricultural Situation in 1930-1*, International Institute of Agriculture, 1932, p. 403).

⁴ C. F. Marbut, in *Geographical Review*, New York, January 1931.

total grain harvest—wheat, barley, oats, and rye—was 83.7 million metric tons in 1930; estimates for 1931 varied from 78 to 89 million metric tons.

From the international agricultural point of view, the question whether the U.S.S.R. will be able to maintain exports of wheat on a large scale is very important. The Gosplan estimated that the 1930 area under grain had risen practically to the pre-War level.

The difficulties in the way of grain export on a large scale in the near future are: (1) deficiency of transport facilities; (2) serious shortage of animal power, which requires some years in which to make good; (3) shortage of skilled men for dealing with machinery; (4) the present wastage in harvesting, estimated at 20 per cent.; and (5) what is probably most important of all, the rapidly growing population¹ and the reasonable demand for a better standard of living in Russia.

With regard to the internal demand, it should be remembered that in the pre-War days the peasant population, who formed perhaps 80 per cent. of the population, were too poor to eat anything but the coarse grains. Under collectivization they expect a better diet. In general, success in the various departments of Soviet enterprise would mean increased internal demand for wheat and other commodities. There is a great disparity in the matter of export capacity of a country like Canada, with a population of 10 million, and the U.S.S.R., with a population of 161 million which is rapidly increasing.

The Five-Year Plan meant a revolution greater even than the change when the peasants seized the lands of great estates in 1917-18. Not only was production centralized, but export of each agricultural product was in the hands of a Trust, able to sell, if it so wished, below the world price. Internally, the scheme was designed to utilize all land for purposes for which it was best suited—the 'rationalized territorial distribution of the basic agricultural pursuits'.² One example may be cited. Russians are, under normal circumstances,

¹ Population within the present area of the U.S.S.R. has been estimated as follows:

| | million. | | million. | | million. |
|----------------|--------------|----------------|----------|---------------|----------|
| 1 Jan. 1914 . | 138.1. | 1 Jan. 1923 . | 135.9. | 1 Jan. 1928 . | 150.5 |
| 28 Aug. 1920 . | 134.2-134.5. | 17 Dec. 1926 . | 147.0. | 1 Apr. 1930 . | 158.5 |

The population increased during the War, but declined in the Revolution and in the famine of 1921, but since 1923 there has been rapid increase. In the last thirty years there has been a great movement of population eastward within the bounds of Russia herself, but with the progress made with the settlement of Siberia this movement has already slowed down, and cannot be renewed on any large scale. (*Wheat Studies*, loc. cit.)

² J. Anissimoff, loc. cit.

great tea-drinkers, but imports have been restricted for financial reasons. The only area of tea plantations in Russia up to the present has been in the Batum district. But this particular strip of coast on the Black Sea is admirably suited to the production of citrus fruits. It is, therefore, proposed to allocate this district to citrus fruits and to grow tea in an inland region of Transcaucasia. The tea plant needs three years for maturity, and the effect of the scheme is thus not yet evident.

The area under flax is double what it was before the War, and Russia enjoys a position approaching monopoly in flax export; future prospects of the export of hemp are said to be good; new cotton areas have been opened up in Asiatic Russia, and plantations formed in North Caucasus, with the result that some 88 per cent. of domestic requirements are met and some supplies placed on the Liverpool market; the wool clip is still insufficient for home requirements, and considerable quantities are imported overland from Asiatic countries; sugar is scarce, partly because technical equipment and transport lag behind production. The fall in live stock and the deficiency of meat is a matter of serious concern. The programme of live-stock rearing was 'the central part of the agricultural programme for 1931',¹ and it was proposed to transfer the centre of gravity to the two branches of pig-rearing and dairy-farming. The area under fodder crops has been increased.

The Five-Year Plan, as applied to agriculture, has encountered serious obstacles. The Plan is, *ex hypothesi*, rigid, and can make no allowance for weather conditions, very little for peasant psychology, and it took no account of the reduction in output likely to result during a transition period. Drought conditions in the Volga region and in western Siberia in 1931, difficulties of transport and the necessity of collecting produce for export are not in themselves sufficient to explain the shortage of food existing in Russia in 1932. The dislocation due to the revolution in method and the decrease of the incentive to hard toil under the new system are obviously very important factors.

Communist officials complain of 'bad work, great losses in harvesting, low productivity of labour, destruction of cows and neglect of horses'² on the *kolkhoz*. In an article in *Pravda* Mr. Y. A. Yakovlev, Commissar for Agriculture, 'severely criticized local officials who

¹ *National Economy of the Soviet Union on the Threshold of the Five-Year Plan*, 1931.

² L. R. Kaganovich, at the Conference of the Ukrainian Communist Party, July 1932.

endeavour to socialize the peasant's cow and other domestic animals ; pronounced against the practice of arbitrarily removing presidents of collective farms without consulting their members ; reiterated the Government's promise that this year, after fulfilling reduced State requirements of grain and other products at fixed prices, the peasant will be free to sell his surplus as he pleases or to retain it for his own consumption.'¹

¹ See Decree issued by the Council of Peoples Commissars and the Central Committee of the Communist Party on 6 May 1932. Also *The Observer*, 24 July 1932.

CHAPTER IX

NATIONAL AIMS AND CONDITIONS IN AGRICULTURE: ASIA AND THE TROPICS

China—Japan—India—Tropical and Sub-tropical Countries.

In Asia there are two great countries—India and China—whose populations live mainly by agriculture under conditions diametrically opposed to those prevailing in the thinly populated areas of North America and in Australasia. The Indian peoples number over 351 millions; China's population is estimated (there is no census) at over 474 millions.¹ Together, these two countries comprise about two-fifths of the world's population. In India the population engaged in or directly dependent on agricultural and pastoral pursuits is about 70 per cent.; in China the ratio is higher, perhaps 77 per cent.² In both countries the density of population is high in proportion to cultivable land, and the standard of living low. The importance of the products of Chinese and Indian agriculture in international trade, though great, by no means corresponds to the numerical strength of the population engaged, for the obvious reason that conditions of life on the tiny holdings which account for the greater part of India and the non-desert area of China tend to production mainly for the consumption of the cultivator and the needs of the local markets. In spite of the growth of industry in both countries in the last thirty years, they constitute great markets for the industrial goods of Europe and North America.

In Japan, the third of the great Asiatic countries, the pressure of population on subsistence is severe, and cultivable land is inadequate for the needs of the people. Japan has a highly developed industrial system, and is not likely to offer increased demands for industrial goods; the inadequacy of her resources in land gives her a place apart in Asiatic countries. She is, like Great Britain, a country with a deficit in food-supplies, and might, under favourable conditions, provide a market for the grains and animal products of the exporting countries. All three countries, because of the close settlement on their land, present important problems with regard to migration.

¹ Official figure used by the International Institute of Agriculture. But many foreign estimates are much lower. Professor R. H. Tawney's figure is between 400 and 450 millions.

² For the basis of this calculation see *The Agricultural Crisis*, vol. ii, p. 25. Some observers put the figure of persons dependent in one way or another on agricultural production as high as 90 per cent.

Any great forward stride in the development of agriculture in these countries which would make food-supplies more adequate, would help the international situation by lessening the demand for outlets for their people elsewhere. Alternatively, an improvement in the export position of Japan and China enabling them to purchase supplies from the countries in the Pacific which produce a surplus, would be beneficial to all parties.

China.

Of the 4½ million square miles of Chinese territory, more than a quarter are in the desert and semi-desert regions of Mongolia, Chinese Turkestan, and Tibet. There are large areas of mountainous and arid land within China proper. The population is extremely dense in the alluvial plains of the great rivers. Six-sevenths of the total population are estimated to be massed in one-third of Chinese territory; in the province of Kiang-su the density is put at 896 per square mile. In some districts it has been put at the astonishing figure of 6,000. The villages seem as thick on the ground as homesteads in western countries.¹ China's whole social and political organization is based on the preponderance of agriculture in her economy, and it must remain unstable so long as a large proportion of her rural population are underfed, under-housed, decimated by epidemics and famine, and subjected to recurring disasters of flood and drought.² The floods of 1931 affected nearly 37 million acres of farm land and 70 million people. Sixty per cent. of the autumn crops were destroyed and 20 per cent. of the flooded land was unusable for winter planting.³ The extreme poverty of the population is reflected in the death-rate. In Shensi it was stated in the beginning of 1931 that 3 million persons had died of hunger in the last four years and that, owing to poverty, 400,000 women and children had been sold.

One fundamental cause of the poverty of the Chinese peasant is the small size of the holding (42 per cent. of farmers have plots of less than 1½ acres), and the holding is not necessarily concentrated in a single unit, but may be in scattered fragments. The farmer must concentrate on cropping for human consumption; there is no land to spare for fodder. Chinese agriculture is a kind of gardening, the direct antithesis of the extensive cultivation of the American, the Russian, and the Argentine steppe. The intensive cultivation of his plot by the Chinese farmer is carried out with the help of the most elementary

¹ See R. H. Tawney, *Land and Labour in China*, 1932.

² *Ibid.*, p. 17.

³ Address by C. C. Chang to Institute of Pacific Relations.

tools, a hoe, a rake of bamboo or crudely wrought iron, a plough primitive in design, stone rollers, a sickle, and a home-made flail. It is a triumph of traditional knowledge, irrigation, and hard, unceasing toil.

The cropping systems of China differ from Western methods. Fifty per cent. of the land is double-cropped; the crops are grown for their grain, leaf, or fibre products, not for animal husbandry; and grass and stalks are required for fuel. The necessity of providing fuel means that little is returned to the soil in the form of manure. Crop yields in China are, for these and other reasons, not so high as is often supposed.¹ These conditions mean a low output for the individual worker. Aggravating circumstances are the difficulty of marketing the produce in a country with few means of communication, the excessive charges of middlemen, the appalling charges made by the money-lenders, and the complicated system of land tenure. 'A good money-lender', says one investigator,² 'has been known to charge only 25 per cent., but such self-restraint is exceptional. Interest at 40 to 80 per cent. is common; interest at 150 to 200 per cent. is not unknown.' The iniquitous conditions of land tenure in certain districts have led to no-rent campaigns and peasant revolts. 'As most of the markets are local, it is easy for manipulators to corner the market, and this is an important factor in the Chinese agricultural scene. The amount of business transacted on these market days, which are held at frequent and regular intervals, indicated what a large proportion of his produce the Chinese farmer sells.'³ Heavy indebtedness is probably responsible for the large sales off the farm, estimated by some authorities at the unexpectedly high figure of 53 per cent. of all produce. To all these troubles must be added the tyranny of corrupt officials and, in certain provinces, banditry and recurrent civil war.

In spite of the intensive culture of the cultivable land, China proper is partially dependent on Mongolia and Manchuria for her supplies of wheat. The normal Chinese wheat crop is estimated at 600 million bushels a year.⁴ In North China, wheat, millet, and other grains supply the staple food; in south and central China the mainstay of life is rice, produced mainly in the valley of the Yang-tse.⁵ China

¹ John Lossing Buck in *The Annals* of the American Academy of Political and Social Science, November 1930.

² Cited by Tawney, *op. cit.*, p. 49.

³ Mr. J. Wheelwright in a note to the Study Group.

⁴ *The China Year Book*, 1931.

⁵ Professor Buck of Nanking University has made a series of surveys in the northern and southern districts of China of the food consumption of Chinese

produces probably between 30 and 40 million tons of rice annually, from 30 to 40 per cent. of world production; she imports large supplies from Burma and Indo-China. The chief agricultural wealth of Manchuria is in soya beans, which have been used in China as food from ancient times. The modern trade in soya beans for the manufacture of oil and cake dates from the development of Manchuria in the present century.

China is the oldest silk-producing country in the world, and the greatest tea-producer; in both cases the greater part of the crop, in the case of tea about 75 per cent., is for domestic consumption. In the world silk market she has given way to Japan, but great efforts, which receive some American encouragement, are being made to improve the trade. She is also a great producer of raw cotton, and exports considerable quantities, but she has to import finer qualities for her own mills.¹ Other important products of Chinese agriculture are ground-nuts, which have been a large item in the export trade, though it is now hampered by high American duties, eggs, mainly exported in liquid form, and opium.

For the pastoral industry in China proper there is little space, but in outer China there are grazing lands which maintain great herds. There are probably $1\frac{3}{4}$ million head of horned cattle in Mongolia and 5 million in Manchuria; the Chinese total is put at 24 millions. The cattle are kept for draught purposes mainly, and for the trade in hides. Wool is also important, but sheep have hitherto been bred for hides and meat principally, and the breed must be improved. The camel-hair industry in Mongolia is growing in importance. So far no serious efforts, such as have been made in cotton-growing and sericulture, have been made to improve the live-stock industry.

The natural obstacles to the full development of Chinese agriculture are frequent droughts, floods, insect pests (especially locusts and the rice-borer); the social and economic difficulties are overcrowding on the land, deficient communications, political insecurity, a bad system of money-lending. The basic requirements for any improvement are money for communications, for agricultural research and education, farmers and peasants. An examination of the diets of 1,070 farm households showed that 89.8 of the total calories consumed were derived from cereals, legumes, and vegetable oils, 8.9 per cent. from vegetables and roots, mainly sweet potatoes, only 1 per cent. from animal products, and infinitesimal quantities from fruit and sugar. Milk, butter, and cheese are lacking, and eggs are sparingly used. (Paper by L. K. Tao in *Problems of the Pacific*, 1931.)

¹ For the great improvements achieved in cotton-growing and for the schemes for the extension of this profitable crop see *Problems of the Pacific*, 1931, pp. 82-3. Chinese cotton can now be spun for finer counts than was formerly the case.

and for irrigation necessary for the extension of the cultivated area, and political security. No improvements in the methods of farming can be effective until the water problem is seriously tackled.

Japan.

The agriculture and food-supply of Japan is a matter of urgent international interest, for food-supply is a preoccupation of every Japanese Government, and it underlies Japanese action in international politics. As in China, holdings are very small, many of them not more than allotments.

The farming population is estimated at about 44 millions. Thirty-five per cent. of farmers occupied in 1926 holdings of less than 1½ acres,¹ and farming processes approximate to horticulture.

About 88 per cent. of farmers carry on some other occupation. Where the holding is large enough to absorb the farmer's whole energies, any additional labour is usually provided by the family. Most of the requirements of house and farm are of home manufacture. The tradition of the self-sufficient family unit is still maintained. The principal products are rice and silk—rice for home consumption and silk for export. Rice is the staple food, and on balance Japan proper imports about 1,100,000 tons, mainly from Korea and Formosa. Rice represents two-thirds of the value of the whole agricultural production of Japan proper. The Japanese Government has imposed stringent restrictions with the aim of maintaining the price of rice. State intervention has been practised since 1921, but new legislation was passed in 1926 and 1928, and in 1931. The import and export of rice and paddy require a special permit, for each consignment, from the Imperial Government for Japan proper, or by the Governors of Korea and Formosa for those regions. Under the 1931 regulations the Government shall only intervene on the rice market as buyer or seller if the price has fallen below or risen above a minimum and a maximum fixed annually in December. These limits are adjusted on a complicated basis, taking into account costs of living and costs of production.²

The Japanese contributor to *The Agricultural Crisis*³ states that rice-growers can sell their produce at a price which enables them to pay their taxes and buy fertilizers and other necessary commodities, and that exports of rice are negligible owing to the high price obtained in Japan itself. Nevertheless, the price fell in 1929-30 by

¹ *Japan Year Book, 1931*, p. 342.

² *The Agricultural Situation in 1930-1*, International Institute of Agriculture, 1932.

³ *The Agricultural Crisis*, vol. i, p. 215.

approximately 33 per cent., because of increased production at home and in Korea, and because of the decreased consumption in the towns owing to the economic depression.

An outside observer¹ suggests that Japan is 'probably destined to pass through the same stage in the twentieth century that England passed through in the nineteenth, and that she will, as the century goes on, become dependent on imports for a considerable portion of her supply. The halting tendency of many home-produced food-stuffs, the sharp increase of imports, and the background of tiny farming units, all support this view.' He points out that food imports are restricted by taxation and by indirect methods, and that the protectionist system adopted by Japan limits exchange as a whole. The small natural resources of Japan indicate that no marked advance in the standard of living can be secured under a self-contained economy.

The principal food of the Japanese population in the towns is polished rice, boiled without milk or sugar; in the country, barley and other grains are boiled with the rice. The rice diet is supplemented by sweet potatoes and soya bean; pickled radishes and dried plums provide appetizers. Fish is the principal animal food. The principal changes in consumption are a greater consumption of rice and less of the coarser grains and of sweet potatoes, an increase in the consumption of all kinds of fruits, of meat and milk and of salt. The high tariff on sugar prevents any increase in consumption of that commodity.²

Extensive assistance to agriculture is provided for in Japanese legislation in the last two years. In addition to the help given to rice- and silk-producers, an effort is being made to extend and improve the live-stock industry by subsidies for instruction and organization, by a system of insurance, and by the improvement of public or communal grazing land.

The most important product supplied by Japanese peasants for export is raw silk, which accounted for 37 per cent. of the export trade in 1929 and finds its principal market in America. By a law of 27 March 1929 and regulations made in December of that year, the Japanese Government is empowered to indemnify banks up to a specified amount against losses on advances to silk-producers in cases where the price of silk is so low as to endanger the whole structure of

¹ E. H. Penrose, *Agricultural and Mineral Production in Japan*, 1929, Institute of Pacific Relations, Honolulu, 1929.

² *Problems of the Pacific*, 1931 (paper by Kokichi Morimoto, p. 44 seq.), University of Chicago, 1932.

the industry,¹ but no action was taken under it until 1930. There was a serious crisis in the industry in 1930—mainly because of the decreased demand on the American market—when raw silk fell to the lowest price registered since 1915. In 1931 comprehensive legislation was passed for the rationalization of the silk industry by a close network of associations covering the whole country.² Japanese farmers are now in an exceedingly impoverished state. There is little resilience in Japanese agriculture, because of the smallness of the holdings and because of dependence practically on two commodities only, rice and silk. Possibly the best ultimate hope for Japanese agriculture lies in the interest now taken by the Government in promoting live-stock farming.

India.

India is in a better condition than China in many respects. First, she has enjoyed a long period of peace, and secondly, the registration of land ownership has given a sense of security, has provided land with a saleable value, and has provided a basis on which taxation could be assessed, so that the cultivator knows what his commitments in taxes will be. The tenure of the cultivator tenant on the large estates of zemindars or talukhdars has been made secure, and the tenants are safeguarded against eviction and unfair rents. Improved communications, government organization, and irrigation schemes gradually reduced the dangers of famine. Districts were no longer isolated units, and food could be purchased from other districts. In other words, the extension of communications and advance in general conditions have raised the Indian cultivator from the purely self-sufficing stage, under which famine must be recurrent, to an intermediate stage of development in which sales off the farm in one district provide for deficits elsewhere. Primitive methods of cultivation have been slowly improved by the introduction of improved variety of crops, by seed distribution, and by better tools. In British India the development of co-operation has lessened the evils of usury. Nevertheless, the typical Indian peasant is an extremely poor man according to European standards.³ Mr. J. C. Jack in *Economic Life of a Bengal District* described village life in the Faridpur district of Bengal. About one-half of the cultivators are described as living 'in

¹ *The Agricultural Situation in 1929-30*, International Institute of Agriculture, 1931, p. 105.

² *The Agricultural Situation in 1930-1*, International Institute of Agriculture, 1932, p. 175.

³ See the Provincial Evidence in the Appendix to Report A, *The Royal Commission on Agriculture in India*, 1928.

comfort', and perhaps not more than 4 per cent. in actual want of food and clothing. The 'in comfort' standard means an annual income of almost £25 for five persons, and allows a standard of consumption of 82 lb. of unhusked rice per month, 20 per cent. above the quantity estimated as essential by the Famine Commission of 1880. In addition the family will have, partly by purchase and partly by home-production, a supply of vegetables, fish, salt, oil, spices, &c. The huts are built by the family, and the few necessary household utensils are of the simplest kind. Rent and taxes must be paid in money, and from time to time custom demands heavy expenditure on marriage and other domestic events. Even the family 'in want', consuming half the quantity of rice, must spend on domestic festivals sums beyond their means. For this obligatory entertainment, money must often be borrowed, and the burden of debt is heavy on the average peasant. The actual work of the farm does not entail full work for more than five months of the year, and consequently subsidiary occupations are of great importance, but are generally inadequate. Since the Commission reported in 1928, the situation has become worse, for Indian agriculture cannot be isolated from world conditions, and the fall in prices has reacted seriously on a population already existing on a low level.

'The low price of grain is a serious matter to the small cultivator. The effect on India and other Eastern countries of mass production of grain on mechanized lines throughout the American continent, Russia, and Australia, must be very serious,' writes Mr. A. P. McDougall.¹ 'Throwing the surplus on the world's market at prices with which the ordinary cultivators, with less efficient draught cattle or man labour, cannot compete will result in a reduction of the price level of not only all grain products, but of rice, the staple food of the East. Taken in terms of wheat, the average price to the ryot in India cannot be more than about 14s. per qr., let us say, in the Punjab. In January 1931 it was 12s. a qr., and even lower figures were quoted. The average output of wheat per acre in India is 9 bushels. Even assuming on a 6-acre holding—and there are millions of cultivators dependent on 1 acre—the total value of production will be the equivalent of 15s. 9d. per acre, and for the total holding £4 14s. 6d. There are, of course, crops of greater money value which are grown, but, on the other hand, a very large proportion, such as the millets, pulses, and barley, are of even smaller value. Wheat is a sufficient criterion for our purpose. Out of this £4 14s. 6d. the cultivator has to face the cost of seed, which must amount at least to two bushels or 3s. 6d. per acre, also land revenues, interest or borrowed capital at the rate of anywhere between 15 per cent. and 30 per cent., and it is estimated that the average cultivator carries

¹ In a note to the Study Group.

a debt of 120 rupees. It will be seen from this that his net revenue must be, according to our standard, inconceivably small. If a reasonable standard of living is to be ensured to these peoples, their productive capacity must be increased.¹

Throughout India there are many obstacles—social and religious as well as economic—to any rationalization of agriculture:

(1) The smallness of agricultural holdings, which is the natural outcome of Indian customs of inheritance, both by Hindu and Mohammedan law, which provide for the division of the land among the male members of the family on the death of the holder. The sons may agree to cultivate the land in common, but if they do not so agree a division must be made. The highest average acreage of farms is in Bombay (12·2 acres). In Madras it is 4·9, in Bengal 3·1, and in the United Provinces 2·5 acres. In the Punjab about half the cultivated area is comprised in holdings of between 1 and 15 acres; 625,000 owners and 900,000 cultivators have holdings of less than one acre. Small as the average holdings in India are, they are not continuous. There is excessive fragmentation in India as in China. No really effective action has yet been taken to deal with the fragmentation of land. But it is true that in the Punjab, and elsewhere, efforts towards consolidation of holdings on co-operative lines have been made with signal success in isolated cases. But, if the consolidation of holdings is left to co-operative effort, many generations will pass before any considerable proportion of the land is dealt with.

(2) In many parts of India fuel is lacking, and the cow dung which might be used to fertilize the soil is consumed as fuel.

(3) In animal husbandry generally there are difficulties arising out of social and religious tradition. For a large majority of the population the cow is a sacred beast. Religious, social, and disease-insurance reasons make for a large surplus of inefficient and underfed cattle, which make a heavy demand on the available land. The surplus cattle problem is a vital one. The farmer requires cattle and buffaloes for cultivation; and there is room for great improvement in dairy stock. The consumption of milk and butter is capable of great increase if the milk yield could be raised to a reasonable level.

In spite of all the difficulties in the way of developing Indian agriculture, progress is being made.

'There is a gradual but noticeable realization on the part of the people themselves for the need of change under stress of economic necessity,' writes an Indian correspondent.¹ 'For instance, in many parts of India

¹ In a note to the Study Group.

social reform has been making some headway and in some communities at least the efforts of the reformers to keep down unnecessary expenditure on wedding and funeral ceremonies, &c., are meeting with quite an encouraging amount of success. Indebtedness and poverty have been for generations two of the most conspicuous features of the Indian agriculturist, and a good portion of the indebtedness was undoubtedly due to the abnormal expenditure on ceremonies prescribed either by religious or social custom. It is one of the brighter features of Indian agricultural life that the villagers in some communities at least are beginning to realize that expenditure of this kind is not essential.'

There is also an increasing market for simple types of agricultural machines. The advice provided by the various authorities in agricultural matters is bearing fruit. Where the agricultural adviser is able to get into close touch with the ryots, and when he can convince them of the economic advantage of modern measures, even in the live-stock industry, they are willing to depart from traditional methods, even when these have the sanction of religious custom.

Mr. Gandhi's remedy for the manifold griefs of the Indian ryot is the reintegration of the Indian village as a unit, the maintenance of simple services of sanitation, artisans' work, and the universal practice of spinning. He would have the village, as far as possible, self-sufficient and self-supporting. His plan of village economy is in fact the extreme opposite to Stalin's policy for the Russian peasant. He would stem the tendency of a Machine Age, and maintain the methods of the pre-industrial era. Stalin would bring the Russian village into line with the Machine Age. Mr. Gandhi would maintain the age-long tradition of Indian village life.

Health services as developed by Government are necessarily expensive, and education in sanitary measures and in precautions against malaria and dengue fever, if it could be organized on the lines suggested by Mr. Gandhi, should improve the low vitality of the population. A more abundant food-supply is of even greater importance. Competent observers suggest that low vitality accounts for the lethargy of the people in regard to the cottage industries, the development of which is urged by Mr. Gandhi as essential to supplement work on the tiny holdings of land and to provide additional income. A great deal has already been done by the Government in the way of fighting epidemic diseases and in preventive measures, and there is still a vast field of work open in this respect to local initiative.

It is sometimes said that the tendency of the Indian cultivator, when he produces more, is not to raise the standard of living in food, but in what may be called social respects. But in those parts of India where

irrigation is assured for the crops, where the climatic conditions are not too severe, and where, consequently, the cultivator is comparatively better off than his fellows in other less fortunate parts of India, the quality of the food consumed is generally good; during the period of comparative prosperity which followed the end of the Great War it was noticeable that in the villages people had taken to drinking tea. This may be a small matter, but in the case of a poor population tea may be a luxury. Another indication of an almost imperceptible rise in the standard of living amongst the peasants in India is the amount of wheat that is now being consumed in place of the cheaper millets.

The Royal Commission of 1928 on Agriculture in India made no revolutionary proposals, but made a series of recommendations for the improvement and development of existing educational, administrative, and scientific measures. They were convinced that the cultivators of India would be found ready to apply the services of science and organization to the business of agricultural production if they had the opportunity. Obviously, the problem is so vast that rapid improvement must entail a much larger expenditure on agricultural services than is the case at present. One result of the Commission's Report was the establishment in 1928 of the Imperial Council of Agricultural Research,¹ which co-ordinates the research work of the various stations and gives assistance in expert advice and in money.

The main wealth of India must lie in agriculture, and the very meagre standard of living throughout the country can only be raised by steady improvement in the produce itself and in the methods of placing it on the world market. This has been achieved in tea, it is being achieved in cotton,² and the process needs to be applied to other commodities. Useful studies for the elimination of some of the many middlemen who intervene between the peasant producer of cotton and the cotton mill have been made by the Indian Central Cotton Committee, which has taken definite action to secure improved conditions. Schemes are under consideration for the better marketing of other commodities, of jute in Bengal, of which India has a practical monopoly, of rice in Burma, and of wheat from the Punjab.

In her export trade, India has an advantage in European markets, since her staple products are largely tropical and sub-tropical foods and raw materials which are not perishable and do not compete

¹ See Chapter III.

² The work done by the Indian Central Cotton Committee has also resulted in an increased production of the more valuable long staple cotton. In the last fifteen years the output of long staple cotton has increased by 80 per cent. against an increase of 40 per cent. into the output of short staple varieties.

with European products. Jute, tea, shellac, cotton, oil-seeds are all in demand in industrial countries which cannot themselves produce them.

Tropical and Sub-tropical Countries.

The importance of what may be called 'colonial' agriculture is increasingly great in a world which demands an increasing variety in its food. Two generations ago, the banana was a luxury, oranges were a seasonal fruit only, the use of tobacco was far less; a century ago tea and coffee were luxuries for the rich alone, and cocoa unknown. To-day, bananas, oranges all the year round, tea, coffee, and cocoa figure in the humblest domestic budget in North America and Great Britain. Forty years ago butter, olive oil, beef fat, and lard were practically the only edible fats available in western Europe; to-day the oil from cotton-seed, ground-nuts, sesame, palm kernels, the coco-nut, soya bean, &c., provide margarine, cooking and 'salad' oils, and emulsions which figure in confectionery; soap, candles, and lubricating oils. A variety of cattle feeding stuffs are derived from the residues from the crushing processes, where only linseed cake and cotton-seed meal were available before. Man and beast are largely fed from tropical countries. Industry demands rubber in quantities undreamed of thirty years ago, and other 'colonial' raw materials are in increasingly great demand.

It is fair to say that the development of these countries¹ in the last thirty years has been as important as was the development of Argentina, Canada, and Australasia in the second half of the nineteenth century. And that development should continue. Europe and America require their products; they also require their as yet undeveloped market for industrial goods. The 'wants' of the dwellers in these climates in housing and clothing are few, but as they get richer they develop 'wants' for all kinds of articles produced in the more industrialized temperate countries.

The only products in which tropical countries compete seriously with the surplus-producing countries in the temperate zone are maize, cotton, sugar, and rice; there is as yet no competition in meat and dairy produce, and little in hides and wool. Development in meat and dairy produce in the future, with proper refrigerating arrangements and better transport, is not impossible, but in the near future it is improbable. In north-eastern Africa there is a wealth of stock, and the progress which has been made in Bechuanaland in

¹ For an admirable short survey of the problems of tropical development see L. C. A. Knowles, *Economic Development of the Overseas Empire*, vol. i, 1924.

the production of dairy products from native-owned herds is leading to a similar development in Kenya, where the possibilities of the native stock are being investigated. Similarly, the results of export from the meat factory in Tanganyika will be watched with interest. If and when such development is made possible and the necessary scientific and commercial guidance is forthcoming, competition might sometime become serious, but the prospect is a very distant one.

Cattle in India serve for draught purposes and for milk. There are religious barriers to their slaughter by Hindus; consequently, there are serious obstacles to the proper development of the live-stock industry. The country has an over-population of unproductive live stock. Over great areas of Africa cattle are preserved long after their useful life is over because a man's wealth and social status is judged by the numbers of the stock he owns. They are required for dowry and purposes of exchange. Development of the live-stock industry, as we understand it, will be slow except in certain areas where European enterprise makes it necessary as an adjunct to mixed farming operations.

Most of the important colonial countries are self-sufficing in food as far as native requirements are concerned. There are exceptions in certain countries where the plantation industries, such as tea and rubber, have been developed; these realize the unsatisfactory condition of this state of affairs, and are endeavouring to take all steps possible to make themselves self-supporting in respect of essential foodstuffs. But pending development of this kind in eastern Asia, where rice is the staple food, Ceylon, British Malaya, and the Netherlands Indies are all deficiency countries, requiring outside supplies provided by Burma, French Indo-China, and Siam. A great part of the export trade of these countries, therefore, is not to Europe, but to these neighbouring States. In Siam rice exports amount in value to more than 70 per cent. of total exports; both Siam and Indo-China have suffered extremely from the fall in the price of rice and the virtual closing of the Japanese market.

The main political struggle for the control of 'colonial' countries was completed—if finality can be assumed at all—by the World War, but the competition for colonial markets is still carried on.¹ Apart from this, what are the main questions of international interest in connexion with the development of 'colonial' agriculture?

One is undoubtedly the struggle waged by science against the diseases which attack animals and plants with devastating results in hot countries. The conquest of disease and of pests of all kinds

¹ See Chapter XI.

is a scientific service which Europe and America have to give and are giving.¹ It is a service in which much greater international co-operation than at present exists is possible and desirable.

Secondly, there is the development from primitive shifting methods of agriculture to a form of cultivation which maintains soil fertility and permits of permanent settlement on the holding cultivated. In some countries a patch of forest is at present burned to supply land for cultivation; when that land is exhausted, a further patch is burned, and so on. As the pressure of population grows, these wasteful methods must be changed or abandoned, and it has yet to be ascertained how waste of soil fertility can be best prevented with the means at the disposal of the land-holders. The most effective impulse to a higher scale of cultivation has proved to be the desire to purchase luxuries, which can only be purchased with the proceeds of increased production.

Thirdly, there are questions of soil erosion and overstocking of pasture lands with cattle, sheep, and goats which still await solution.

Fourthly, there is the question of how far it is for the world's advancement that the colonial Powers should seek to secure for themselves the trade of their colonies.²

Fifthly, there is the question of securing a reasonable price for commodities which are being produced in increasing quantities and by producers who have as yet neither the education nor the training to fit them for dealing with the world market; this means that colonial Governments undertake more and more the functions of the provision of selected seed, and the inspection, grading, and the regulation of the marketing of the produce. Seed distribution on a large scale is undertaken in Uganda, in Tanganyika, and other tropical territories; in Nigeria the Government provides 'fermenteries' for the cocoa-bean; in the West Indies assistance has been given for starting sugar factories, and so on.

And, lastly, there is the general question of the best means of development of different areas with widely differing social and political conditions.

It is sometimes assumed that there is an English, a French, a Dutch, a Portuguese colonial policy, each clearly defined and logically carried out. This is hardly the case. There are certain differences of outlook familiar to all students of the question. But British colonial policy differs in different parts of the world and aims at fitting government policy to the historical, social, and economic conditions of the particular colony. British policy in West Africa, for example,

¹ See Chapter III.

² See Chapter XI.

differs in certain respects from the policy in East Africa, and in the latter part of the world there are differences between the adjoining territories.

Development is conditioned partly by the historical origins¹ of the colony, by local circumstances, by the peoples of the colony, and by the kind of product which can be most profitably produced, but only to a limited degree by what may be termed national tendencies in colonial administration.

The two main methods of securing monetary rewards from the soil in these countries are: the plantation method, in which an entrepreneur supplies the capital and carries out production by means of native labour; and native agriculture, in which the natives hold the land and sell the produce to merchants for export.² The development of individual small holdings, in which the producer owns his lands, is proceeding rapidly in several colonial countries. Between these two extremes there are various intermediate systems.

The plantation method, conducted by Europeans with European capital, or by the inhabitants of the country itself on similar lines, is used mainly for the production of standardized products for world trade, which are secured from cultivation of a permanent character, such as tea and coffee, or which, such as sugar and sisal, require considerable capital outlay on machinery. Native production, on the other hand, is mainly concerned with the production of crops for the family needs, and such crops as coco-nuts, cotton, &c. There are some industries, such as rubber and tobacco, in which both plantation interests and native industry play their part.

The following table indicates roughly the allotment between the two groups, though it does not pretend to be comprehensive, or to hold good in all cases:

¹ The historical origin of the colony may be of the plantation type: certain colonies were founded, as in the case of Guiana, Ceylon, Mauritius, and many others for the raising of certain staple tropical products by the plantation method, often by means of imported labour. A plantation colony may be defined as one whose 'wealth and prosperity rest on the exchange the planter has developed rather than on a self-sufficing village culture where the products are not grown for a market and where there is little or no surplus'. It does not mean that plantation agriculture is the sole form of agriculture. The two exist side by side. Conversely a 'native' colony is one in which more or less self-sufficing native agriculture is the general economic basis; it does not exclude plantation agriculture, whether carried on by European or native entrepreneurs. (L. C. A. Knowles, *The Economic Development of the British Overseas Empire*, vol. i, 1924, p. 53.)

² A Study Group of the Royal Institute of International Affairs is now studying Comparative Colonial Administration [Native Education] in Ceylon, Philippines, Dutch East Indies, Malay States, Formosa, and French Indo-China.

TABLE XXV

| | | |
|-------------------------------|---|--|
| <i>Sugar:</i> | Cuba | American and Cuban planters. ¹ |
| | Dutch East Indies | Plantations (mainly). |
| | Barbadoes | } Plantations. |
| | British Guiana | |
| | Jamaica | } Both plantation and small holders. |
| | Trinidad | |
| Antigua | | |
| St. Kitts | | |
| <i>Coffee:</i> | Dutch East Indies | } Plantations and small holders. |
| | Jamaica | |
| | Kenya | Plantation. |
| | Tanganyika | } Plantations and small holders. |
| Uganda | | |
| <i>Tea:</i> | Dutch East Indies | } Plantation crop, and to a limited extent, of small holders, in Ceylon. |
| | Ceylon | |
| | Kenya | |
| | Nyasaland | |
| <i>Cocoa:</i> | Java | Plantation crop (mainly). |
| | Gold Coast | A native crop, mainly small holdings. |
| | Trinidad | } Plantations and small holdings. |
| | Grenada | |
| | Ceylon | Plantations and small holdings. |
| | Angola | Plantation crop. |
| British Cameroons | Plantation crop.* | |
| <i>Tobacco:</i> | Dutch East Indies | Plantation (export crop). |
| | Nyasaland | European plantations and small holdings. |
| <i>Rice:</i> | Dutch East Indies | } Small holdings. |
| | Malaya | |
| | Ceylon | |
| | British Guiana | |
| <i>Maize:</i> | Native crop in nearly all colonial areas. | |
| | Estate crop in Kenya and Northern Rhodesia. | |
| <i>Bananas:</i> | Jamaica | Plantations and small holdings. |
| <i>Pineapples:</i> | Malaya | Small holdings. |
| <i>Rubber:</i> | Malaya | } Plantations and small holdings. |
| | Dutch East Indies | |
| | Ceylon | |
| <i>Coco-nuts (for copra):</i> | Dutch East Indies | } Plantations to a limited extent but mainly in small holdings. |
| | Malaya | |
| | Ceylon | |

* Former German Estates.

¹ One of the serious difficulties encountered in agreeing a price for Cuban sugar has been the comparatively high cost of production on the Cuban as compared with the highly organized American estates.

Palm kernels (palm oil and palm kernel oil):

| | |
|-----------------------------|--|
| West Africa | Indigenous forest product. Nuts collected by natives throughout British West Africa. In Belgian Congo and the Cameroons plantations have been established. |
| Dutch East Indies | } Plantations. |
| Malaya | |

Ground-nuts:

A native crop.

Cloves: Zanzibar Plantations and small holdings.

Cotton: Small holdings.

Sisal: Java
East Africa } Plantation crop.

Citrus fruits: Palestine Plantations.

West Indies Plantations and small holdings.

The ordinary staple foods are, of course, everywhere grown by the natives themselves—rice, maize and the various sorghums and other millets, manioc (cassava), yams and other root crops, and oil-producing nuts and seeds.

The development of production for export, under the plantation system, involves more continuous labour than production on small holdings or production of foodstuffs for local needs; it, therefore, demands a higher standard of living. The cultivation of export crops by small holders also enables them to acquire additional wealth and thereby improve their demand for the adjuncts of better living.

The establishment of plantations¹ helps the general development of the country, since it necessitates better communications and gives rise to subsidiary outlets for employment in factories for the preparation of the raw product; moreover, the workers on the plantation and in the factories provide a market for the foodstuffs raised by the small farmers. But there is an element of impermanence in the system; an economic collapse in the particular staple concerned generally, but not necessarily, means the abandonment of cultivation.

A drawback to the plantation system is that local labour supplies may be inadequate, and the importation of labour from neighbouring or distant countries may lead to permanent settlement by the imported labourers and consequent difficult 'minority' questions.

Though better production may be obtained by plantation methods, there are definite advantages in the system of native production, especially where governments give wise direction and assistance. Sir Hugh Clifford, in his famous Address to the Nigerian Council, issued in 1920, dealing with the opposition of the Government to

¹ For a general discussion of the comparative advantages of the plantation and native cultivation systems see L. C. A. Knowles, *op. cit.*, vol. i, 1924.

European plantations in West Africa, argued that, if a serious slump in prices came, it would be the small farmers who would survive. 'The extraordinary cheapness of this production would save them in spite of their happy-go-lucky methods of cultivation. . . .'¹ In fact, as in Europe, the peasant proprietor, falling back upon the produce of his own holding, can weather an economic storm better than the capitalist planter. The present depression has instanced the wisdom of this conclusion.

This leads to the conclusion that where the necessity for large capital is not essential for the provision of mechanical tillage and factories for preparation of products, and where high quality alone does not determine the value of the product, the production of tropical products by natives is certain to increase at the expense of the plantation system. Sugar will require estate management around the factory unit, and tea will require European supervision for the maintenance of quality. Sisal demands large acreage to warrant the expenditure on the necessary machinery, whilst high-grade coffee and tobacco require trained supervision of production. In estate or plantation agriculture there has been a change over from individual proprietary ownership to company management; further larger combinations of producers are now being organized. The production of cocoa, low qualities of coffee, cotton products, copra, &c., can be more economically produced by small holders, and there is a decided tendency for an increase in this direction. Guidance is still required by these small producers in the preparation of their products in a form suitable for export; they also require assistance in the marketing of their products.

The problems of Central and South America are largely those confronting colonial and tropical agriculture as a whole.² Generally speaking, the enormous potential riches of South America and the Caribbean are only beginning to be developed. The low state of development has been due partly to the heritage of the Spanish

¹ 'Agricultural interests in tropical countries which are mainly or exclusively in the hands of the native peasantry have, firstly, a firmer root than similar enterprises when owned and managed by Europeans, because they are natural growths and not artificial creations and are self-supporting as regards labour while European plantations can only be maintained by some system of organized immigration or by some form of compulsory labour; secondly, they are incomparably the cheapest instrument for the production of agricultural produce on a larger scale than has yet been devised; and thirdly, are capable of a rapidity of expansion and a progressive increase of output that beggar every record of the past, and are altogether unparalleled in all the long history of European agricultural enterprise in the tropics.' (*Minutes of the Proceedings of the Nigerian Legislative Council*, Royal Empire Society, 1920.)

² The special problem of Brazilian coffee is considered in Chapter XII.

and Portuguese colonial empires. These countries were exploited first of all for their mineral riches, not for the wealth of their forests and their agriculture. The population is sparse, and labour, mainly supplied from the mestizo section (mixed European and Indian descent) of the population, insufficient for the labour required. Before these countries can become as rich as their resources warrant, there must be an influx of capital for communications, for clearing, for the draining of swamps, and for development generally.

Even under present conditions the contribution of America south of the United States to world requirements of agricultural and pastoral products is very great.¹ South America provides one-fifth of the cattle hides used in the world's tanneries; a very high proportion of the world's coffee supplies, mainly from Brazil, Costa Rica, and Colombia; if the West Indies are included, about one-third of the world's cane-sugar crop; one-third of world supplies of cocoa; large quantities of tobacco; large supplies of wild rubber; quantities of bananas and other tropical fruit, the export of which is only yet in the earliest stages of development; nuts and oil-seeds in profusion; cotton; many important fibres; tanning materials; dyes and quinine, ipecacuanha and other drugs, including coca from which cocaine is manufactured.

Largely because of inability to develop their great resources, South American countries have lost their supremacy in rubber and quinine, which originated in South America, to other countries. The coco-nut palm grows wild on the shores of the Caribbean and on the Atlantic Ocean down as far as Rio Janeiro, but there is no copra industry.

Writing of the future prospects of South American agriculture, Mr. E. W. Shanahan says:²

'In the temperate parts of South America, agriculture is firmly established and is generally in a thoroughly prosperous condition. The total area of fertile land sufficiently supplied with water is not as great as might be supposed, and the surplus produce available for export is apt to be encroached upon by the requirements of the local population. Chile and Uruguay consume practically all the wheat they grow, and Argentina upwards of one-half. Some additions can be made in the future to the productive area by means of irrigation, but in the aggregate these cannot for the present be great. The chief means available for increasing the output of cereals in these temperate countries, short of reducing the numbers

¹ See 'Products of South America', *South American Handbook*, London, 1931.

² E. W. Shanahan, *South America*, London, 1927, pp. 300-1.

of live stock, lies in the direction of more intensive farming, but labour is scarce and the requisite traditions are lacking. There, as in other essentially agricultural parts of the world, the towns grow in population out of proportion to the country districts.

‘In the tropical regions of the continent, on the other hand, there are at present almost unlimited areas available for the cultivation of maize, mandioca and specialized plantation crops. It is in them rather than in the temperate South that great advances can be looked for in the future in the output of food crops, and upon them, as already indicated, the interest of the outside world is already beginning to concentrate. Though the change to systematic and rational cultivation has, as observed above, been very slow in coming, the fact that the rate of natural increase in the population in the countries of tropical South America has been greater in recent years than ever before, gives grounds for the hope that the greatest obstacle to progress hitherto, namely, the lack of human hands, will gradually be overcome.’

CHAPTER X

PROTECTION; ACTION BY INDIVIDUAL STATES

European Tariff Policies—Protective Measures other than Tariffs: (a) The Quota System; (b) Import Monopolies; (c) Embargoes; (d) Bounties; (e) Import Bonds.

IN considering tariffs and other protective measures¹ it is possible to make a distinction between permanent protective policies, based on a considered policy arising out of the special national conditions of individual States, and the emergency measures applied by many Governments in the past two years in the hope of averting the bankruptcy of their producers in a period of rapidly falling prices. The distinction, though real, must not be pushed too far. There is necessarily much overlapping in this division, since intensification of existing protective measures has been one of the principal resources of importing countries in the present emergency.

But though an importing country may protect her domestic agriculture by the imposition of a tariff on food-stuffs, or by more drastic measures of fixing a quota for foreign imports or even by prohibition, an exporting country cannot assist her farmers in this way, and other methods have been devised, such as valorization schemes, bounties on export, &c.

I. *European Tariff Policies*

Continental European countries have imposed duties on almost all agricultural products; the highest duties have been imposed on cereals and sugar.

(a) *Wheat*. The only three countries in Europe offering an unrestricted market for wheat are Great Britain,² the Irish Free State, and Denmark. After Great Britain the three largest European importers are Italy (average annual imports 1924-9, 83.7 million bushels), Germany (average annual net imports 1924-9, 79.2 million bushels), and France (average annual net imports 1924-9, 46.5 million bushels).³ All of them have adopted high protection measures

¹ The whole question of the intervention of the state in economic life [finance, trade, and private enterprise] is being studied by Chatham House Study Group V, in connexion with the Conference of the Institutes for the Scientific Study of International Relations. A report will be published in due course.

² Great Britain imposes a tariff on the import of barley and oats, and, through the Wheat Act, 1932, subsidizes domestic wheat production in respect of 6,000,000 quarters. This allusion to Great Britain as an 'unrestricted market' was written before the Ottawa decisions were made public.

³ Imports in 1929-30 were far below these figures.

for grain, while almost all other European countries impose serious restrictions.

The International Institute of Agriculture provides the following comparison of Customs Duties on cereals in three great European importing countries (gold francs per quintal):¹

TABLE XXVI

| | France. | | | Germany. | | | Italy. | | |
|----------------|---------|---------------|---------------------------|----------|---------------|--------------|--------|---------------|--------------|
| | 1913 | 1930 July. | 1932 ² Jan. | 1913 | 1930 July. | 1932 Jan. | 1913 | 1930 July. | 1932 Jan. |
| Wheat | 7.00 | 16.24 | 16.24 | 6.79 | 18.52 | 30.86 | 7.50 | 16.50 | 20.46 |
| Rye | 3.00 | 4.26 | 7.11 | 6.17 | 18.52 | 24.69 | 4.50 | 4.50 | 9.96 |
| Barley | 3.00 | 3.05 | 3.05* | 1.60 | 14.81 † | 24.69 | 4.00 | 4.00 | 4.01 |
| Oats | 3.00 | 6.09 | 6.09 | 6.17 | 14.81 | 19.75 | 4.00 | 3.25 | 3.26 |
| Maize | 3.00 | 2.03 | 3.41 | 3.70 | 3.09 | § | 1.15 ‡ | 1.15 ‡ | 1.36 ‡ |
| Wheat flour | 13.50 ¶ | 32.49 ¶ | 25.99 | 12.59 | 38.89 | 53.29 | 11.50 | 23.70 | 30.65 |
| Rye | 5.00 ¶ | 7.11 | 14.21 | 12.59 | 31.50 | 53.29 | 6.50 | 6.50 | 13.88 |

* Barley other than Malting barley. † Feed barley, under Customs control.

‡ Except white maize, on which the duty is the same as on wheat.

¶ With milling extraction from 70 to 60 per cent. § Import monopoly.

The effect of the protection extended to wheat is shown by the fact that between 1924 and 1931, when prices had fallen at Liverpool by 52 per cent., France, Germany, and Italy showed rises in price of 39, 60, and 2 per cent. In February 1931 prices converted for purposes of comparison stood as follows (per cwt.):

| | | | |
|-------------------|-----------|-------------------|------------------------|
| England | 5s. 2d. | Germany | 13s. 7½d. |
| France | 14s. 5½d. | Italy | 11s. 10d. ³ |

The retail price of bread per kilogramme in the countries listed above was as follows at the same date:

| | White. | Rye. |
|-------------------|--------|--------|
| England | 4.0d. | — |
| France | 4.61d. | — |
| Germany | 9.63d. | 4.44d. |
| Italy | 4.92d. | — |

Figures for January 1931, except for France which are for February 1931. From I.L.O. Report.

¹ One gold franc per quintal is roughly equivalent to 2½d. per bushel.

² The unpublished rates for 1932 were kindly supplied by the International Institute of Agriculture.

³ *The Wheat Situation, 1931*, Imperial Economic Committee, 1932, p. 76.

It will be seen that there is less difference in the price of bread than in the price of wheat. The reason for this is that the 'margins' for the various processes of manufacture and marketing differ.¹

As a result of German protective policy the total acreage under wheat rose in 1931-2 to 5.4 million acres, an increase of more than a million acres over the average of 1925-9. Only part of this increase was at the expense of the rye acreage.

The German system of grain protection was already in force before the War, but in recent years new devices have been adopted. After the War the immediate need was to feed the people as cheaply as possible and to make good the long years of the blockade, and cereals were imported free of duty. But in 1925 the pre-War system in essentials was restored; the 'middle' rates of the 1902 tariff were put into action. The Government of the Reich renewed the right laid down in 1922 to change the duties without reference to the Reichstag; that is, they held the right to impose sliding scale duties.

In 1926 and 1927 these 'middle' rates on grain were raised and their operation extended to the end of 1929. But in 1929 drastic changes in the law were made. The Müller Government (in July 1929) set aside the 'middle' rates of the tariff and imposed the rates fixed in the Swedish treaty of 1926 for countries enjoying Most-Favoured-Nation treatment, imposing the autonomous rates of the 1902 tariff on countries with no special treaty arrangements (Canada and Australia). Subsequently the treaty with Sweden was denounced, thus permitting the application of the autonomous rates on imports from other sources. At the end of the year sliding-scale duties were imposed for wheat, rye, and pigs. The Government set out the internal prices which tariff policy should aim at securing—the so-called 'right prices'. With the slump in world prices in 1930 these measures were insufficient, and drastic changes were made in the law passed in March of the year. Then came the fall of the Müller Cabinet, and the law was replaced by a more thoroughgoing instrument in April. Under this law the duties were raised on all agricultural imports. For rye, wheat, barley, oats, and peas the Government was empowered arbitrarily to fix the duty on the basis of the 'right' price.²

German agrarian policy is designed partly for bargaining purposes. In so far as food imports other than tropical produce are concerned, it aims at establishing reciprocal arrangements with those European

¹ See also article in *Deutsche Agrarpolitik*, vol. ii, by Dr. Baade: 'System der agrarpolitischen Mittel', p. 293.

² See Theodor Plaut, *Deutsche Handelspolitik*, Leipzig, Teubner, 1929; *Berichte über Landwirtschaft*, Sonderheft 50, *Die deutsche Landwirtschaft*, by Prof. Max Sering and others, p. 381. Berlin, 1932.

countries which offer a market for German goods. Even so, the desire is to be as nearly self-supporting as possible. It is argued that Germany could easily meet her requirements in non-tropical foodstuffs from European sources,¹ and it is certain that in any negotiation for a regular preference system for grain and other produce of the Danubian States Germany would be the most important market.

(b) *Sugar*. The European beet-sugar producers are protected by excessively high tariff duties, directed against each other, and against the cane-sugar producers in Java and Cuba, who produce at comparatively low costs and export the greater part of their output. The European industry owes its origin, growth, and present existence to State encouragement by export bounties, subsidies, and protective tariffs. Most European countries have to reckon with a large excess of productive capacity in sugar, and, in order to reserve the home market for the home factories, have imposed high tariffs round their industries. The result of these measures is that only about one-quarter of the world's sugar production comes on the world market. The European industries reckon on selling the greater part of their output in the home market, except in the case of Czechoslovakia, which exports two-thirds of her total output; Germany exports only a very small percentage; Hungary exports 40 per cent., Rumania, Poland, and Bulgaria about one-third. All these countries are obliged to export to maintain the level of home prices, and in order to do this producers are concentrated in cartels which fix high prices in the home market in order to be able to export at low prices. In Germany, Czechoslovakia, and Poland these cartels are compulsory organizations, with legally enforced membership. Sugar which comes on the world market from European countries is 'dumped', that is, sold below the cost of production in the country of origin.

The general level of tariff duties on sugar imports in 1930 amounted to 75-100 per cent. of the wholesale price of sugar. A protective measure adopted by one Government is immediately followed by other countries. For example, in April 1928, the British Government reduced the duties on raw sugar and maintained those on refined sugar, thus benefiting the British refiner; immediately Czechoslovakia granted its sugar factories a refund on trade taxes, to enable them to face the world with enhanced competitive power; the German and Austrian Governments followed suit by increasing the duties on imported sugar, and in January 1929 were joined by Italy. With the fall of prices the burden has become heavier.

¹ *Economic Nationalism in Europe as applied to Wheat*, Wheat Studies, Stanford University, California, February 1932.

Tariff Rates on Sugar, 1930¹

| | <i>Custom duties. (per cwt.)</i> |
|--------------------------|--------------------------------------|
| France | 11s. 5d. |
| Great Britain | 11s. 8d. |
| U.S.A. | 12s. 2d. |
| Italy | 14s. 5d. |
| Hungary | 15s. 3d. |
| Germany | 15s. 11d. |
| Russia | 19s. 6d. |
| Czechoslovakia | 21s. 2d. |
| Poland | 23s. 4d. |

Since this time the duties have been raised by several countries and various substitutes for higher rates have been attempted.² The difference in the price of refined sugar in Germany and in Great Britain in 1930 corresponded to the difference in tariff protection in the two countries.

Retail Prices per lb. of Refined Granulated Sugar, including Duties in various Countries in 1930³

| | <i>Pence per lb.</i> |
|--------------------------|----------------------|
| Italy | 6½ |
| Czechoslovakia | 4½ |
| Holland | 4 |
| Poland } | 3¾ |
| France } | 3¾ |
| Germany | 3¾ |
| U.S.A. | 3¾ |
| Belgium | 2½ |
| Great Britain | 2½ |

Any considerable reduction in the tariff duties on sugar seems unlikely in the near future. European States impose these tariffs, primarily because in continental Europe beet sugar culture is regarded, whether rightly or wrongly, as the necessary condition of all intensive agriculture. The production of beet sugar determines the social

¹ *Berichte über Landwirtschaft*, Berlin, 1930, *Die deutsche Zuckerindustrie*. Figures converted for convenience of readers.

² Heavy excise duties are imposed in nearly all these countries. In 1928 the excise duty on sugar in Great Britain and Czechoslovakia amounted to approximately half the import duty; in Germany and Poland to one-third of the import duty; in France and Hungary the excise duties were approximately equal to the import duty, and in Russia and Italy very considerably higher. Only in the United States is the tariff wholly protective, as no excise duty is imposed.

³ Ministry of Agriculture and Fisheries, Economic Series No. 27, 1931, *The Sugar Beet Industry at Home and Abroad*, p. 238.

conditions of large sections of the rural population. 'The sugar factories enable many field labourers to earn good wages during the winter months when otherwise owing to the climatic conditions they would be unemployed.'¹

General considerations of this kind, rather than the profit directly derived from the industry, have induced European States to maintain their apparently exorbitant rates on sugar. If it were practicable to change over to other crops providing similar advantages, it would be possible to advocate the abolition of the duties. Expert opinion on the continent of Europe is divided on the advantages of beet over other root crops.

The tariff policy of Germany weighs heavily on Poland and the wheat exporters of south-eastern Europe. For four years Germany and Poland conducted a tariff war in pigs and in rye, terminated in 1930 by the Polish-German agreement of that year. The new agreement of 1932 effected a reduction in the German rates on Polish butter and eggs.² The division of the Austro-Hungarian monarchy among six independent States and the erection of tariffs in Austria and Czechoslovakia has seriously affected the Hungarian export of wheat and live stock, which relied principally on these markets before the War. The attempts of the Succession States to make common policy for the disposal of their surpluses in Europe by means of the preferential arrangements with the Western importing countries is described in Chapter XI.

The more or less permanent considerations which secure the maintenance of duties on farm produce have been strengthened by the present crisis. In times of falling prices Governments feel driven to protect producers' interests, and to attempt to ward off from their nationals the effect of the sudden drop in the price level. In a situation in which the trade balance cannot be restored by normal methods, Governments turn to the restriction of imports, and, since the imports of raw materials are essential, they are driven to take action to reduce imports of food and to intensify cultivation at home to make good the deficiency from outside sources.

II. *Protective Measures other than Tariffs*

Under pressure of the present crisis almost all importing European States have raised duties on some staple goods to twice the level of 1930. Tariff protection has been supplemented by other

¹ League of Nations Economic Organization. *The World Sugar Situation*, Geneva, 1929, p. 13, Memorandum by Mr. F. O. Licht.

² *Economist*, 9 April 1932.

expedients: sliding scales, quotas, embargoes, monopolies, bounties, import licences. None of these devices are new in themselves—most of them, in fact, are older than Adam Smith—but their rapid extension in the last few years is a new development.

The application of the sliding scale by various countries has been chiefly a result of the recent fall in prices, since the object is to increase the import duty in proportion to the amount by which the price falls below a certain level. In France the sliding scale has been applied for many years, but in Germany it was not introduced until 1929. Sliding-scale tariffs have been adopted by various central European countries, by Czechoslovakia among others. The element of instability in this system is peculiarly harmful to agriculture, as production cannot be rapidly adjusted to meet rapid tariff changes. The imposition of sliding-scale rates by Germany and Czechoslovakia on live stock has had very serious effects on other European States, particularly Poland and Hungary, who relied on these markets.

Of the other devices, some are only made feasible by the existing bargaining tariffs (*tarifs de combat*) allowing for special restriction from individual sources. The most important are quotas, import licenses, monopolies of import, bounties and subsidies, import bonds, embargoes, and differential transport rates. For live stock and meat the tariff is reinforced by stringent veterinary measures, which the importing countries allege to be imposed purely for health purposes, while the exporting countries declare in some cases that they are in effect unjustified and are a disguised method of protection. As the most important of these devices—the quota system—has been widely advocated in Great Britain as an alternative to tariff protection, its working in other countries may be shortly described.

(a) *The Quota System.* The term 'quota', as applied to imports, means their quantitative restriction.

Restriction by quota is more rigid than tariff regulation. Price is no longer the determining factor in the level of production, and no alternative regulative machinery for determining price is put in its place. Under tariffs it is possible for nations in time so to modify or adjust their costs of production as to arrive at a balance between their international receipts and payments. But this ceases to be possible if any considerable volume of the trade of the countries concerned is regulated by quotas. It has been suggested that the general extension of the quota system would benefit world agriculture, as it would introduce an element of stability in international trade by permitting the planning of production in the exporting and importing countries on a definite quantitative basis. The

international obligations of certain countries¹ appear to make it necessary that the quota regulation of imports should be accompanied by the control of domestic production. The implications of a general quota system are therefore far-reaching, and ultimately raise some important questions of national sovereignty.

Up to the present the quota has been largely a bargaining device, a weapon for securing reciprocal concessions, and has not yet been tried out as a measure of planned economy.

There is undoubtedly a tendency all over the world to explore the merits of 'planning' as a possible remedy for the economic problems of mankind. The ardent advocates of a planned economy claim to see in the quota an instrument of regulation, a valve which can control and be controlled; even a possible alternative to 'prices' as regulative machinery for the determination of the level of production. In the words of a correspondent of the Study Group:

'It is at least arguable that the most hopeful line of advance in the solution of world agricultural problems would appear to be a development, on an international scale, of the quota system, and this in spite of the fact that experience of the system up to the present is not highly encouraging.'

And again:

'Import and export quotas may be as pernicious, or, in view of their (sometimes) discriminatory nature and tendency to crystallize inefficiency in both importing and exporting countries, even more pernicious than tariffs and export bounties, &c. But, at the same time, in their present form they seem to be in a primitive and amorphous stage and appear likely to drift more and more in the direction of developing into Import Boards—possibly on public utility lines. Now a well-run import authority with a long term policy could give some measure of certainty—or in the case of decreasing quotas, a bitter inevitability—to producers in both importing and exporting countries. Any element of certainty is of some use to the farmer. The farmer is always asking himself "how much can I sell at X price and for how many years or months?" Given that, he can estimate his costs to some extent—for a farmer "senses" his costs rather than estimates them accurately, and assesses his climatic and disease risks—he can then determine his production policy with more certainty than under a non-quota system (i.e. with variable short term tariff quotas or erratic import duties). True, it is generally considered that quotas cause just as much

¹ e.g. The Anglo-German Commercial Treaty of 1924; The International Convention for the Abolition of Import and Export Prohibitions and Restrictions of 1927; The Anglo-Persian Tariff Autonomy Treaty of 1928. In addition to Germany and the United Kingdom the countries affected are the United States of America, Denmark, Japan, the Netherlands, and Norway and Persia in the latter Treaty.

international ill-feeling as tariffs, but it is not this because they have been used for retaliatory purposes, for getting round M.F.N. clauses and for currency control and because, usually, they are as uncertain as tariffs. If we must accept the inevitability of economic nationalism, would not long term quotas (leading to import boards) be as acceptable as tariffs? Would they not leave open the door for international planning—a danger here is that planning might become bargaining—? Might they not ultimately, or, if they were not used specifically for “protective” policy, penetrate apparently insurmountable and growing tariff walls? It is easier to lay extra bricks on a well-cemented wall than it is to knock a few off. But supposing somewhere in that wall you put in a gate or a valve which you regulate easily and regularly and for a long period, would it not be simpler and less harmful to one’s *amour propre* to put in such a gate or valve rather than be seen laboriously knocking bricks off the top of a wall that one had built, perhaps you now realize, with ill-directed wisdom and pride? Finally, would they not permit the formation of those economic “blocs” of countries so much desired but so handicapped in realization by treaty obligations and M.F.N. clauses?’

Our Report was written before the Ottawa Conference ended. Reference to the quota arrangements proposed will be found in an account of the conclusions reached by the Conference which is given in an Appendix to this book.

In analysing the possible development of the quota system to the international trade in wheat Dr. Alonzo Taylor¹ shows certain qualitative changes which would probably follow:

‘When Great Britain secures from the Dominions the quotas to be assigned to them, she will be able to secure high-grade soft wheat in Australia for biscuit-flour, and high-grade hard wheat in Canada for bread flour. The quota system will impose upon Great Britain no significant change in the qualities of wheat made available. Russia will be able to offer to Western Europe high-grade hard spring and winter wheat, and to Italy and France a certain amount of durum wheat. Argentina will offer mostly filler wheats. From the United States will be secured a certain amount of high-grade soft wheat from the Pacific North-West, and in different years variable amounts of high-grade hard winter wheat from Texas and Oklahoma. Otherwise, the export wheats available in the United States will be largely filler wheats. When Western Europe takes a substantially larger amount of Central European wheats, she will need harder wheats from elsewhere than would otherwise be the case. This means that in most years Canada and Russia would offer wheats distinctly more advantageous to Western Europe than those available in the United States and Argentina. Greater self-containment in Europe implies a lower-grade bread-supply, unless the importing countries lay greater stress

¹ *Wheat Studies*, February 1932.

on hardness and high protein in wheats to be secured on the open market outside of their commitments. The disadvantageous position of United States wheat export is apparent.'

Restriction of various kinds of imports by quotas has been introduced in the past two years, 1931-2, in France, the Netherlands, Germany, and Switzerland. In France the quota restriction is definitely regarded as an emergency measure. So far as agricultural products are concerned, the quotas chiefly affect fresh and frozen meat, cheese, butter, and dairy products.¹ None of these countries has attempted to restrict wheat imports by a direct quota system, though milling regulations stipulating for the use of a fixed proportion of home-grown grain may act in a similar way.

Some examples of the extremely complicated arrangements made under quota agreements by Germany may be given.² After the commercial treaty with Sweden was denounced in 1930, a new treaty was made which raised the duty on live cattle to 24.50 marks and the duty on live sheep to 22.50 marks per 100 kilogrammes. But at the same time a quota was allotted to Sweden of 5,000 cattle (rising in subsequent years to 7,000) which could be imported at the former lower rate of 16 marks. Denmark, which exports four times that amount to Germany, demanded a similar reduction under Most-Favoured-Nation terms, because the quota allotted to Sweden in fact covered the whole Swedish export. Germany refused the demand on the ground that under Most-Favoured-Nation terms only the actual amount of the quota held good, and further that the allotment of the quota to Sweden had been made conditional on the cattle arriving by sea at a certain port where they could be slaughtered immediately.

Similar difficulties arose about the butter quota allotted to Finland. In 1929 the 'autonomous' rate³ on butter was raised from 30 marks to 50 marks per 120 kilos, but the higher rate could not be enforced till the lapse of the treaty with Finland which fixed the Most-Favoured-Nation rate at 27, and in order to overcome the obstacle a new treaty was made with Finland allotting a quota after 1933 at lower rates. This was hotly contested by Holland and

¹ France: butter, pigs, fresh and refrigerated meat, frozen and preserved meat, milk, cream, concentrated milk, &c., cheese, butter, fowls, rabbits, dead poultry, eggs and egg products. The butter quota was abandoned in October 1932.

Switzerland: eggs, vegetables, fruit, and butter.

Netherlands: beef, veal, and butter.

Germany: live cattle, and butter.

² See Julius Frost, *Die aktuellen Fragen der Agrarpolitik*, p. 53.

³ i.e. The rate in force for States with which no commercial treaty has been made.

Denmark, who declared that as the quota was equivalent to the whole of Finland's normal export to Germany, the quota was merely an evasion of the Most-Favoured-Nation clause.

(2) *Milling Regulations.* The second type of quantitative restriction of imports, the imposition of milling regulations, is in force in many European countries. France, Germany, Czechoslovakia, and Austria fix the proportion of imported wheat that may be mixed with domestic grain in the grinding of flour.

'The blending formulas', writes Dr. Alonzo Taylor, 'are supposed to take into account the quantity and quality of domestic crops, the total flour requirement, the standards of flour to which the country is accustomed. In fact, however, they reflect mostly the extent of agrarian preference. When mills in France and Germany are permitted to grind less than 5 per cent. of imported wheat, with over 95 per cent. of domestic wheat, this leaves no possibility of producing flour of the customary uniformity and composition; it is merely an order to use up domestic wheat.'¹

It was intended to introduce similar legislation in Great Britain, but in fact the Wheat Act, 1932, makes no such provision.

'Most of the public believe that the Wheat Quota Act compels millers and bakers to use a definite proportion of home-grown wheat, and thereby to give a section of farmers a guaranteed market and price for their produce higher than world price. In actual fact, the Act provides a quota only in name. The administrative difficulty in the way of establishing a genuine quota for home-grown wheat proved too serious to be surmounted. The scheme as it finally became law is equivalent to a tax on flour (imported and home manufactured) the proceeds of which under a complicated administrative mechanism are to be handed over to farmers in proportion to their output of wheat. To keep up the pretence of a quota the tax is made to vary with the price and volume of home-grown wheat. To keep in the background the element of taxation two semi-autonomous bodies—the Wheat Commission and the Millers Corporation—have been specially created to administer the scheme.'²

(b) *Import Monopolies.* Import monopolies for cereals were for the most part legacies from the time of War control, when they were not protective measures, but were designed to secure adequate supplies at reasonable prices. But in recent years they have been adopted by countries which wished to grant measures of agricultural protection without imposing tariff increases. Under

¹ *Wheat Studies*, Stanford University, *Economic Nationalism in Europe as applied to Wheat*, 1932, p. 269. This number contains information on restrictive measures of all kinds.

² Viscount Astor, in the *Contemporary Review*, July 1932.

a monopoly, a central institution buys all the home-produced supply at a higher price than the world price, imports certain quantities at the world price, and sells the commodity to the consumer at a price somewhere between the two. Theoretically this method is preferable to the tariff from the consumers' standpoint, since it is designed to raise the price which the home farmer receives without raising the price which the consumer pays by the same amount. But the success of the monopoly depends on the extent to which it can balance a loss on the purchase of the home-grown commodity against a gain on the purchase of imports) and also upon the ability of the organization to purchase more successfully in world markets than ordinary commercial buyers.

The only crop monopoly with a long experience, the Swiss, which functioned as a complete monopoly till 1927, and now continues in a modified form, ran at a heavy financial loss. Under the system of complete monopoly the total costs amounted to the equivalent of £585,800 yearly, composed as follows: ¹

| | £ |
|--------------------------------|---------|
| Flour premiums | 158,200 |
| Storage costs | 71,300 |
| Excess price | 265,200 |
| Transport costs | 71,300 |
| Administration costs | 19,800 |
| Total | 585,800 |

The federal finances only provided directly the £158,200 for the flour premiums, which was an additional measure designed to promote home production and not necessarily connected with the working of the monopoly. The remaining £427,600 was borne by the consumer, by raising the price of bread.

The monopoly existed until the end of the year 1926. For three years from that date the market was free, but in 1929 a new system was established, a compromise between the monopoly and the free system. Under this law, home-grown cereals are purchased by the Government at a fixed price, and distributed to millers. Foreign grain can be imported by the private trade, but the millers are obliged to buy home-grown wheat in a certain proportion. Flour can only be imported by the Government. The total costs of the new system are lower than under the monopoly, amounting to about £360,000 yearly, and the whole costs are now borne by the Federal Government.

¹ Prof. Dr. Werner Bleuler, *Studien über Aussenhandel und Handelspolitik der Schweiz*, Zürich, 1929, p. 138.

Under this system the price of bread is considerably lower than it was under the monopoly. In 1923, when the grain monopoly was in operation, a kilogram of bread cost 52 centimes,¹ while in Paris it cost the equivalent of 38 Swiss centimes. In March 1931 the price for one kilogram of bread amounted in Basle to 34-37 centimes, while in Paris the price was 48 Swiss centimes.

With the fall of world prices the cost of maintaining the domestic price has increased. The price paid by the Government for wheat at the time of the introduction of the scheme varied between 38 and 45 francs per quintal,² with a premium of 8 francs above the world price. Now, with the fall of world prices, the span between the Swiss inland price and the world price has increased to 21 francs. A reform of the system is proposed which would limit the span between the world price and the domestic price to a certain fixed amount. The cost to the State is estimated at 17.8 million Swiss francs per annum, equivalent to about £705,000 gold.

A butter monopoly has also recently been introduced in Switzerland. A scheme introduced in February 1932 instituted a central organization, 'Butyra', composed of representatives of milk producers, butter merchants, consumers' co-operative societies, and the union of independent butter importers. This body buys the home production of butter at a price which will return a fixed price for milk to the producer. A committee of Butyra then estimates the imports which will be necessary and fixes the amount of total imports, a percentage of the average imports in the two years 1930-1. The licences are granted to the member organizations, which distribute them to their members. The difference between the profits on the foreign exchange and the loss in home butter transactions will be borne by the Federal Government. It is expected that this will amount to 3.6 million francs (about £142,000 gold) in the first year. It is too soon to foresee the effects of this legislation. A clause in the Act safeguards the consumer by stating that the butter must be sold at a price which will keep the retail price below a certain maximum.

In Norway a State monopoly of imports of wheat and flour (Statens Kornforretning) existed from 1914 to 1927.³ In January 1927 the Government abandoned the monopoly of imports, but it continued to purchase practically the whole of the domestic wheat crop suitable for

¹ Equivalent to about 4½d. for a 2 lb. loaf. Cf. figures of comparative wheat prices, p. 180, but wheat usually accounts for not more than 50 per cent. of the price of bread in England.

² Equivalent to 65s. 6d. to 86s. 2d. per quarter.

³ *Wheat Studies*, Stanford University, June 1931, *The Wheat Situation in Scandinavia*, p. 387.

human consumption at fixed prices, which were legally guaranteed to remain at least equal to the corresponding prices of imported wheat delivered at Norwegian ports. There was, in addition, a bonus equalling approximately $3\frac{1}{2}d.$ per bushel, which was paid out of the proceeds of the import duties on wheat and wheat flour. The monopoly then sold the grain to importers and millers at higher fixed prices, all importers being required by law to buy Norwegian wheat in amounts equal to 7.5 per cent. of their imports.

In 1929 the monopoly was reconstituted. It is now controlled by a committee of seven members appointed by Parliament; of these, four represent co-operative organizations, two from the consumers' societies, two from the farmers' societies. Under the provisions of the 1929 law the State Grain Monopoly is required to purchase all home-grown wheat 'suitable for human consumption' offered to it, at a price at least equal to the monopoly's selling price for the milled products of wheat minus the costs involved in milling. This price has been reported to be around 4 öre per kilogram¹ higher than the price of foreign wheat at a Norwegian port (not including the duty). After the native wheat is cleaned and mixed to a uniform grade it is distributed to the various flour mills. The mills desiring to buy imported wheat are required to pay a fixed price and to grind the grain according to instructions from the monopoly. In marketing flour the Norwegian mills and the wholesalers of imported flour are required to sell the flour at specified prices which are uniform throughout the country. Each miller and each wholesaler of imported flour receives a fixed fee for every 100 kilograms of flour he sells.

The monopoly succeeded in stabilizing prices. Owing to its operation the Norwegian producer did not feel the effect of the seasonal fluctuations on the world market. Up to 1929, 'the effect of tariff changes upon Norwegian wheat prices might perhaps have been more apparent had it not been for the activities of the Grain Monopoly'.²

Similar monopolies for grain have been instituted in Lithuania, Latvia, and Estonia. In Lithuania and Estonia the Governments make their purchases through the agricultural co-operative societies. The Governments in all these countries pay prices to the farmer above the world market price, but not excessively so, and as the town population is relatively small, the effect on consumers' interests is not serious. In Latvia the recently instituted monopoly is intended to

¹ Equivalent to about $\frac{1}{4}d.$ per lb.

² *Wheat Studies*, Stanford University, *The Wheat Situation in Scandinavia*, June 1931, p. 388.

serve as a means of improving agricultural marketing, as its profits are to be used to promote butter and bacon production.

Sweden introduced a system of grain control in 1930, which in 1931 was transformed into a monopoly.

In Czechoslovakia a system of grain import control has been in existence since 1931, and this has recently (July 1932) been transformed into a monopoly. An official commission will be constituted with the sole right of importation which will import wheat when the price of wheat is above 175 Czechoslovak crowns (30s.-) per 100 kilograms, and rye when the price is above 152 crowns per 100 kilograms. When the price falls below 150 crowns for wheat and 132 crowns for rye, import will cease. It is proposed to introduce similar organizations to restrict cattle and pig imports.

In Germany a maize monopoly was instituted in March 1930, principally with the object of raising the duty on imported maize, which could not be done by an increase of the tariff, owing to the existence of a commercial treaty with Yugoslavia. The monopoly imposed a supplementary duty on maize imports and resold the imported maize (only a small amount of maize is grown at home) at a much higher price. By the middle of 1931 the price of maize was raised by 33 per cent. above the 1930 level. To reduce the costs of feeding to poultry-farmers the monopoly allowed maize to be sold to them without payment of the supplementary duty.¹

In all cases where a monopoly has been instituted, it has raised prices and has, in effect, worked out as a subsidy to producers.

(c) *Embargoes* are mainly imposed as a defence against plant and animal diseases. At the Second International Conference with a view to Concerted Economic Action, various countries instanced measures which they regarded as severely prejudicial to their export trade. These were embargoes placed by certain countries on the importation of some living plants, fresh meat, live animals for slaughter, and potatoes, for fear of the introduction of certain plant and animal diseases, associated with the specified imports, within their borders.

Embargoes on import, however, are also made for purely financial and economic reasons. The Russian system of State control of import places a virtual embargo on most agricultural products, and the Baltic States and Eastern Poland, before the War integral parts of the Russian Empire, are now deprived of their old market for agricultural products and have to find other outlets. The Polish provinces of Russia used to send 42 per cent. of their exports to Russia; the proportion is now 2 per cent.

¹ *Die deutsche Landwirtschaft*, Sering and others, 1932, pp. 435, 849.

(d) *Bounties.* Several States have introduced direct or indirect bounties on export or production. In Hungary a system was introduced in 1930-1 (known as the Bolletten-System) under which the farmer received a bounty for the production of wheat, by means of a tax imposed on flour consumption. For the purchase of wheat it was necessary to buy a licence, which in 1930-1 cost 6 pengö per 100 kilograms;¹ half of this went to the farmer, and half to a fund which was used to repay the price of the licence if the wheat were exported. In 1931-2 the price of the licence was 10 pengö, of which the farmer received 6 pengö, the fund 4 pengö; for 1932-3 the price of the licence remained at 10 pengö, and the fund received 6 pengö and the farmer 4 pengö.² The system was discontinued as from 1 July 1932. In its stead the Government proposed to relieve farmers by suspending the collection of the land tax, the Treasury to be compensated from the proceeds of the milling tax on wheat and rye, which is, in effect, a tax on bread.³

Other States have subsidized export by creating and financing special export companies, sometimes in conjunction with a bounty. Some eastern European states, Poland, Rumania, Yugoslavia, have made extensive use of this method. In Yugoslavia the State company for the export of grain was only partially successful. The beginning of its activities in the middle of 1930 coincided with the rapid fall in cereal prices. From August to December 1930 the company exported half the total wheat export. During 1931 the company paid the home farmer 160 dinars per 100 kilograms, at that time about three times the world price. This high price could only be paid by raising the price of wheat inside the country, so that the Yugoslavian mills were forced to buy wheat at a price of 240 dinars per 100 kilograms. By the end of 1931 the company had exhausted its financial resources, but the conclusion of the French loan in November 1931 enabled it to continue. The monopoly of inland supplies was abolished in 1932, but the company continues to export.

Official syndicates for live-stock export have been created in Poland, Bulgaria, and Rumania. These syndicates are rendered compulsory, since a tax on export must be paid by all exporters not members of the syndicate. Those who exported through the Polish Syndicate of exporters of pigs and live stock were obliged to fulfil certain conditions as to the quality and the quantity, so that the

¹ Equivalent to about 2s. 2d. per cwt.

² Details of this system were communicated to the Group by Dr. Stephen Varga, Hungarian Institute for Economic Research.

³ *The Economist*, 16 April 1932.

State 'rationalized' export to some extent.¹ Shortage of funds compelled liquidation of the syndicate in May 1932.

The Rye Marketing Commission established in 1930 by Germany and Poland was also connected with an export subsidy system. The Commission sold almost all the rye offered for export in both countries, allotting the shares in the total exports of rye in such a way that 60 per cent. of the total was granted to Germany and 40 per cent. to Poland. In actual fact almost four times as much Polish rye as German rye was sold by the Commission, owing to the cessation of the German import bonds on rye, while the Polish bounty on rye export was continued.² The Commission was liquidated in 1932.

(e) *Import Bonds.* Another type of bounty has been used by Germany, France, Czechoslovakia, and Austria and other European countries which encourage the export of agricultural products, by issuing import bonds to exporters of certain agricultural products. In Germany the system existed before the War; it was extended in March 1930 to cover all corn crops, pigs and pig-meat, cattle and sheep; later in the year, on account of the cost, the issue of bonds was suspended for all commodities except pigs and pig-meat.³

The bond is usually transferable and the value usually approximates to the lowest rate of import duty; it serves to pay import duties on other agricultural products and thus in essentials is a bounty on export. Originally, the system was designed to promote a balance of agricultural imports and exports, by giving the grain-grower in eastern Germany an inducement to export grain; the bonds issued could be utilized to import feeding stuffs in western Germany. Import bonds may also be used to adjust the supply of qualities of grain; for example, a German importer in Hamburg desirous of buying hard Canadian wheat might purchase an import bond from a merchant exporting soft German wheat from Stettin and Danzig.⁴ At different times France has issued export bounties for French wheat of inferior quality to facilitate imports of a different quality.

Most of the schemes for export bounties, subsidies, and import

¹ See *L'Agriculture polonaise*, No. 1, January 1931, Dalkiewicz, 'La rationalisation, facteur du développement de l'exportation des produits agricoles polonais'.

² See *Journal of Political Economy*, April 1931, 'The German Polish Rye Agreement', by K. Colegrove.

³ Sering and others, *Die deutsche Landwirtschaft*, p. 837.

⁴ For the economic results of the German Import Bond policy see Joseph H. Davis, 'The Export Debenture Plan for aid to Agriculture', in *Quarterly Journal of Economics*, February 1929.

bonds have had to be abandoned after a short period of working, as they have been attempted for the most part by governments with feeble financial resources, and have aimed at subsidizing the home producers as well as pushing exports.

'Bounties can only be effective when they are made use of by one or two States. As soon as they become general, they neutralize and cancel one another and become useless and burdensome. Home prices rise for a while under the influence of bounties; there follows an increase in production which involves a fall in prices and brings us back to the starting-point. Finally, export bounties cause a corresponding drop in prices on the world market, neutralize the effect of customs duties, and eventually increase the intensity of the crisis. Contrary to the views which led to the grant of export bounties, a market already supersaturated becomes completely disorganized; and, in the end, the situation becomes worse through the perpetuation of an irrational system of protection by desperate makeshifts.'¹

In reviewing the various special protective devices which have been applied recently, we are forced to the conclusion that none of them have effected any substantial improvement in the position of agriculture in general, since the advantage obtained by the farmer in one country through protective measures must injure farmers in other countries. Nor does it appear that these special protective measures offer any real alternative to the tariff, or any advantages compared with it. But, although protection is no general remedy for agricultural depression, there seems to be no immediate prospect of any widespread tariff reduction. The authors of the League of Nations Report on *The Agricultural Crisis*² conclude: 'There is no prospect for the moment of a liberal policy in regard to agriculture.' There is certainly no question of a general abandonment of protectionism on the part of those States which, like Germany, have consistently pursued agrarian protectionist policies with a definite national object in view; protectionist policy is strengthened by the fact that their populations cannot emigrate overseas on a large scale. But the more extreme recent developments, the rapid increase in the level of duties, and the use of special devices, are consequences of the fall in prices, rather than the result of excessive economic nationalism. If a rise in the general price level comes about, then it is reasonable to assume, or at least it may be hoped, that many of these measures would be abandoned.

¹ *The Agricultural Crisis*, vol. i, pp. 20-1.

² *Ibid.*, p. 54.

CHAPTER XI

TARIFF ACTION BY GROUPS OF COUNTRIES

Main Types of Colonial Policy—French Policy—British Policy—United States Policy—Groups of Separate Independent States—Agrarian Bloc in Eastern Europe.

Main Types of Colonial Policy

THE tariff policies pursued by the great colonial Powers with dependencies are of considerable importance in the trade in agricultural products, especially in the so-called colonial products—tea, coffee, sugar, cocoa—in oil-seeds, and other products. Important incentives to colonial development have been the prospect of a market, assured by natural and financial ties, for the manufactured goods of the mother country, and the tendency for the products of the colonies to be marketed in the mother country, by which they are mainly financed. These channels of trade are canalized in some instances by tariff arrangements varying from complete assimilation to systems of preferential tariffs. Arrangements of this kind are, speaking generally, free from any difficulties arising from the commercial treaties which the Colonial power may have entered into with other countries, since mutual preferences between countries under the same sovereignty are accepted as not being in conflict with the Most-Favoured-Nation clause.

The most important group of nations juridically able to follow a policy of this kind is the British Commonwealth of Nations, but the case of the great British Dominions, each with complete fiscal autonomy, is a special one, and must be considered apart from ordinary colonial systems. We will first consider the Colonial Empires.¹

There are three main types of colonial fiscal policy:

- (1) Assimilation, when the colony becomes virtually part of a customs union, with free trade between the component units of the group and a common tariff on goods imported from outside.
- (2) The 'open door', in which no discrimination is made in the tariff of the colony between goods from the mother country or from foreign countries; the open door in the colony does not preclude a preference for colonial goods in the metropolitan market.
- (3) A system of preference in which advantageous tariff rates, or

¹ See *Report of the United States Tariff Commission on Colonial Tariff Policies*, Washington, 1922; also V. S. Ram, *Comparative Colonial Policy*, Calcutta, 1926.

entire remission of rates, are accorded to goods from the mother country. Preference is usually reciprocal between a country and her colonies, but is not necessarily equal and opposite.

The great colonial Powers do not pursue an identical policy in all their colonies. In many cases the 'open door' is obligatory for various reasons. It may have been imposed at the time of the acquisition of territories by agreements or treaties which guarantee equality of tariff treatment and, generally, equality in other commercial matters, as between nationals and foreigners and between national and foreign products. These treaties are often general multilateral treaties. Thus the General Act of 1885 of the Conference of Berlin established 'The Conventional Basin of the Congo', in which there was to be freedom of navigation, freedom from transit duties, and commercial equality. Export duties were not restricted in amount, but import duties were prohibited except for revenue purposes. The Act of the Algeiras Conference of 1906 and later treaties in regard to Morocco prescribed the open door in the French and Spanish spheres and in the international zone at Tangier, and fixed a maximum tariff rate. Other open-door pledges have been made for a limited time. Thus, the Anglo-French treaty of 1898-9 guaranteed for thirty years the maintenance of an open door in Dahomey, the Gold Coast, Nigeria, and all the territory south and east of Lake Chad to 5° North, and to the River Nile. From 11 April, 1899, till 11 April, 1909, the United States maintained the open door in the Philippine Islands in accordance with a treaty with Spain; and Japan, after the annexation of Korea in 1910, pledged the open door and the maintenance of the previous Korean tariff for a period of ten years. In the last two cases the policy was reversed on the expiration of the treaty term.

The open door policy is obligatory in mandated territories of the A and B classes under the conditions in which the Mandate was granted.

Geographical considerations may make the open door a necessity in colonies isolated from the controlling Power and with mainly local trade connexions. This is the case, for instance, in French India, Timor, St. Pierre et Miquelon, and French Oceania.

French Policy

France follows a policy of assimilation when the circumstances of the colony permit. The French policy of 'assimilation' took legal shape in 1892 by the law of 11 January of that year, which established assimilation as a basic principle of French colonial organization.

'We do, indeed, believe', said Étienne, the Under-Secretary for the Colonies, 'and assert emphatically that, since France must incur the obligations involved in a colonial dominion, it is just and proper that this domain should be reserved as a market for French products.' Colonial production was designed to furnish the metropolitan Power with raw materials and food she did not possess, to make the French Republic with her Colonial Empire as far as possible a self-sufficing unit. Tariff autonomy in a limited sense was only arranged in cases where geographical and political considerations made assimilation out of the question. The lucrative taxes on the entry of certain colonial products into France—tea, coffee, cocoa, sugar, &c.—were retained. The assimilated colonies had the right of free entry for their minor products into France, but they had to admit French goods free and impose duties on foreign produce. Assimilation was precluded for treaty and geographical reasons in West and Equatorial Africa, and in Oceania.

Mr. Roberts¹ maintains that the economic development which actually took place in the French Colonial Empire in 1894 to 1906 was in spite of, and not because of, the assimilation policy. The large colonies were thrown back on their own natural resources, and made headway because ~~these~~ resources were very great; the smaller ones, without such reserves, and falling naturally into the orbits of contiguous Powers, were being ruined, as in the case of St. Pierre and Miquelon, the sugar islands of the West Indies, and New Caledonia; in many of these cases it became necessary to reverse the policy. Indo-China was not especially affected by the tariff, as there was little demand for foreign products, and the chief Indo-Chinese exports, rice and sugar, went to China. In West Africa and in Morocco assimilation was precluded by international agreements, and both advanced rapidly, France obtaining a large increase in the trade of both colonies. A change took place after the War, which had made France realize her dependence on foreign sources for raw materials, when Albert Sarraut inaugurated a policy in 1921 for the specialized development of each colony as part of the great organism of the French Empire. This did not mean the loosening of tariff bonds, but the creation of an economic unit in which the colonies should be complementary to the metropolitan Power. But the Sarraut plan² demanded large expenditure on the part of the metropolitan Power which was not forthcoming. On the other hand, the passing of the

¹ See Stephen H. Roberts, *History of French Colonial Policy (1870-1925)*, P. S. King & Son, Ltd., London, 1929.

² *Ibid.*, p. 619.

Colonial Tariff Law of 1928 has introduced a fresh element into French colonial policy. In the 'assimilated' group of colonies which is still maintained, the principle of reciprocal freedom of trade has been introduced; in addition the power of 'derogation' has been maintained and extended in favour of the colonies. In the other group, those that accord preferential treatment to the goods of the mother country receive preferential treatment in return; those that do not do so, are subject to the minimum tariff rates. The policy of the Act of 1892 has, therefore, been to some extent modified, in that, although the assimilation process has been completed, the wishes of the colonies themselves are consulted and, in spite of the opposition of French industrial interests, a certain autonomy and independence of tariffs and tariff policy has been extended to the colonies.¹

British Policy

British colonial policy from the middle of the last century down to the outbreak of war was for the maintenance of the open door. This policy was imposed on the Crown Colonies and on India, and no discriminatory legislation or tariff action was permissible. Import duties were for revenue only. The self-governing colonies, now the Dominions, were, of course, free to make their own tariffs. It is not necessary here to trace the policy of the Dominions before the War, except to recall that the preferences accorded by the Dominions from 1897 onwards were not reciprocated by any customs tariff preference in the home market until 1919,² when preference in the British market was extended to colonial and Dominion products such as tea, sugar, cocoa, coffee, dried fruits, liquor, gasoline, tobacco, &c., which were already dutiable in this country. Since that time the Crown Colonies, which have always been able to impose import duties for revenue purposes, have been encouraged to follow the principle that where new duties are imposed preference should be given to goods of Imperial origin.

¹ See: *Régime Douanier des Colonies Françaises*, Troisième Edition, Institut Colonial de Marseille, 1930; and *Le Régime Douanier de la France*, by Bertrand Nogaro and Marcel Moye, 1931, Section III, Chapter III.

² The notion of a world-wide British economic unit first found official expression in a resolution of the Imperial Conference of 1917, inspired by war-time necessities. It ran: 'The time has arrived when all possible encouragement should be given to the development of Imperial resources, and especially to making the Empire independent of other countries in respect of food supplies, raw materials, and essential industries. With these objects in view the Conference expresses itself in favour of the principle that each part of the Empire, having due regard for the interests of our Allies, shall give especially favourable treatment and facilities to the produce and manufactures of other parts.'

Until 1919 no dependent colony had had a general system of preferential rates, although ten of the West Indian tariff schedules contained preferential rates upon an extensive, though by no means complete, list of Canadian and British goods. But, during the period 1919-21, complete preferential import schedules were adopted and extended to all the tariff divisions of the West Indies, except Bermuda, and the amount of the preferentials was increased; a complete system of preferences was introduced into Cyprus, and differential export duties were imposed upon raw hides and skins exported from India, upon palm kernels exported from Nigeria, the Gold Coast, Sierra Leone, and Gambia, and upon tin ore exported from Nigeria. These latter duties have since lapsed.

The self-governing Dominions of the British Commonwealth employ a preferential tariff system different from that in the non-self-governing colonies. In greater or less degree the tariff is used in order to encourage the development of their domestic industries, this feature being most marked in Australia and Canada, where industrial development has proceeded farthest. As a consequence, the rates tend to be higher than the rates imposed for revenue only in the dependent colonies. Upon a number of items, rarely dutiable at more than 10 per cent., the differential reduction takes the form of free admission. Generally, the base rates run from 20 to 50 per cent., and the preference is a fraction of the rate, usually from one-fourth to one-half, and amounts from 5 to 20 per cent. ad valorem. The preferential schedules of the Dominions are designed primarily in regard to imports from the United Kingdom, but the benefits of the preferential tariff are extended to some other parts of the Empire and, in addition, special rates are to some extent accorded as the result of trade agreements between Dominions.

In 1932 Great Britain abandoned free trade. Parliament, in agreeing to the new duties, laid down the principle that the new import duties should not apply to any colony, protectorate, or mandated territory administered from the United Kingdom, and that their imposition in respect of goods from India, the Dominions, and dependent territories should be in abeyance until the matter was discussed at the Imperial Economic Conference at Ottawa. The question of the adjustment of tariff rates between different parts of the British world depends on the proceedings at Ottawa, not available at the time of writing.¹

¹ See Appendix II for a summary of the Ottawa Agreements.

United States Policy

American fiscal colonial policy is governed by a series of judicial decisions which lay down the rule that new territories accruing to the United States are integral parts of the country, though only those which, like Hawaii and Texas, were brought in by the action of both Houses of Congress enjoyed from the first full rights under the American Constitution. Territory obtained by treaty is in a different position. Hawaii, therefore, is assimilated, and imports from it are free of duty in the United States, but the general system is preferential. United States products enter free of duty in every case except in Samoa, where the open door is established by treaty. The rates of the American tariff are in force in Porto Rico, but the Philippines, Virgin Island, and Guam have their own tariffs enforceable on goods not coming from the United States.

The various colonial systems may be summed up as follows:

France, America, and Japan adopt, in the main, the assimilation system, with 100 per cent. preference for the goods of the metropolitan Power in the colonies. Portugal, Spain, and Italy have a system of colonial preferences. The British system is in a state of flux, but has hitherto provided only small preferences. Belgium and Holland have the open door in their colonies, Belgium under treaty obligations as regards the Congo, and Holland by policy. But the Dutch colonies must ship their produce in Dutch bottoms, which is in fact a protective measure.

The advantages of colonial fiscal arrangements, except in the British Commonwealth of Nations, are perhaps, on the whole, greater for industrial than for agricultural commodities. Under the assimilation system tariffs are framed mainly in the interest of home manufacturers, and the schedules are extended to the colonies for the purpose of holding the colonial markets for the producers of the mother countries, although in some cases the National legislature may impose duties for the special benefit of colonial produce, as in the instance of the French duty on foreign rice. Free entry of national products into the market of the colony has its concomitant in free or preferential entry of colonial products into the mother country. But this reciprocal favour granted by the mother country is not necessarily, in practice, an equivalent favour. For colonial products are chiefly raw materials and foodstuffs, upon which, until recently, only low duties were generally imposed in foreign importing countries. Consequently, the free entry of colonial raw materials into the mother country is not so valuable as the free entry into the

protected markets of the colonies allowed to the industrial products of the mother country. Thus it may be seen that, so far as foodstuffs are concerned, the assimilated colonies will benefit, but not largely, by free access to the home market, although there are certain important commodities which are largely exported by various colonies—sugar, coffee, tobacco, and cocoa, for example—which are usually taxed by the mother country for revenue purposes and free admission of which may give to such colonial products a decided advantage.

Under certain circumstances the competition in certain commodities from 'assimilated' dependencies enjoying free entry to the market of the ruling Power may be embarrassing.

By the Underwood Tariff Law of 1913, Philippine sugar was allowed to enter the United States duty free. This export of sugar grew rapidly, until in 1927 it exceeded 500 million kilos in quantity and more than \$95,000,000 in value. By 1928 the Americans in the sugar trade of Cuba and also of Hawaii were seriously concerned at this competition, and in the 'short' session of Congress (December 1928–March 1929) Representative Timberlake introduced into the House a resolution placing duty on all sugar imported from the Philippines in excess of 500,000 tons. This proposed imposition on the export of sugar proved to be a very vital question for the Philippines. In his report of 1926 Colonel Thompson had advanced as one of his reasons for not granting complete and immediate independence to the islands the fact that it would involve the termination of free trade, and that consequently 'the sugar industry would not be able to compete with Cuba, and with other countries nearer to the American market'.¹ So serious was the threat felt to be that in March 1929 a sixth Philippine Mission was dispatched to Washington to organize opposition to the proposed tariff duties, and, in consequence of this agitation, preferential treatment for Philippine sugar was retained.

The advantages derived by the metropolitan Power from the policy of assimilation may be considerable. The inclusion of Algeria in the French Customs Union presents especial advantages to France, since the principal Algerian products, with the exception of wine and wheat, do not compete with French products, and industry is not developed. Algeria imports approximately 80 per cent. of her total requirements from France, and sends 70 per cent. of her produce to France. Approximately 75 per cent. of the trade, both in and out of Madagascar, is with France. But in French West Africa,

¹ Senate Document No. 180, 69th Congress, 2nd Session, 1926, *Conditions in the Philippine Islands*.

where the grant of preference is precluded in certain areas under treaty obligations, the share held by France in the total is less about 50 per cent.

The incorporation of Formosa and Korea in the Japanese system makes it possible for Japan to meet her requirements in rice mainly from these dependencies and to supplement many other requirements. In 1929, 89 per cent. in value of Korean export was to Japan proper, and Japan supplied 74 per cent. of imports into Korea.

Groups of Separate Independent States

The advantage of grouping small national units into customs unions in the face of present tariff conditions is evident. Agreements for mutual arrangements between adjoining countries have been made from time to time, sometimes on the basis that commercial treaties with other countries should contain a proviso excluding such arrangements from infringing the Most-Favoured-Nation clause. The argument is that if such an understanding is justified in relation to preferences between the widely scattered British Dominions, it is justified in the case of neighbouring States, especially when, as in the case of the Baltic States—Finland, Estonia, Latvia, and Lithuania—these formerly were parts of a single economic unit, the Russian Empire. The principal suggestions for groupings of this kind have been made for South America, the Baltic States, the Scandinavian States with the Netherlands, for France and Belgium, for Germany and Austria. The most recent step in that direction was taken in July 1932 when the Convention of Ouchy between Holland, Belgium, and Luxemburg, agreed upon during the Lausanne Conference, was signed. The parties to the Convention undertook to impose no fresh duties and to lower the existing barriers by an annual reduction of 10 per cent. during the next five years. Other States have the right to join the Convention on the same terms.¹

Regional arrangements of this kind, arranging for abolition or reduction of tariffs between the countries concerned, appear to offer some hope of a general lowering of the barriers at present obstructing trade. A discussion of the implications of the Most-Favoured-Nation clause is out of place here, but it may be noted that originally the Most-Favoured-Nation clause in commercial treaties was intended to give some relative immunity from high duties, but, while it serves that purpose to some extent, obligations under that clause may result

¹ In October 1932 the Convention was still unratified. Various difficulties had arisen, among them being the proposed general increases in the Dutch tariff. (See *Le Temps*, 24 Sept. 1932.)

in a reluctance to reduce duties, and may preclude freedom to reduce tariffs regionally.

Agrarian Bloc in Eastern Europe

The proposals for an agrarian bloc in eastern Europe are for a different type of organization, more akin to the grouping of the British Dominions for tariff preference in the British market. The original plan was a scheme (1) for pooling export arrangements and (2) for securing, for grain especially, a preference in western Europe over grain coming in from overseas countries. The agricultural countries of eastern Europe, the Baltic and Danubian States, were profoundly affected by the fall in prices of 1929, and since that time they have made repeated efforts to secure a common front against the competition of overseas food products, especially cereals, in the markets of western Europe. These attempts were the first sign of economic co-operation between the states of eastern Europe, which had up to the time indulged in extremes of economic separatism. It was only the severity of the crisis which forced them to overcome their previous divisions. By some European statesmen the plan was regarded as a possible first step towards a united Europe.

In February and March 1930 the east European States put forward their hard case at the Preliminary Conference for Concerted Economic Action held at Geneva. They found an eloquent spokesman in the Rumanian delegate, M. Madgearu. The gist of his statement was that the Customs situation at 1 October 1929 (the date before the fresh upward movement in the western European tariffs on agricultural products) should be taken as the point of departure above which tariffs should not be raised. East European countries could not both renounce opportunities for industrialization at home in favour of western European countries and acquiesce in the closing of the door on their primary products. He pointed out that industrialists had the defence of their international cartels, and that a corresponding advantage should be given to the agricultural States, i.e. that they should be permitted to introduce into their collective commercial treaties a clause for preferential treatment. Other delegates declared that, if the western States persisted in agrarian protectionism, agrarian countries would have no option but to industrialize themselves behind tariff walls.

The Conference objected to preferential clauses in collective treaties constituting exceptions to the Most-Favoured-Nation clause; they feared any step which might cause opposition between the world market and the European market, and some delegates

feared that preferential treatment of this kind would simply make things worse. It was urged that organized selling of produce on modern lines was the first step to meet overseas competition.

The representatives of the agrarian States felt that they could make no headway at Geneva, and during the Conference they formed a group, with M. Madgearu as President, to suggest the holding of a special conference of their own.¹ The States represented were the Little Entente, together with Poland, Bulgaria, Greece, and Hungary. A preliminary conference was held at Bukarest, between representatives of Rumania, Hungary, and Yugoslavia, with the object of exploring the possibilities for economic co-operation. The suggestions put forward at this conference have remained the aims of the combined States: a preference for European agricultural products in all European importing countries; the suppression of all restrictions on trade in agricultural products, direct and indirect, of all bounties and transport obstacles; and the setting up of a State selling organization in each country for the joint maintenance of prices. The three countries contemplated the formation of a joint selling cartel. This suggestion led to a demand for a credit organization. A second conference at the end of July was held at Sinaia between Yugoslavia and Rumania, at which proposals were made for closer economic collaboration, with the ultimate aim of a future customs union. The first conference, at which all the agrarian States were represented (Rumania, Yugoslavia, Hungary, Poland, Czechoslovakia, Bulgaria, Estonia, and Latvia), was held at Warsaw in August 1930, at which a wider project was discussed, advocated by Poland, for the formation of an east European agrarian bloc, which it was hoped would include Hungary and eventually Austria. All eight countries signed a clause asking for preferential rates in the Western European countries on agricultural exports from the agrarian States.

The Warsaw projects, for quite different reasons, found little favour at Prague or at Budapest. But the Warsaw Resolutions were brought forward at the Assembly of the League of Nations in September 1930, simultaneously with a Danish proposal backed by the northern countries for a re-definition of the Most-Favoured-Nation clause in commercial treaties. Both propositions were referred to the Second Committee, which deferred consideration of the Warsaw Resolution.

Before the 'Second International Conference with a view to

¹ *La Crise des États agricoles européens, et l'Action internationale, Janvier 1930-Mai 1931*, Documents recueillis et commentés par André Tibal, Publications de la Conciliation Internationale, 1931.

Concerted Economic Action' met at Geneva on 17 November 1930, it was clear that the proposed agrarian bloc would not cover all the countries participating in the Warsaw Resolution, and the Czechoslovak delegate especially stressed the difficulties.¹ A concrete proposal—for a conference of European grain-exporting countries—was made at the Second Session of the Commission of Inquiry for European Union (Geneva, 16–21 January 1931), and two conferences were convened by M. Briand in January, one to consider the disposal of existing harvests, the other to lay plans for the future.

Before the Conference of the European Commission (May 1931) the agrarian States were confronted with the project of an Austro-German customs union. The French delegate, M. Poncet, then put forward proposals for preferential treatment of the products of agrarian eastern Europe. But little actual progress was made by the multilateral conversations at Geneva, and the agrarian States turned to individual diplomatic action, by which some open or concealed preferences were secured by some of them from France, Germany, Austria, and Czechoslovakia. Germany conceded reduced rates on fixed quotas of Hungarian wheat and Rumanian feeding barley and maize,² and France made concessions on a quota of Yugoslavian wheat.³ Austria gave a preference on Danubian wheat and flour, but raised the rates at the same time. A special preferential arrangement between Austria and Hungary, through a clearing institute, did not work very well. Austria also arranged mutual preferences with Yugoslavia and Rumania; Czechoslovakia concluded a treaty with Yugoslavia at the end of 1931, admitting a quota of wheat at preferential rates, but the amount of the quota was not disclosed. At the same time she raised her tariff, with serious results to Hungary. Perhaps the country which profited most by these complex arrangements was Yugoslavia, about half of her surplus

¹ *Proceedings*, p. 101.

² These rates had not been put into force at the time of writing. Trade treaties were concluded in 1931 by Germany with Hungary for a reduction of 25 per cent. of the duty on a quota of wheat imports; with Rumania for reduction of 50 per cent. and 60 per cent. on quotas of feeding barley and maize. These clauses in the treaties did not come into force, owing to the resistance of other States with which Germany had Most-Favoured-Nation obligations. These objections were satisfied, and agreement could have been reached in the spring of 1932, but was delayed by international considerations.

³ France offered to buy 10 per cent. of her wheat imports from Hungary, returning 30 per cent. of the French duty to the exporter. The quota, calculated on a ten years average, would be 80,000 metric tons. In return France secured tariff advantages for certain industrial products. (See *The Times*, 2 April 1932.)

being exported at preferential rates to France, Czechoslovakia, and Austria. Any substantial arrangement with Germany was in fact blocked by the urgent need of the Danubian countries for French credits.

The agrarian States had failed in multilateral conversations at Geneva; they had secured minor advantages by negotiating individual commercial treaties, but the measure of that success was at the cost of the larger project. But they could count on a certain measure of support from France, anxious to prevent any recrudescence of the Austro-German customs union proposal.

The agrarian bloc proposals, as such, were overshadowed in 1932 by the proposal made on 5 March, by the French Government, for consultation between Austria, Hungary, Czechoslovakia, Yugoslavia, and Rumania with a view to preferential measures with the assistance of the four Western Great Powers. M. Tardieu's proposals were immediately countered by objections from Berlin and Rome, and by a request from Bulgaria to be included in any Danubian combination. The disposal of the grain surpluses of south-eastern Europe was an important part of the new French plan, but the whole question of the economic condition of the Danubian States was now put on the political plane. The subsequent history of the proposals and the failure of the Danubian Conference of the Great Powers called in London in April belongs rather to political history than to agrarian tariff action by the east European States.

A further conference between the agrarian States was held at Warsaw in August 1932 to discuss common policy at the coming Central European Conference. At the Conference held at Stresa in September, between representatives of the agrarian States and the corn-importing countries, Great Britain, France, Germany, Italy, Austria, Belgium, Holland, and Switzerland, it was attempted to combine the provision of financial assistance to the States whose financial position was endangered, chiefly Austria and Hungary, with a scheme for disposal of the cereal surpluses. The French plan proposed the creation of a fund by contributions from the west European States, which could be drawn upon by the agrarian States in proportion to their crop exports, thus subsidizing crop exports from the Danubian States without affecting the application of the Most-Favoured-Nation clause. The German plan proposed a solution of the tariff problems by extension of bilateral agreements (to be co-ordinated at Geneva) between industrial and agricultural States, granting reciprocal preferences on industrial and agricultural products. The French plan found little support.

CHAPTER XII

ORGANIZATION OF AGRICULTURAL PRODUCERS FOR TRADE PURPOSES

General Considerations—Regulation of Quality and of Marketing Arrangements—Stabilization Schemes: Sugar, Rubber, Other Commodities, Coffee—National Organizations: The Federal Farm Board, Dominion Wheat Pools—The London Wheat Conference—Direct Relations between Producers' and Consumers' Co-operative Societies.

I. *General Considerations*

In a memorandum to the King of Italy on 'The Welfare of the State and the International Chamber of Agriculture' dated 23 October, 1894,¹ David Lubin wrote:

'It need take but little labour on the part of the Statesman to perceive clearly that the present efforts of Agriculture are inadequate to meet the influences of the concentrated Capital and Energy of the cities. The cities with their syndicates, boards of trade, chambers of commerce, unions, and federations, are solidarity personified; whereas the heterogeneous agricultural associations are feeble, inadequate and inefficient from the very constitution of their being. Each agricultural organization is an isolated point in itself, by itself and for itself, and this is its weakness. Were the bricklayers' union, the bakers' union, the railway labourers' union, each in its own locality each in itself, by itself and for itself, as the separate agricultural societies are, they would then have no more strength than the latter. The Labour organizations, as we see, are united into unions, councils, and federations, and it is the federation which gives strength to the union; and what is here said of Labour organizations applies equally to the organizations of Finance, Commerce and Manufacture.

'Agriculture alone is without that solidarity, that directing power which alone is potent in the economic warfare of to-day. Agriculture not only needs organization in a given locality, but in all localities; and all these organizations united into a federation which should guide and direct, without which the isolated unions are impotent.

'Nor is this sufficient. The prices of Agricultural products are governed not only by local and national conditions, but much more so by international conditions. And it is precisely this international field, this field which denominates and dominates the price of agricultural products which is at present occupied by Commerce and Finance to an utter exclusion of a voice in the matter of Agriculture.

'And so long as this state of things continues, so long must Agriculture remain in the subordinate position which it is in to-day, powerless in its efforts to prevent its gradual but sure decline.'

¹ Asher Hobson, *The International Institute of Agriculture*, pp. 324-5.

There is certainly urgent need for farmers to organize themselves. Industry was already beginning to develop on a world basis when the European peasant was still in the primitive state of producing his clothing as well as his food from the farm. Industry has learnt to regulate competition by means of large-scale organization and by cartels, and trade unions secure the fixation of wages by collective agreement. Organization in agriculture is very much more difficult to achieve because of the multitude of scattered producers. There is not concentration in small areas as there is in industry. Dr. Dolfuss¹ put the case clearly when he said:

'The agriculturists find themselves confronted with a compact organization for the maintenance of the prices both of commodities and of labour, to which they are unable themselves, owing to the special character of their own development in the past, to oppose any analogous or equally effective organization.'

In the last ten years many efforts have been made to secure 'orderly marketing' of agricultural products by co-operative organizations, by capitalist groups and by Governments themselves. There are two aspects of 'orderly marketing': the standardization of products by grading systems, and combinations of various kinds for the restriction of output or for the maintenance of the price level of a particular product by other means.

There is no doubt whatever of the benefit agriculture has derived from the first; on the second there is no general agreement.

II. Regulation of Quality and of Marketing Arrangements

Every country has its own laws for enforcing a certain degree of purity in food products on the grounds of public health. In the staples of international trade certain standards have long been enforced by the contracts for the sale of consignments in bulk. These contracts on the produce exchanges of London, Liverpool, and other ports lay down certain standards of 'merchantable quality'. Efforts are now being made to secure standardization at the sellers' end. Exporting countries are insisting on this on an increasing scale, because a single unsatisfactory consignment may injure the whole trade of the country in that product under existing national conditions.

The grading of produce is most easily enforced in countries where large quantities are exported, as the regulations can be enforced at the port of shipment if an inland point of collection is not available. In the case of grain, maize, &c., grading is secured at the elevator

¹ *The Agricultural Crisis*, p. 102.

receiving the produce. The elevator system taken in connexion with reaping by the combine harvester, has also effected great economies in cost, since the grain is not bagged. Standardization in meat, dairy produce, eggs and fruit, has reached a fine art in the United States, the British Dominions and, for dairy produce, in Denmark. In New Zealand the Dairy Industry Act (1908), with subsequent amending Acts, provide for the inspection of dairy stock and factories, and for the inspection, grading, and conditions of shipment of the produce. Butter containing less than 80 per cent. of butter-fat or more than 16 per cent. of water must not be exported. A national brand is placed on every package forwarded for export and containing creamery butter or factory cheese grading 90 points or over. The percentage of butter-fat in milk or cream purchased by the dairy factories must be determined by the Babcock, Gerber, or other prescribed test.

Similar care is taken in securing quality and grading of meat exports. The purity of the products of the dairy industry is, therefore, assured and standardization enforced. But New Zealand goes further in the direction of 'orderly marketing'. The Dairy Control Board regulates the export of butter and cheese in the interest of the producers, and the Meat Producers' Board regulates the export of meat, supervising the marking of parcels, grading of carcasses, loading and discharging, freezing accommodation, freights, and so on. The Meat Board regulates shipments so as to prevent (as far as possible) gluts on the importing markets.¹ All the British Dominions provide for Government inspection of produce for export, but in general supervision ends with grading and inspection. Only in New Zealand and in South Africa, and that for certain products only, is there actual supervision of marketing. In South Africa the comparatively recently developed export trade in perishable products—fruit, eggs, and dairy produce—has been built up under an Export Control Board, which secures proper grading and packing, and arranges freights. Advances to finance export are made to growers' associations by the Land and Agricultural Bank of South Africa.

The New Zealand and South African Export Control Boards are notable as being statutory representative bodies with compulsory powers over the marketing of the whole exportable surplus of the commodities concerned, and with powers to raise funds by making a levy on all producers of these commodities. That is to say that dissentient minorities are compelled to adhere to the marketing policy approved of by the majority of their fellow producers, in the

¹ *New Zealand Year Book*, 1930, pp. 490, 495.

interest of the producers as a whole. This principle of compulsion is included in the Agricultural Marketing Act, 1931, of Great Britain, now in operation for hops; schemes are being prepared for other commodities.

Progress in this matter has been most rapid in countries exporting staple commodities on a large scale, and government supervision of export cargoes has been made obligatory in many cases. In Belgium and Denmark a series of new and stringent regulations for the marketing of eggs and dairy produce were issued in 1930 and 1931. The advance is naturally slower in European countries which only export smaller quantities. But in special commodities, such as vintage wines, the producers themselves, or their Governments, have imposed standards in defence of the brand. Colonial Governments give increasing attention to the provision of good seed and good stocks, and assistance and supervision of the grading of the product for export is a continuation and completion of the assistance given to the grower. In Spain inspection of citrus fruit begins with the early stages of ripening. In the case of cotton many Governments give close attention to improving the standard; in British colonies and dependencies the Empire Cotton Growing Association works in association with local departments of agriculture for that purpose. Even in commodities not intended for export, standardization is being imposed by administrative measures, as in the National Mark system in England. The system, applied first to eggs, is gradually being extended to a wide range of agricultural products. In France, a premium is paid to flax-growers through their agricultural associations; it is based on the fibre-content and, therefore, indirectly regulates the standard. Directly or indirectly, Governments are supervising quality to an increasing extent.¹

III. *Stabilization Schemes*

Before recounting the operations initiated with a view to the regulation of markets it may be worth while to consider some of the difficulties involved and some of the pitfalls to be avoided.

In a valuable paper² contributed to the Fifteenth International Cotton Congress held in Paris in June 1931, M. Serruys, a past President of the Economic Committee of the League of Nations, discussed the special case of valorization schemes, that is, measures for main-

¹ For an account of what is done year by year in the direction of standardization, grading and orderly marketing see the annual publication of the International Institute of Agriculture, entitled *The Agricultural Situation*.

² *International Cotton Bulletin*, August 1931.

taining the price level of a given commodity 'of which there is over-production and where by means of prohibitions or export restrictions efforts are made to impede the excessive offer of their products on the world market, and the depreciation which results'. The general considerations put forward by M. Serruys are important in relation to all schemes such as the holding policy of the Federal Farm Board the valorization of Brazilian coffee and other measures of a similar kind. The following analysis of the disequilibrium caused by the accumulation of stocks for valorization purposes is based mainly on M. Serruys's Memorandum.

The success of schemes for storing commodities to maintain or enhance prices, as in the valorization of Brazilian coffee, demands the control of practically the whole stock in the particular market and the predominance of that market in the world markets. The very announcement of the valorization leads to an artificial rise in prices. Thus, in 1926 it was sufficient for the Egyptian Government to give notice of their intention to buy quantities of Sakel to effect a rise in price, because buyers at once began to cover their forward requirements from the free stocks.¹ But unless normal production is reduced the effect of the constitution of stocks is inevitably the increase of stocks in subsequent years, and these must at some time be liquidated, as was the case with Australian stocks of wool after the War. Brazilian stocks of coffee increased in a few years from 10 million to 19 million bags,² and the stocks of wheat of the Federal Farm Board at the end of 1930 rose to 130 million bushels. Thus, the market is overshadowed by a possible future liquidation accompanied by a disastrous fall in price. The psychological effect of the existence of stocks of this nature is often far greater than is justified by their magnitude. In the case of Egyptian cotton the Government had the wisdom to release not more than 500,000 cantars³ annually on the market. Similarly, the Federal Farm Board in 1931 announced that the Grain Stabilization Corporation would only release their holdings in grain in limited quantities at stated intervals.⁴

Where the valorization authority attempts not only the holding of stocks but the pegging of prices, the problem is much more difficult, because the price level depends on many outside factors. The Cotton Stabilization Corporation, formed by the United States Federal Farm

¹ The Egyptian Government subsequently abandoned intervention in the cotton market, and gave a guarantee for the gradual liquidation of stocks.

² A 'bag' of coffee weighs just over 132½ lb.

³ A cantar is 99 lb.

⁴ See the speech made on 19 May 1931 by the American delegate, Mr. Samuel R. McKelvie, at the London Wheat Conference.

Board under the Agricultural Marketing Act of 1929, sought to fix the price of American cotton at 16.25 cents, with the result that the price at first stood above that figure. But within a few months the price fell to 9 cents, and, after suffering heavy losses, the Corporation had to give up the attempt. The carry-over for 1930 was 8,500,000 bales.¹ After the failure of the attempt to peg prices the Federal Farm Board created the American Cotton Co-operative Association, which centralized sale, but had no powers to restrict production.

Another method of supporting price is the grant of short term credits to farmers to prevent the necessity of unloading their produce on the market immediately after harvest, and thus avoid an undue seasonal fall. Export levies have been applied at different times to wheat in Rumania, to nitrates in Chile, and to coffee in Brazil. An export levy is apt to limit selling and to stimulate competition by other producers.

Commercial operations for valorization must, then, necessarily be ineffective unless there is at the same time limitation of production. But limitation of production in a particular country is ineffective unless that country has a monopoly or an overwhelming superiority on the world market. That is why the wheat producers, realizing the failure of efforts made by individual exporting countries to maintain price, came together in 1931 to realize a general reduction in acreage. They failed for the time being. Cuba limited her production of cane-sugar in 1928-9, but her effort was neutralized by increased production in Java, and no conclusion was reached until the establishment of the International Sugar Council in 1931.

A further difficulty in making international arrangements for the regulation of production is the disparity in the conditions under which the same commodity is produced in different countries, and sometimes even in the same area. For instance, American production costs for cotton are higher than those obtaining in Brazil or Uganda; in Cuba the American planter with modern equipment can produce more cheaply than the average Cuban sugar-growers. Moreover, any international agreement must take stock of the difference in the quality of the product, as any student of the contracts for wheat, linseed and other commodities on the London market knows. One reason why it has been possible to come to an agreement on raw sugar is that it is a standardized product.

But the fundamental difficulties are that valorization and price-fixing schemes generally assume a fixed purchasing power of money, and they endeavour to circumvent the natural function of price in

¹ An American bale is 500 lb. gross, 478 lb. net.

equating supply and demand for a particular commodity. Unless the general price level is reasonably stable, rapid means for accommodating any fixed price are necessary, but are not easily arranged by international machinery. For the second of these difficulties, a proper assessment of demand, information is insufficient and conflicting. There are no certain calculations as to the purchasing power of particular markets and the state of trade in manufacturing industries to guide producers if they were themselves organized, but the quantitative aspects of the general problem are still on a vague basis. During the War, States fixed programmes and conditions of production and programmes of demand to be satisfied from domestic and foreign sources, and the problem was temporarily simplified.

'Since that time', says M. Serruys, 'the world has been subject to interventions which have impeded it from regaining equilibrium and the normal economic policy. This is why we now require to know whether to choose between the means of valorization or stabilization, or whether these systems have to be abandoned in order to find new guarantees for unfettered production and commerce which the systems and experiences mentioned above have shown to be necessary.'

Rationalization in agricultural production is affected by many unforeseeable natural factors. A forward view in industrial production requires an estimate of many conditions, not purely economic in character. Political disturbances since the War have had a good deal to do with trade dislocation—revolution in Russia and in China, incipient revolution in India, uncertainty of the political situation in Europe, sudden changes in tariffs. The banker, the trader, the manufacturer has to reckon with these contingencies. The farmer producing for export must reckon with them too, but he also has to reckon with flood, drought, the early or late oncoming of the seasons, the prevalence of insect pests and of plant diseases, and that not only in his own country, but in other countries, for a bumper harvest or a deficit in a competing country affects his markets and his price. These conditions make every international rationing of areas and of export quotas extremely complex; the calculation of the margin is subject to so many chances.

Thus there are many difficulties in organizing the world market of any agricultural commodity, even if national prejudices and interests were overcome. It appears to be practically impossible for any international organization, whether of governments or of national associations of producers, to insist on limitation of area and

production in sovereign States. Some students of marketing problems are, however, disposed to think that a solution might be found by agreement on an export quota for each group as in the case of the sugar agreement. The case of cereals is the most urgent, but the London Wheat Conference of 1931 failed to come to any agreement. Russia was against any limitation of acreage, and the United States against limitation of export. Possibly agreement might be secured among the exporting countries if the principal import markets actively collaborated. The successful schemes organized on these lines during the War were put forward by the consuming countries; the schemes considered since the War have been framed by the producers. Without some definite support on the part of the buyer, no system of valorization is likely to be permanently successful.

In spite of all the difficulties inherent in rationalizing agriculture on a world basis, the idea has been gaining ground.

'Common sense procedure', writes Sir Robert Greig,¹ 'is to organize agricultural production and distribution on a world basis. This is clearly not practical politics for a long time to come. Nevertheless, this is the end to strive for, as no other policy so far as we can see at present will ultimately provide a general prosperity and ensure against famines or deficiencies of some commodity at some time or other. In moving towards international controls or arrangements, progress, therefore, should be made through the encouragement of all kinds of groups, groups for the sale of a commodity (the Wheat pool), arrangements between groups of nations for reciprocal purchases and sales, cartels and agreements between producers.

Attention is drawn by Mr. A. P. McDougall¹ to a consideration in connexion with stabilization schemes which is generally neglected.

'It is', he says, 'a waste of effort to attempt to stabilize production and ensure the prosperity of producers if, by the collective effort of mankind, the major part of the immediate profits must ultimately revert to the actual owners of the land. To allow land values to increase for private gain would, under such conditions, amount to criminal folly. That land nationalization on a vast scale can not only be practical politics, but sound economics, is proved by the conditions in India. I think I am correct in saying that the major portion of the land of British India belongs to the Government, and tenants pay rent direct to the State. This is the national custom. One of the criticisms of the British Government is that it has alienated considerable stretches of land to zemindars, who are detested in many parts even more than the money-lenders.'

'The major portion of the benefit arising from tariffs on agricultural products, for which the consuming public have got to pay, merely result

¹ In a note to the Study Group.

in increased land revenues or values. Even in a country of tenant proprietors such as Denmark the ultimate welfare of the cultivator and the consumer is not secured. The greater number of farms in Denmark are heavily mortgaged. It is therefore of little concern to the cultivator whether, on entering into possession, he has to pay £50 an acre for land, on which price he is probably paying a heavy rate of interest, or whether he is paying a direct rent to the owner. As a mortgagee he is only the nominal owner, a position which includes all the obligations and few of the delights of ownership. It is on record that in 1875 Disraeli, when he was Prime Minister of England, was approached by members of the Cabinet with a request to consider the advisability of reintroducing protection for corn. He realized that the expansion of production which was just beginning on the prairie land of America would probably result in the course of a very few years in bringing about considerable hardships to the farming industry of Great Britain. He was entirely sympathetic, but he asked the supporters of the proposal one question, "In the event of my being prepared to bring forward such a bill, what methods can be adopted to ensure that the increased profits of the farmer arising from protection does not ultimately revert in increased rentals to the owners of the land?" There was no answer. He then informed his Cabinet that, if means could not be found, he would not make himself responsible for such a measure, as, in his opinion, the British public, while quite prepared to support the farmer, would refuse to have their food made dearer for the benefit of the landlord.'

'If, by any means of stabilization, a reasonable livelihood is ensured to the producers of the world, it will be reflected in increased land values. If this increase can be used directly to reduce and perhaps ultimately abolish taxation, as it certainly would do in some countries, public opinion throughout the world would be much more likely to give their support to such proposals. The permission of land ownership by private individuals drives the Left wing element in all countries towards supporting less sound schemes which interfere with the liberty and rights of the individual.'

Sugar.

The one agricultural product in which international agreement on market control has been reached, is sugar, a commodity produced¹

¹ World Production of Sugar:

| | <i>Millions of metric tons.</i> | | |
|---------------------------|---------------------------------|--------------------|---------------|
| | <i>Beet-sugar.</i> | <i>Cane-sugar.</i> | <i>Total.</i> |
| Av. 1909/10-1913/14 . . . | 7.9 | 9.6 | 17.5 |
| Av. 1920/21-1924/25 . . . | 5.9 | 14.1 | 20.0 |
| Av. 1925/26-1929/30 . . . | 8.7 | 17.5 | 26.2 |
| 1930/31 . . . | 11.4 | 17.4 | 28.8 |

Between 1926 and 1931 the price fell by 50 per cent.

under widely different conditions in many countries, and the conditions under which agreement was reached are, therefore, worthy of examination.¹ The initiation of what is known as the Chadbourne Scheme was due to the desperate position of the industry in Cuba, the largest single producer of sugar. Cuban cane-sugar supplies were increased during the War to make good the European deficiency in beet-sugar. The European crop fell from 8½ million metric tons in 1912/13 to 2.6 million metric tons in 1919/20. Cuba produced about 2½ million tons of raw sugar in 1913/14, and raised her production to meet war-time demand until it stood in 1918/19 at 4 million tons. Even so there was a sugar shortage, and in May 1920 the price reached fantastic heights in New York. Then the boom broke, and by the end of 1921 the price had declined to 2 cents per lb., though earlier in that same year the price had been 5.25 cents. After that there was a steady improvement until the end of 1924. World production in 1924/5 was 2½ million tons greater than that of the year before. Cuba tried restriction of acreage, and in 1927/8 established an Export Corporation to market supplies not required by New York. But American-owned mills in Cuba were against restriction of any kind, and these expedients had to be abandoned, with the result that the price of Cuban sugar fell to 1.75 cents per lb. c.i.f. New York, in June 1929.

A scheme for compulsory co-operative marketing brought up the price to 2 cents for a time, but the effect of the world trade depression on consumption, and other circumstances, including the uneconomic production of sugar in some European countries, forced prices down once more, this time to 1.25 cents. There had been a further increase in world sugar production, partly due to the introduction of a new high yielding variety of cane in Java, Formosa, and Japan, to the efficient marketing of Javan sugar by the Vereenigde Javasucker Producenten (V.J.P.) and partly to the policy of high protection adopted by countries which were determined to secure at all events a minimum national production of beet-sugar, remembering the suffering due to the short sugar supplies during the War.² Even while Great Britain

¹ See Royal Economic Society, by arrangement with the London and Cambridge Economic Service, Memorandum No. 23, *Studies in the Artificial Control of Raw Materials*, by J. W. F. Rowe, No. 1, Sugar. Also John D. Black, 'Social Implications of the Restriction of Agricultural Output', in *American Economic Review*, March 1931; *The Agricultural Situation, 1930-1* (Rome, 1932), pp. 41 seq. For the preliminary conditions which made agreement on sugar essential see the report by the Economic Committee of the League of Nations on *The World Sugar Situation*, 1929.

² See Chapter X for a statement of the motives for protective tariffs on sugar in Europe.

was still on a free trade basis, she decided to create a beet-sugar industry with the help of substantial subsidies. The low price of sugar has been met in various countries by tariffs and bounties. 'Cuba has, in fact, been very largely the innocent victim of the consumer, who has deliberately preferred to obtain his supplies in a more expensive way than was economically necessary.'¹ But there were local causes in Cuba, for the Government desired to preserve from extinction the Cuban producers working with high costs as compared with the American-owned mills. A policy of allowing the high-cost producers to be ruined, though it might have been justifiable from the purely economic point of view, was politically impossible. The whole question is worth the most careful study because of the many considerations involved.²

Restriction of output having failed, resort was had to a marketing control scheme, and a Co-operative Export Agency was formed, but its efforts to keep the price at 2 cents per lb. failed in the spring of 1930, and in April the agency was dissolved. The Dutch Government in Java was more successful in its marketing scheme, but the industry was not without its troubles.

In August 1930 a Committee was formed in New York to finance Russian purchases of Cuban sugar and to invite all sugar-producing countries to co-operate on exports, output, and tariffs. It was presided over by Mr. Thomas L. Chadbourne, a New York lawyer interested in Cuban sugar; on it were represented American and Canadian banks and American and Cuban sugar-mills in Cuba.

On 30 September 1930, Cuban sugar prices were the lowest ever recorded, 0.94 cents c.i.f. New York.

The first step was a 'gentleman's agreement' between the sugar producers of the United States and of Cuba for five years, for the limitation of exports from Cuba to the United States, and for restriction of output in the United States to the 1929/30 level. The Philippine producers, who sent in their sugar duty-free to the United States, were willing, for political reasons, to restrict their output. Enforcement of the Agreement in Cuba was secured by a stabilization law of 15 November 1930. Negotiations were then opened with producers in Java and in Europe. An agreement was reached at Amsterdam with the Dutch interests in Java, and a Conference was organized with European sugar-beet producers at Brussels (9-15 December). The negotiations failed at that time, because a good harvest was expected to leave Germany with a large export surplus

¹ Rowe, p. 6.

² See the full account in Rowe's Memorandum.

which she must dispose of to meet Reparation payments. In the end a compromise was secured. Though the quotas had been agreed, it remained to limit the price, and a general conference, with this object in view, was convened in Paris on 30 March 1931. The Javan sugar producers wanted a wholesale price of 2 cents per lb., while Cuban producers wanted $2\frac{1}{2}$ cents to meet their costs of production, and some flexibility in price proposals. Eventually it was agreed that when the world price rose to 2 cents (it was then about 1.20 cents) a 5 per cent. increase in all export quotas would be applied by an International Sugar Council. Further releases were to be permitted if the price rose to 2.25 cents, and further releases at 2.5 cents. The International Sugar Council at The Hague administering the quota has three members for each of the seven countries represented, but voting power is allocated in proportion to the magnitude of the interests involved (Cuba 35, Java 30, Europe 25). The seven participating countries, in order of importance as sugar exporters, are Cuba, Java, Czechoslovakia, Germany, Poland, Hungary,¹ and Belgium. France, who is making an effort to increase her sugar production, is not an original member of the cartel, but is understood to be sympathetic. Its president is Mr. F. E. Powell, Chairman of the Anglo-American Oil Company. The final convention was signed at Brussels on 9 May 1931. The scheme is for five years.

The scheme was in danger of breaking down in the spring of 1932, and was only rescued with difficulty. Export quotas had been based on the level of consumption when the plan was drawn up. The scheme, as we have seen, arranged for the revision upwards of the quotas if the price of sugar rose; it contained no provision for downward revision in case of a fall. A decline in consumption, due to the general depression, especially in the United States, brought the price down from 1.58 cents in July 1930 to 1.15 cents per lb. at the end of December. At a meeting in March no agreement was reached, but eventually a reduction was agreed.²

The aims of the Chadbourne Scheme are much more comprehensive than the aims of the Brussels Sugar Convention of 1902 for the abolition of export bounties by certain European countries on raw sugar. The Brussels Convention of 1902 was an agreement between Governments. The Chadbourne Scheme is an agreement between national bodies of producers to secure regula-

¹ 'It may be of interest to mention that the Chadbourne agreement was enforced in Hungary by an Act of Parliament.' Dr. Stephen Varga in a note to the Study Group.

The Economist, 2 April 1932.

tion of the raw sugar supplies of the world through commercial channels.

Its success or failure will be eagerly watched. If this experiment in international co-operation in the sugar industry succeeds, it may provide a model which will be followed by producers of other agricultural commodities.

Rubber.

The now famous Stevenson Rubber Scheme¹ of 1922 collapsed in 1928 because of the failure to secure Dutch co-operation and because of the antagonism aroused among American users, whose influence with the United States Government made international friction a serious matter. Nevertheless, the restriction idea was revived during the heavy fall in the price of rubber early in 1930. The Rubber Growers' Association appointed a delegation to confer with representatives of the Dutch growers, and on 24 February, a proposal for a holiday from tapping during the month of May was agreed. The holiday resulted in a reduction of about 26,000 tons. This proved insufficient to restore the market, and many large estate owners decided to give instructions for a reduction of rubber-getting in the year 1931. A further element of insecurity in the rubber industry is the increase of production in the French East Indies. In 1931 another attempt was made by the British interests to negotiate with Dutch growers, but the Dutch declined to continue negotiation on the alleged ground that they were unable to impose restriction of native production—an example of the effect of the small man's unregulated production on schemes made by capitalist producers. Indeed, restriction, by sending up overhead charges in the plantations, gives an advantage to the native producer who is unhampered by restriction.

¹ For rubber restriction schemes see Survey of International Affairs, 1930, p. 473 seq.

The situation when the rubber scheme was abandoned has been described as follows: ' . . . First, high prices and restriction have encouraged production outside the restricted area—particularly native production in the Netherlands East Indies—and the use of reclaimed rubber in the United States. For these reasons restriction was becoming ineffective for the purpose of regulating world prices and was likely to become increasingly ineffective the longer it continued. To maintain the pivotal price as high as 1/9d. or even 1/4d. (which would give very large profits to producers outside the restricted area) it might have been necessary to carry restriction still further with every prospect that the position would grow progressively more unfavourable inside the restricted area. The longer restriction continued, the smaller would become the British share in world exports and the more marked would be the disproportionate increase in that of the Netherlands East Indies. . . .' (*Report by the Rt. Hon. W. G. A. Ormsby-Gore on his visit to Malaya, Ceylon, and Java in 1928.*)

Other Commodities.

There have been other attempts to maintain the price of agricultural products by restrictive covenants, chiefly in cases where one or two groups of producers possess a virtual monopoly. This is the case with the camphor monopoly in Japan and Formosa, the quinine agreement dominated by Dutch interests, sandalwood-oil in Mysore, sisal in Mexico.

A crop which lends itself to control on the lines of limitation of output without any international co-operation being required is jute. There are over a million cultivators in Bengal alone who are entirely dependent on the production of jute for their livelihood. Proposals for a scheme of control were placed before the Central Indian Banking Inquiry in 1931.¹ A jute scheme is possible, since the crop can only be grown, so far as is known, in Bengal. Strenuous efforts have been made in Java and in parts of Africa and America to produce jute on a commercial basis, but so far they have failed. The scheme would require a 10 per cent. reduction in the areas under jute. It would have a certain reaction on other crops. Only one other crop could be planted—rice. It is possible that if the prosperity of jute cultivators were ensured, the major portion of the increased rice production would be used by the cultivators themselves to improve their standard of living, but, even allowing for this it would certainly result in an increased volume of rice being thrown on the world's market. The jute cultivator, being assured of a livelihood, through a monopoly price for jute, could well afford to take a very much lower price than his neighbours, but the rice cultivators of Bengal would undoubtedly suffer.

Falling prices in tea (60 per cent. on Northern India and 45 per cent. on Ceylon in London between 1926 and 1931) led to an attempt at agreement between the tea-growers of India, Ceylon, and the Netherlands Indies to reduce production and exports. But there was a reduction in consumption at the same time, and stocks remained high. The agreement was not renewed in 1931.²

Similarly, France is meeting the crisis in wine by stringent limitations on vine-planting, on output, and on the use of the grape juice, imposed by the new Law on Viticulture of July 1931.

Greek currant control is an example of individual national action where there is no world monopoly. But the two outstanding examples

¹ Note to the Study Group by Mr. A. P. McDougall, one of the European experts invited to advise the Inquiry Committee.

² *The Agricultural Situation, 1930-1*, International Institute of Agriculture, 1932, pp. 47, 48.

are the Brazil Valorization Scheme for coffee, and the Egyptian Government measures for the control of Egyptian (long staple) cotton.

The intervention of the Egyptian Government as a purchaser of cotton from time to time between 1921 and 1930 with a view to stabilizing the price of Egyptian long-staple cotton, resulted in a dangerous accumulation of stocks. In 1926 and 1929 the Government operated in the 'futures' market and found themselves eventually saddled with about 3 million cantars. The policy was abandoned in 1930, when the report¹ of Ahmed Abdul Wahab Pasha, Under Secretary of State to the Finance Ministry, was adopted. The crisis had been postponed at heavy cost, but not averted. It was decided, in accordance with Wahab Pasha's recommendation, to concentrate effort to secure the marketing of the product in the best possible condition and on a reduction in the costs of production. The most important relief given to the small cultivator in the emergency was a postponement of the payment of rent and arrears of rent.

Coffee.

Brazilian coffee producers do not regard artificial control as a temporary measure, as producers of rubber, cotton, and wheat have been apt to do, but as a permanent method of regulating the industry. The explanation of this 'lies in the special economic characteristics of Brazilian coffee production, chief amongst which is the enormous variation in crop yields, and in the very inelastic nature of the demand'.² The primary object of artificial control is to remedy the results of these crop variations on the coffee producers' income and expenditure; it is not to meet fluctuations in consumption due to world trade conditions, or to minimize the results of the creation of capacity in excess of normal requirements, as is the case in most other industries. The first attempts at valorization, i.e. the withholding of supplies in an endeavour to raise or maintain prices, were made in the pre-War period, the first in 1870, when the Government was a large purchaser of Rio coffee, buying the commodity in the place of exchange, as it had large remittances to make. The first definite scheme for valorization was introduced in 1906.

'A period of increasing production and falling prices, producing great discontent among the planters, forced the Government of São Paulo to

¹ His 'Memorandum on the Basis of a Staple Cotton Policy' is printed in the *International Cotton Bulletin*, vol. ix, No. 34, January 1931, Manchester.

² Royal Economic Society, Memorandum No. 34. *Studies in the Artificial Control of Raw Material Supplies*, by J. W. F. Rowe, No. 3, Brazilian Coffee, 1932, p. 5.

undertake to buy the next crop. The bankers to whom the Government turned were at first unwilling to advance the funds required, until Hermann Sielcken, a prince among the coffee merchants, put forward a modified scheme which involved the purchase of 80 per cent. of the 1906-7 crop. The coffee purchased by the State of São Paulo was pledged to an international banking group which marketed it between 1907 and 1911 at the rate of several hundred thousand bags a year. The undertaking was profitable for all the parties concerned, and it succeeded in its main object, preventing the ruin of the planters.¹

During and after the War, in 1917 and 1921, valorization schemes were applied successfully, and after the conclusion of the third valorization, in 1924, a permanent scheme of control was established. The São Paulo Government created an Institute—the *Sociedade Promotora Defesa do Cafe* (Institute for the Defence of Coffee). The functions of the Institute were (1) to lend money on reasonable terms against coffee deposited in official warehouses; (2) to purchase coffee when the market appeared to require temporary relief; (3) to conduct propaganda to increase the consumption of coffee and repress substitutes. Originally, the object of the scheme was to make the financing of stocks independent of foreign capital and to hold stocks in Brazil. In later years the policy with regard to foreign capital underwent a radical change, and the Institute borrowed abroad on a large scale. In 1927 the alarming prospect of a bumper crop persuaded the other coffee-producing States to join with São Paulo in meeting the situation by adopting essentially the same measures of control. 'For practical purposes it may be said that Brazilian coffee producers from the summer of 1927 onwards have presented a united front.'²

Up to this time the valorization policy only stabilized prices, which would have risen even in the absence of restriction. 'It seems probable that the benefits which the producer secured by and through this greater price stability considerably outweighed its cost to him.'³ 'On the whole, little serious criticism can be made of the Institute's policy up to the end of 1926, and accusations that prices were artificially raised above the natural average level must be confined to the period from 1927 onwards.'⁴

The first serious mistake made by the Institute was the financing of the bumper crop of 1927-8 at too high a level. 'The strain upon the Institute grew steadily greater as the volume of coffee warehouses increased, as young trees planted in the boom years came into bearing, and as the downward tendency in other commodities depressed the

¹ Mr. C. Bosanquet in a note to the Study Group.

² Rowe, *ibid.*, p. 11.

³ Rowe, p. 13.

⁴ Rowe, p. 14.

world price level. The crash came in October 1929. The spot price of Santos four's in New York dropped from 22 to 14½ cents.¹ The Coffee Defence Institute was only able to establish its control over the market with the assistance of an international loan of £2,000,000.

The Institute was unable to obtain any more financial assistance, and in April 1930 it was decided to liquidate the stocks gradually over a period of years; a £20,000,000 realization loan was arranged in April 1930, supported chiefly by London and New York banking houses. A tax of 3s. per bag of coffee was imposed for the service of the loan. Subsequently an export tax of 10s. per bag was imposed immediately by all the producing States, and the proceeds used for the purchase and destruction of coffee. As a result of the bumper crop of 1929-30, stocks increased from 10.3 million bags in July 1929 to 23.7 million bags in July 1930. This scheme survived the revolution of October 1930.

In the beginning of June 1931 the process of destruction began, when 4,500 bags of coffee were thrown into the sea, and at the end of December the Council announced that the quantity destroyed amounted to 2,754,796 bags. Coffee was being compressed into bricks and used as fuel on the Brazilian railways in 1931.

In December 1931 an entirely new scheme of control was brought into effect, under which the National Coffee Council took over complete charge of coffee supply. The gold export tax has been raised to 15s., two-thirds of which is to be applied to the service of the £20,000,000 realization loan. The Council will eliminate, within the maximum time of one year, at the rate of 1 million bags per month, 12 million bags of coffee.²

As the coffee situation in Brazil became acute, the wheat position in the United States became serious. The Federal Farm Board held stocks of grain for valorization, the Brazilian Government held coffee for valorization, and as the reduction of stocks in both cases was urgent, negotiations were opened for a direct barter. Eventually, on 31 August 1931, an agreement was signed, in Washington, for the exchange of 1,275,000 bags of Brazilian coffee, free of export tax, for 25 million bushels of the wheat held by the American Federal Farm Board. The Farm Board undertook to hold the coffee until the autumn of 1932, and then not to unload it suddenly and upset the market; Brazil was to meet shipment, storage, and other charges. Incidentally, the United States by this deal supplanted to some extent Argentina as the ordinary supplier of wheat to Brazil; also the

¹ Mr. C. Bosanquet in a note to the Study Group.

² Rowe, *op. cit.*, p. 83. A bag of coffee weighs about 132½ lbs.

provision of wheat led the Brazilian Government to forbid for eighteen months the import of flour, and American millers immediately complained.

In July 1932 an agreement for exchange of German coal against Brazilian coffee was concluded between a large Ruhr heavy industry concern—the Franz Haniel Company—and the Brazilian Government, under which the Ruhr concern provided for the delivery of 350,000 tons of coal between that date and early in 1933, to be taken in direct exchange against additional German imports of Brazilian coffee.¹

Apart from the lack of wisdom shown by the Institute in its refusal to consider the possibility of a price fall, the working of the valorization scheme has been subjected to two main criticisms: (1) that the Government of São Paulo deliberately used the defence schemes for political purposes; (2) that the consumer was burdened with the cost of the Defence Scheme.² At the second International Coffee Congress held at São Paulo in March 1931, proposals were made for the formation of an International Coffee Bureau, which were to be considered further at a conference in Lausanne in June 1932.

It has been maintained that the 1930 scheme and arrangements for liquidation have averted a complete smash-up of the economic life of Brazil. But the incidence of the coffee-tax created great discontent, and was partly responsible for the political disturbances of 1932. It may be argued that the bolstering-up of an artificial price level has deferred the diversion to other forms of production which is now taking place in Brazil, notably in the extension of citrus fruit growing.

IV. National Organizations

The Federal Farm Board.

In the United States the co-operative marketing of wheat and cotton had developed, though not on a large scale, before the establishment of the Federal Farm Board in July 1929, under the Agricultural Marketing Act of that year, gave aid and encouragement to the movement. The Act was passed to redeem President Hoover's promise that he would relieve the hardships inflicted on American farmers by the increase in the tariffs. The purpose of the establishment of the Federal Farm Board, as stated in the Agricultural Marketing Act of 1929, was to promote effective and orderly marketing, to protect, control, and stabilize the movement of prices: firstly, by

¹ *The Times*, 7 July 1932.

² Rowe, *op. cit.*, p. 16.

minimizing speculation; secondly, by introducing a more efficient method of distribution; thirdly, by encouraging the organization of producers into effective associations, and financing marketing schemes including private producers and co-operative associations, and establishing special agencies for that purpose; and fourthly, by controlling the surplus in any agricultural commodity and preventing the surplus from causing undue fluctuations and decreases in price.

The Federal Farm Board, in pursuance of this policy, assisted the farmers' co-operatives to form the National Grain Corporation. This acts as the selling agency of thirty-six associations of different types of co-operatives, with district selling agencies in different parts of the country.¹ It is intended eventually to provide a single sales service for the whole of the cereal grain output of the United States.² The Federal Farm Board has definitely embarked on a policy of co-operatively organizing each major commodity on a national scale. Great progress in co-operative marketing has been made under the Act. During the crop years of 1924-8, grain pools in the United States of America marketed annually quantities of wheat ranging from 12 to 25 million bushels; in the nine months, 1 July 1930 to 24 March 1931, the National Grain Corporation handled more than 110 million bushels, thus becoming the greatest grain and marketing agency in the United States.

Great progress was also made in the marketing of cotton, wool, live stock, and other products by central associations of co-operatives. The Board helped the development of the regional and national integration of hundreds of small co-operative units.³ It offered cheap loans to the co-operative associations; it supplied them with skilled advice, both legal and technical; it promoted meetings between associations working on kindred lines.

But it was the price stabilization policy of the Federal Farm Board which attracted most attention and criticism. The Federal Farm Board began its policy of stabilizing prices by offering loans to co-operatives up to stated values on various grades in the leading terminal markets. At the end of October 1929, the Board, with the object of supporting prices, took the far-reaching step of making loans to co-operative societies based on certain fixed rates per bushel. It was the Board's view at this time that the prevailing low prices were due to

¹ *First Annual Report of the Federal Farm Board*, Washington, 1930.

² *Year Book of Agricultural Co-operation*, 1931, p. 86.

³ Products handled by these associations include alfalfa, beans, canned goods, citrus fruits, coffee, dairy produce, dried fruits, honey, live stock, poultry, grapes, potatoes, rice, tobacco, wool.

the market being over-loaded with supplies, and the aim of these loans was to enable the co-operative societies to advance money to their members on account of wheat delivered and thus allow the grain to be held until prices improved.¹ As this proved inadequate, a special body—the Grain Stabilization Corporation, was recognized in February 1930 on the recommendation of the Wheat Advisory Committee; during February–May 1930, actual buying of wheat by the Corporation was undertaken as a means of keeping up prices. The operations of this Corporation were very large, as may be judged by the fact that at the end of June, after disposing of some of its stocks, it still had 60 million bushels in hand. The action taken no doubt helped to support wheat prices in the crop year 1929–30, but at the best it only retarded the decline, as the Board's view of the world wheat situation on which it was based proved to be mistaken.

When the 1930 harvest came on the market, prices moved rapidly downwards, the prospect of heavy Russian shipments being a major factor. On 10 November, December futures in Chicago reached the lowest price recorded for twenty-eight years, and faced with this situation the Grain Stabilization Corporation again entered the market 'in order to stop panicky selling and to prevent further unwarranted declines in domestic prices'. The price of wheat was 'pegged' at about 80 cents per bushel. In justifying this intervention, Mr. Stone, Chairman of the Board, said:

'The day before the Grain Stabilization Corporation re-entered the market to purchase wheat last fall, sixty banks failed in Kentucky and many more failed in the next few days. The Board had information that 30,000,000 to 40,000,000 bushels of wheat would be forced on the market if the price declined 2 cents more, and that hundreds of banks would have had to close. It acted on this information, and sustained prices.'²

The result of this policy of purchase was that prices on the American market were maintained at about 25 cents above the world level. Unfortunately, at the same time the Board's policy removed the most powerful incentive to a decrease in area, and also discouraged the use of cheap wheat as a food for live stock. A propaganda campaign for a reduction by 10 per cent. of the area of wheat met with

¹ Among the loans approved for products other than wheat was one of 4½ million dollars to the Sunmaid Raisin Growers on condition that an equal amount was advanced by a Californian banking group; similarly the Florida Citrus Exchange had a loan of 3 million dollars. (*The Agricultural Situation in 1929–30*, International Institute of Agriculture, 1931, p. 57.)

² *First Annual Report of the Federal Farm Board*, Washington, 1930.

³ *United States Daily*, 11 September 1931.

little response.¹ The Farm Board announced on 22 March 1931 that purchases would cease at the end of May, which meant that they would not buy the new crop of 1931 because of lack of storage capacity and lack of capital. The Board pointed out that they could not transform their emergency purchases into a 'regular policy of buying at prices above the market, paying heavy charges, and selling below cost'.

The Board's holdings were expected to amount to about 250 million bushels, and in spite of assurances that they would not 'throw their stocks overboard' and a definite announcement that they would limit their wheat sales to 5 million bushels a month, these stocks had a serious influence on the world price. This is not surprising when it is considered that they constituted a very large proportion of the world's visible supply. The limitation of sales agreed on by the Board did not apply to any contracts which might be made with foreign Governments, such as the Brazilian deal or relief supplies to China.

When the help given by the Farm Board was withdrawn at the end of May the plight of the American farmer in the Middle West became very serious. In the first week of August 1931 wheat reached the lowest point on record.² Some farmers were burning the wheat in their fields in order to avoid the expense of harvesting, and thousands of square miles of arable land were expected to go out of cultivation.

The Board's accounts at the end of 1931 showed paper losses of 102 million dollars on wheat, and 75 million dollars on cotton.

¹ In addressing the Millers' National Federation of Chicago on 22 November 1929, Mr. Samuel McKelvie said: 'We are called upon to prevent and control surpluses. The way to control a surplus is at its source. It can't always be done. Throughout 25 years the price of wheat has controlled the acreage, in large measure, for the following planting season. Even if we could momentarily secure a larger price for the farmer for his wheat than natural laws warrant, it will only be a temporary relief because very promptly he would proceed to plant more than was good for him. But recognizing that the surplus in this country of all agricultural commodities represents only about 10 per cent. of the total, we believe that with proper shifts in production, with diversification in farming based upon information that we can secure and supply to the producer, he will gradually eliminate this surplus and proceed in other lines in which there is no surplus—indeed, lines in which we import at the present time, thus finally placing our agricultural scheme upon a basis of domestic production and domestic consumption protected by whatever elements we have provided for the protection of anybody else.' (*The Agricultural Situation in 1929-30*, International Institute of Agriculture, 1931, p. 60.)

² It was sold in Chicago at a price equivalent to about 2s. per bushel, which meant a farm cost of about a shilling, a price far below the average cost of production. The average farm price during the summer months of 1931 was 35 to 36 cents a bushel for the entire country. (*Wheat Studies of the Food Research Institute, Survey of the Wheat Situation, August to November 1931*, January 1932.)

Despite the bad conditions, the co-operatives had repaid to the Board 170 million dollars of the 340 million dollars loaned to them.

'It is perhaps worth pointing out', writes Mr. R. J. Thompson,¹ 'that the action taken by the Farm Board was not in any real sense an experiment in "stabilization" or in organized sale. The expedients adopted were short period engagements, with purely temporary objectives. The "price pegging" scheme of 1930-1 in particular was only resorted to as a means of avoiding a threatened panic believed to be of a serious nature. It succeeded in the sense that panic was averted, but the difficulty was merely postponed so that in the crop year 1931-2, when these artificial prices ceased to operate, the position of the American grower was disastrous. It seems probable in the light of subsequent events, that if the "crisis" had been allowed to take its natural course, it would have resulted in a reduction in area and in the absorption of much of the surplus wheat as food for live stock, with the result that the position of the wheat grower in America and in the world would have been healthier than it is to-day.'

The intervention of the Federal Farm Board in the marketing of raw cotton² began in October 1929, when the Board stated that in their opinion the price of cotton was too low, and that in order to stabilize prices they would loan the equivalent of 16 cents a pound at the ports for Middling 7/8 to members of the co-operative associations in the various States. The cotton farmer could then draw an advance on his cotton, and the Association would market the product and settle with him eventually on the basis of the final price. The Stabilization Corporation, affiliated to the Board, accumulated 1.3 million bales of good American cotton by the end of the 1929-30 season. Estimates of the quantity controlled by the Corporation in 1931 were about 3½ million bales.

The Egyptian Government had also intervened in the raw-cotton market and held in 1931 stocks amounting to about 3,000,000 cantars (1 cantar = about 100 lb.). The Egyptian Government, however, declared their intention of spreading the sales of these stocks over six years, and unloading them in small quantities. A resolution of the Fifteenth International Cotton Congress appealed to the Federal Farm Board also to announce a definite programme of gradual sales.

The cotton trade passed many strictures on the operations of the Farm Board. A co-operative spokesman³ put the farmers' side of the case:

'It is too early to appraise the results of stabilization and to determine

¹ In a note to the Study Group.

² See papers by Dr. A. Zucher, Mr. C. T. Revere, and Mr. E. F. Creekmore presented to the Fifteenth International Cotton Congress. *International Cotton Bulletin*, August 1931, p. 623.

³ *Ibid.*, p. 639.

the advantage, on the one hand, of less forced liquidation on the part of farmers and the community with a somewhat slower recovery as a result of more slowly declining cotton prices, and on the other hand, the economic ruin to many individuals as a result of a sharp drastic decline in cotton prices, and subsequently a somewhat more speedy recovery of consumption and prices.'

The Federal Farm Board, in their report issued in 1931, fully admitted the dangers and difficulty of stabilization operations in regard to wheat, stating at the time that their observations were equally applicable to cotton. They found, among other things, that:

'Stabilization corporation activities, as usually considered, mean principally buying, not selling. This is particularly true when the price is low and markets are weak. Sales by a stabilization corporation tend promptly to turn the market downward . . .'

American cotton did in fact lose part of its advantage in world markets. The reduction in American cotton acreage in 1930 was only 2 per cent., and in 1931 a further 9 per cent.,¹ but the good weather tended to neutralize the results as far as production was concerned. Attempts at legislation to ensure a restriction of area were made by the States of Louisiana and Texas, but it is doubtful whether a Federal Court would not declare them to be *ultra vires*. A new scheme for price maintenance was put forward in the autumn of 1931.

Mr. Arno S. Pearse, until 1931 General Secretary of the International Federation of Master Cotton Spinners, said in June 1931:

'America has gone off the deep end. One speaks of nickel cotton—5 cents cotton. . . . At to-day's prices it does not pay any one to grow cotton, and that is not right either for the grower or the industry. . . . The boll-weevil would be the salvation of the farmer, and as I think, of the industry . . .'²

The proposal known as the Equalization Fee was that as the export surplus of cotton must necessarily be sold at the world's price, an equalization fee should be charged on each lb. sold from the farm to meet the expenses of the scheme and the losses on exports. Artificial scarcity in cotton remaining for domestic requirements would be created, and the American user would be forced to buy his cotton at a price equal to the world price plus the tariff charge. An Export Debenture plan, working by an export duty levied at the ports, was mooted. Neither plan had much chance of success in Congress.

¹ Official Report of the Fifteenth Cotton Congress, *International Cotton Bulletin*, vol. ix, No. 36, August 1931, p. 685.

² *Ibid.*, p. 511.

Dominion Wheat Pools and other Marketing Associations in the Dominions.

The Canadian Wheat Pools originated in the depression of 1920-2. Before the War there had been several co-operative wheat-selling organizations in western Canada. During the War a centralized system of wheat selling was imposed, but it did not survive War conditions. After the depression of 1920-2, the Saskatchewan, Manitoba, and Alberta Pools were formed in 1923, and in July 1924 representatives of these three farmers' associations met at Regina, and the Canadian Co-operative Wheat Producers, Ltd., generally known as the Central Selling Agency or the Canadian Wheat Pool, was organized under Dominion Charter. The Pools are co-operative organizations owned and controlled by some 142,000 farmers in the Prairie Provinces. In 1924-5 they handled 37.3 per cent. of actual deliveries of wheat in western Canada, since 1925-6 they have handled about 50 per cent. The Canadian Wheat Pool is the marketing agency for the Prairie Province Pools; it also markets grains for British Columbia farmers belonging to the Alberta Pool and for many growers in Western Ontario. The educational and social aims of the Canadian Pools are the same as those of other well-conducted co-operative organizations, and they have given the farmers a strong sense of solidarity; on the economic side they may claim to have reduced marketing costs and have to some extent secured the farmer against speculative losses. All Pool members get the same price for the same quality of product, and the Pool carries the wheat until it is shipped. The Pools operate 1,642 country elevators and twelve terminal elevators with a total capacity of 96½ million bushels. The Pool sells grain direct to Canadian and United States millers and exporters, and also exports directly. The United Kingdom is the principal market, and over 50 per cent. of Canadian wheat dispatched to that destination comes from the Pool.

Their serious troubles began in the autumn of 1929¹ when initial payments of \$1 a bushel were made to farmers on the delivery of wheat to the elevators. At that time, when wheat was selling at \$1.50, the advance seemed a safe one, as the smaller harvests in 1929 appeared to indicate good prices, and neither the banks nor any one else foresaw the coming slump in price from 148 cents per bushel on 2 January 1930 to 57 cents on 28 January 1931. But at

¹ The 1928 crop was the largest ever harvested in Canada, and there was an unusually large carry-over from that year when the 1929 crop came in. There was an unusually large percentage of low-grade wheat which added to the difficulty of marketing.

the end of October 1929 Canadian stocks totalled 114 million bushels, of which about half was held by the Pool. Consequently, when the final payment on the 1929 crop fell due the finance of the Pool was locked up in their stocks. The three Prairie Governments rescued the Pools by guaranteeing the principal banks against advances up to 15 per cent. above those already made; the losses on these transactions were estimated at 25 million dollars. When the time came to finance the 1930 crop the initial payment decided on was 70 cents, eventually reduced to 50 cents. The Provincial Governments had taken a blanket mortgage on the properties of the Pools in return for covering the bank loans. And the Pools had no other securities to offer. Arrangements were made with the Provincial Governments for spreading the debt over a long period. But in December 1930 the Federal Government made an arrangement with the banks to prevent the complete collapse of the Pools. In May 1931 the members of the Manitoba Pool were released from their contract to deliver only to the Pool, and were able to sell their grain as they pleased.

Some reorganization was inevitable. It took the form of transforming the Central Selling Agency, and each Pool collected and marketed the grain separately, though inter-provincial relations were maintained.¹ The farmers asked for the reconstitution of the Canadian Wheat Board, as under War-time conditions, but this Mr. Bennett refused. But he conferred with representatives of the Provincial Governments and the Wheat Pools at Winnipeg in August 1931, when the chief subjects under discussion were the powers of the new inter-provincial selling agency and the degree of support to be given by the Federal Government.

The principle on which the Pools had operated was an initial payment of an advance only on the expected price, instead of the usual dealers' practice of paying the full price and selling an equivalent amount in the futures market to defend themselves against loss. The farmers regarded hedging as having an adverse effect on the stability of prices, and, in response to their agitation, a Royal Commission on the subject was appointed under the presidency of Sir Josiah Stamp. The gist of the report was that trading in futures was useful, but that Government supervision of operations in the grain market was desirable.

¹ The Pool's holdings in wheat were not absolutely as great as those of the Federal Farm Board, but they constituted relatively as large a proportion of the Canadian crop as the Farm Board's holdings did of the United States crop. The 1931-2 harvest was short, and the carry-over was expected to be reduced.

In Australia a wheat pool on a compulsory basis was established during the War; it was abolished in 1921. After the compulsory pools ceased to function, voluntary pools were established in New South Wales, Victoria, South Australia, and West Australia. The South Wales Pool ceased to operate in the 1928-9 season.¹ One of them, the Co-operative Wheat Pool of West Australia, handling 46 per cent. of the crop, is financed by the English Co-operative Wholesale Society; the two others, in Victoria and South Australia, handling respectively 55 and 36 per cent. of the crop in 1929-30, are backed by the Commonwealth Bank. Queensland, less important than the other States in wheat production, has a State Wheat Board which handles all wheat sold off the farm. All the principal agricultural products of Queensland are now subject to collective marketing schemes under Government control. The Australian Pools have made no attempt to hold stocks against better prices.

On 8 April 1930 the Wheat Marketing Bill was introduced into the Commonwealth Parliament, proposing the establishment of a Commonwealth wheat-marketing scheme to be controlled by a Central Board, working with Boards set up by individual States and guaranteeing prices to the producers. But the Bill was rejected in July.

Export boards for dairy produce and for canned and dried fruits have regulated shipments and secured some reductions in freight and insurance, but the Fresh Fruits Overseas Marketing Act of 1927 has remained inoperative.

A voluntary Wheat Pool was established in New Zealand in 1928-9. On the crop of that year an advance to growers of 4s. 3d. per bushel was made, and in that of 1929-30, 4s. Exports of dairy produce and of meat are controlled by export boards which ensure proper grading, negotiate with shipping, insurance, and Port Authorities, and regulate shipments with a view to avoiding gluts and shortages.

V. *The London Wheat Conference*

The Rome Conference on wheat which met in Rome in March-April 1931, served to show the extreme complexity of the general problem and the difficulty of reconciling the various interests involved. Its sequel was the London Conference of eleven exporting countries, Argentina, Australia, Bulgaria, Canada, Hungary, India, Poland, Rumania, the U.S.S.R., Yugoslavia, and the United States, which met at Canada House, London, in May 1931. Of these, the U.S.S.R. and Yugoslavia have centralized the export of wheat. Canada, the

¹ *The Wheat Situation, 1931*, Imperial Economic Committee, p. 83.

United States, and Australia have powerful export agencies, and eastern European producers are making efforts for agreement. Consequently the first requisite of international agreement—agreement between national producers—had already made some headway.

Mr. G. H. Ferguson (Canada), who had suggested at Rome the convening of the new Conference, was elected President. The main object of the Conference was the regulation of export by agreement between the exporting countries. The difficulties in fixing a quota for overseas exporting countries were serious enough; the case of Russia was more serious. Was her claim to return to her pre-War position as the premier exporting country admissible? In any case, her expanding production made it difficult to insist on a quota corresponding with her actual export in recent years. The proposal for setting up an international clearing-house was rendered more difficult by various developments—the possibility of a British Imperial quota scheme, the proposal of the three Canadian provinces for a Canadian Federal Marketing Board, and the pending report by Sir Josiah Stamp on the desirability or non-desirability of the continuance of the trade in wheat futures. Most serious of all the practical obstacles to agreement was the heavy stocks held by the Federal Farm Board and the Canadian Wheat Pools.

Various proposals for concerted action were made. Poland suggested an international organization, with head-quarters in London, to fix basic export quotas for 1931-2 for each country; the United States opposed any quota system but favoured a general restriction of acreage; the Soviet Union opposed restriction of acreage on account of the expanding requirements in Russia itself and expressed a qualified approval of the quota system, claiming the pre-War position for Russia and the use of stocks held in reserve as cover for credit, and excluding regional preferential arrangements.

When the divergence of point of view is considered, it is not surprising that the main aim of the Conference was unrealized. The United States would have nothing to say to a quota; Russia would have nothing to do with restricted acreage. The Conference had to content itself with general recommendations and with the setting up of a permanent Consultative Committee for advice and service. The establishment of such a central organization, with the co-operation of Russia and the United States, neither of whom are members of the League of Nations, would be a step forward, but it has not yet been realized. It would at least maintain contacts already established¹ and it might evolve some constructive scheme.

¹ For the full report see *The Times*, 25 May 1931.

One consideration emerged definitely from the Conference—the importance of securing the co-operation of the chief consuming countries in any scheme of organized marketing. It is, perhaps, a fair summary to say that all the exporting countries represented, except the United States, were in favour of export control on a quota basis, though Canada was lukewarm.

VI. *Direct Relations between Producers' and Consumers' Co-operative Societies*¹

Before leaving the question of agreements between producers, special reference to the increasing importance of co-operation in agriculture must be made. Attention has already been drawn to the important role played by co-operation in international wheat marketing in Canada and Australia, in wheat, cotton, and other commodities in the United States. National developments in co-operation are increasingly important, but they lie outside the scope of this book. But it seems pertinent to attach some examples of experiments in national and international trade to establish direct contact between the producers' and the consumers' societies.

Ever since the War there has been an increasing conviction in the co-operative movement of the importance of establishing such relations, both nationally and internationally. The subject has been discussed in some detail at successive congresses of the International Co-operative Alliance (I.C.A.), and its importance was insisted on by delegates to the World Economic Conference of 1927 in the sub-committee on agricultural co-operation of the Third Committee of the Conference. A recommendation that the Economic Organization of the League of Nations should call a committee on the subject bore no immediate fruit, but towards the end of 1929 the I.C.A. approached M. Albert Thomas, Director of the International Labour Organization, in his personal capacity as a prominent co-operator and member of the Central Committee of the I.C.A., asking him to call a meeting of representatives of both sides of the co-operative movement to discuss the question of direct trading. As the I.C.A. is primarily concerned with the consumers' movement and there was no existing body solely representative of co-operative producers' associations, the International Commission of Agriculture in Paris, which represents voluntary farmers' and peasants' organizations in many countries, was invited to nominate representatives of the producers.

The meeting called by M. Albert Thomas met on 2 December

¹ See also Appendix III, p. 292, for further details on this subject.

1929 and arranged for certain work to be done by the International Labour Organization on the question. At subsequent meetings in 1930 organized relations between producers and consumers were discussed. A permanent International Committee for Inter-co-operative Relations has now replaced the informal inter-co-operative conference.¹

¹ Mr. Karl Walter in a note to the Study Group. [See also Appendix III.]

CHAPTER XIII

INTERNATIONAL ASSOCIATIONS REPRESENTING AGRICULTURAL INTERESTS

Farmers' Organizations: International Commission of Agriculture; International Bureau of Agriculture; International Institute of Agricultural Scientific Workers; Union paysanne de l'Europe—Governmental Organizations: International Institute of Agriculture; International Labour Organization; League of Nations; League of Nations Conference on Agriculture.

THE agricultural classes in any given State are widely scattered and tend to be loosely and inadequately organized as regards their own protection and the advancement of their peculiar interests. The weakness of the national organizations has retarded international organization.

I. *Farmers' Organizations*

Associations of farmers as a result of private enterprise and having no governmental or official connexions existed in all the principal agrarian States and had met in congresses before the War. The central organization, founded by M. Méline in 1889, was the International Commission of Agriculture, with head-quarters in Paris, which held biennial congresses in different capitals. In 1925 a Conference, at which seventeen nations were represented, was held at Berne. This meeting resulted in the setting up of a regular secretariat of the International Commission of Agriculture on the ground that the interests of farmers' organizations were insufficiently represented by the International Institute at Rome. The President of the International Agricultural Commission is the Marquis de Vogüé.

The Berne Conference had two results: the first, the establishment by the International Institute of a body—the Permanent International Commission of Agricultural Associations (P.I.C.A.). The seat of the Permanent International Commission is at Rome. It was founded to establish permanent and practical co-operation between the International Institute of Agriculture (a governmental institution) and agricultural associations based on private enterprise, and its first plenary session was held at Rome in November 1927. It was 'intended to serve the Institute as a consultative body, to enable it to maintain close relations with the most representative agricultural associations in all countries'.¹ In 1924, 204 associations in 42 nations and dependencies had adhered to the Commission.

¹ For the regulation of the Commission see Asher Hobson, *The International Institute of Agriculture*, Appendix VI.

The second result of the Berne Conference was the reorganization and strengthening of the International Commission of Agriculture at Paris. Further changes in the International Commission were made by new rules adopted at meetings in Vienna on 24 and 25 May 1929. The rules made eligible for affiliation international as well as national organizations concerned with the advancement of agriculture. Under this arrangement the Paris organization absorbed another international body, the International Conference of Agricultural Organizations, which had been founded by Dr. Laur, the Swiss agricultural organizer.

The International Bureau of Agriculture (known as the Green International) was founded in 1921 on the initiative of M. Stambulisky, supported by the Czechoslovak agrarian party leaders MM. Švehla and Hodža. Originally, it was an organization for co-operation among the agrarian parties in the Slavonic States, as the first alliance of Bulgarians and Czechoslovaks was joined later by the Serbs and Poles. Subsequently it lost this character, as in 1926-7 the Rumanian and Finnish parties joined. There were no real meetings until 1928, when it was constituted formally. It is now a union of political parties comprising the organizations in Czechoslovakia, Jugoslavia, Rumania, Austria, Switzerland, Poland, France, Holland, the three Baltic States, and Finland.

Another body, the International Institute of Agricultural Scientific Workers, was founded in 1931. This is an association of institutes engaged in the study of the agricultural sciences; its principal aim is the exchange of information. On the initiative of the Czechoslovak Institute, several countries, Holland, Poland, Rumania, Japan, and Jugoslavia, have accepted the idea of instituting academies on the model of the Czechoslovak Academy of Agriculture. Where no academy can be created, large committees are to be formed. At present the members are: France, Great Britain, Germany, Holland, Belgium, Denmark, Austria, Poland, Hungary, Sweden, Greece, Japan, and Australia.

In connexion with the International Bureau, the Union paysanne de l'Europe has been constituted with the object of promoting collaboration between economic and professional associations. It is an association intended to represent the interests of the peasant farmers who may find the International Commission of Agriculture too conservative and too representative of large landed interests to serve their needs.

II. *Governmental Organizations*

A citizen of the United States of America, ~~Mr. David Lubin~~, after interesting himself in the development of farmers' organizations in his own country, became convinced towards the end of the nineteenth century that the movement which he had fostered nationally ought to be extended beyond national boundaries. In his project for the foundation of an International Institute of Agriculture he secured the patronage and support of the King of Italy.¹

The International Institute of Agriculture at Rome was founded under a Convention signed on 5 June 1905 on a non-political basis. Its principal aims are the collection and publication of accurate statistical information on crops and live stock, and on freights and prices throughout the world; the promotion of measures for a collective offensive against diseases of live stock and of plants; the dissemination of information useful to farmers; and the encouragement of rural co-operation, agricultural insurance, and agrarian credit.²

The International Institute of Agriculture began operations in Rome on 25 May 1908. Up to the present time seventy-four countries or governments have signed its convention. Its chief constructive work has lain in the production of technical publications and the compilation of statistics and in the organization of international conferences and congresses. It is responsible for the publication of the *International Year Book of Agricultural Statistics*, and its economic commentary, *The Agricultural Situation*, of the *International Year Book of Agricultural Legislation*, of the *International Review of Agriculture*. The four sections of the *Review*—*The Monthly Bulletin of Agricultural Economics and Sociology*, *The Monthly Crop Report*, *The Monthly Bulletin of Agricultural Science and Practice*, and *The International Bulletin of Plant Protection*—are published separately. It has published monographs on agricultural, economic, and social questions. The First International Conference of Wheat Experts in 1927 and the International Wheat Conference of 1931 were held under its auspices. One very important piece of work sponsored by the International Institute is the first World Agricultural Census, taken on the same date and on a uniform plan throughout the world in 1930. The scheme was first floated in 1924, and was eventually placed under the direction of Mr. Leon M. Estabrook, seconded from the United States Department of Agriculture for the purpose. The

¹ See p. 209.

² For an admirable statement of the work of the Institute see G. de Michelis, *The Work of the International Institute of Agriculture since 1926* (Rome, 1928).

results of this census should be of the utmost value to students. The pioneer work of the Institute, especially in the publication of international statistics, has been and is invaluable. The most serious difficulties have been lack of adequate funds and of support on the part of some of the participating States.

Until after the World War the Institute was the only treaty organization qualified to deal with the general interests of agriculture in the international sphere. The establishment of the League of Nations and of the International Labour Organization created a curious situation. Here was another treaty organization obviously peculiarly well fitted to undertake, if need be, work in the sphere of international agriculture. It possessed far greater resources than did the Institute; its prestige was bound to stand higher; its opportunities would be correspondingly extended. Mr. Lubin had suggested that the Institute should be constituted as one of the organs of the League, but, although Article 24 of the Covenant subsequently made provision for just such a contingency, the Institute, for various reasons, maintained its autonomous status.

The two bodies first came into contact over the subject of agricultural labour. The International Labour Organization took cognizance of agricultural labour; it also possessed a Research Department, a sub-division of which dealt specifically with agricultural questions, being charged with the compiling of studies on the conditions of work of agricultural labourers (hours, salaries, unemployment, contracts), on the repercussions of economic conditions in agriculture or agricultural labour, on professional agricultural instruction and agricultural co-operation, in collaboration with the International Institute of Agriculture in Rome, and other great agricultural organizations. Thus, the International Labour Organization was committed in the field of international agriculture.

In 1921 the French Government challenged the International Labour Organization on its right to deal with the question of agricultural labour, the contention being that the Convention of 1905 allotted agricultural matters in general, including that of agricultural labour, to the International Institute at Rome. The question was referred to the Permanent Court of International Justice, which declared the International Labour Organization to be within its rights. In the face of this judicial decision some understanding was thought to be essential, and, on 5 April 1922, the Joint Agricultural Consultative Committee was instituted by the Administrative Council of the International Labour Organization in conjunction with the International Institute. It consisted originally of six members (three

drawn from either organization), but this number was, in 1926, increased to twelve. Experts are invited to assist the members of the Consultative Committee, which meets alternatively at Rome and Geneva.

In 1927 the World Economic Conference was held at Geneva. The Conference formed itself into three Committees. The Third Committee dealt with agricultural problems, and resolutions were passed designating certain agricultural problems as demanding special attention. There was a marked tendency at this Conference to call upon the League of Nations and the International Labour Organization to carry out and execute the resolutions relating to agriculture passed by the Conference. The Conference looked to the League, rather than to the International Institute, as the body most naturally fitted to carry out its intentions, and it may thus be said, by inference at least, to have projected the League into the realm of agriculture.

The following agricultural problems were among those singled out by the World Economic Conference for study by the League of Nations and the International Labour Organization:

- (a) The relationship between producers' and consumers' co-operative associations.
- (b) International agricultural credits.
- (c) A campaign against the diseases affecting plants and animals.
- (d) Investigations designed to encourage agriculture in tropical and sub-tropical countries.
- (e) Special studies concerning the world's forestry resources.
- (f) Investigations designed to throw more light upon the economic situation through a methodical examination of farm accounts. It was suggested that a committee of experts should be convened to outline the necessary plan of study.
- (g) The establishment of an improved periodical and statistical service with special reference to live stock and animal products.
- (h) The monthly publication of indices of agricultural prices.

In December 1927 the International Commission for Co-ordination in Agriculture was founded by the International Institute to prevent overlapping and duplication of work. The regulations of the Commission reserved the positions of President and of Secretary for the International Institute, that of Vice-President was to fall to the delegates of the I.L.O. and the International Commission of Agriculture at Paris, and three places among the especially appointed 'assistants' were to be reserved for the delegates (a) of the technical sections of the Secretariat of the League of Nations; (b) of the International

Chamber of Commerce; and (c) of the Permanent International Commission of Agricultural Associations.

But in May 1928 the Economic Consultative Committee, a permanent committee of the League and an outgrowth of the 1927 World Economic Conference, was summoned in order to consider the application of the resolutions adopted by that Conference, among others those dealing specifically with agriculture. The Economic Consultative Committee formally recommended that the activities of the international organizations dealing with agriculture should be coordinated under the direction of the League of Nations. This recommendation marked the official emergence of the League of Nations as the principal body operating in the sphere of international agriculture. A final settlement of the relations between the Institute and the League was attempted in July 1929, when negotiations opened between the League of Nations and the International Institute for the guidance of the two organizations when dealing with matters of common interest. While on the one hand the International Institute demanded that it should be recognized as the special organ dealing exclusively with all agricultural questions submitted to the League 'the only centre to which the League shall apply in regard to all matters relating to agriculture in every shape and form', the League desired to approach the question from the standpoint of the possibility of the application to the Institute of Article 24 of the Covenant. The resulting agreement (for text see *International Institute of Agriculture*, Asher Hobson, Appendix IX), signed on 28 July 1929, by which each party signified its willingness to inform the other of any new project pertaining to agriculture initiated by either party, seemed merely to perpetuate the *status quo ante*.

A second session of the Economic Consultative Committee of the League was held in May 1929, and the difficulties and special point of view of agriculture occupied considerable space in its discussion. The League, in other words, was embarking on its task. The Committee suggested that the League should appoint a small number of qualified agricultural experts who would be associated with the League Economic Intelligence Service in such a way as to keep the Economic Organization in touch both with the question and with the points of view of special interest in agriculture.

The Committee made certain specific recommendations. These included a campaign against diseases of animals and diseases of plants, the collaboration of all States in the world agricultural census undertaken by the International Institute of Agriculture in 1931, and co-operation between agricultural and consumers' co-operative

societies. Further, the Consultative Committee invited the League Economic Committee to consider, during the year 1929, whether it was desirable 'to organize an investigation of the present serious depression of agriculture in many countries, taking into account the special difficulties both of exporting and importing countries'.

In all its recommendations the Consultative Committee envisaged the co-operation of the International Institute.¹

In answer to this last-mentioned recommendation of the Economic Consultative Committee, the League, in January 1930, with the assistance of the International Institute, called a conference of twenty agricultural experts and in January 1931 another conference of twenty-four agricultural experts. A delegation from the International Institute co-operated with the delegates of the Economic Committee who heard the experts. The fruits of these consultations are embodied in the report on *The Agricultural Crisis*, published in 1931 and 1932.

The failure of this consultative body to satisfy many States, members of the League, together with the ensuing failure of the Tariff Truce Conference and the Conference for Closer Economic Union, in February–March 1930 (all efforts of the League directed towards the amelioration of the world-wide depression), tended to disappoint European States (especially European agrarian States), and prompted them to turn aside from general international co-operation, as having produced no concrete results, and to attempt in earnest concerted action between a group of States.²

Meanwhile, much attention has been paid to agricultural questions in Europe at the meetings of the Commission of Inquiry for European Union held at Geneva under the auspices of the League.

¹ For text of the Agricultural Recommendations of the Second Session, Economic Consultative Committee of the League of Nations, see *L. of N. Official Journal*, February 1930.

² For the action taken by the east European agrarian States see Chapter XI.

CHAPTER XIV

SUMMARY

THE first part of this book is mainly devoted to an examination of the causes of the fall in price of agricultural products, and the consequent distress among farmers. From the data considered in Chapters I and II, it seems clear that the increase in agricultural production as a whole in the last ten years, though rapid, has not been sufficient by itself to account for the present price-fall. If the rate of the pre-War trend in the acceleration of production had been constant since 1914, agricultural production would now be greater than it actually is. Over-production of primary products at the present time is a symptom of the abnormal world depression. It is over-production in relation to the diminished purchasing power of consumers and is primarily due to the breakdown of the mechanism of international exchange.

The importance of wheat in world trade and the influence of wheat prices on the stock markets of the world have tended to give exaggerated importance to the part played by cereals in agriculture as a whole, and to minimize the great importance of the pasture lands of the world and of livestock farming.

The tendency to turn from concentration on cereal production to mixed farming and especially to dairying is a marked feature in the post-War economy of the newer lands, and in the older settled countries; where mixed farming already prevailed, additional stress is being laid on the live-stock side. Mixed farming has always been the rule in Europe, but in the newer countries circumstances have directed attention to one or two products in any district especially suited to their production. Newly opened up land in the Canadian West has been inevitably devoted to wheat, for instance. The change over to another system has been hastened by price considerations, and can probably be carried further without reaching the point of satiety for eggs, dairy products, and fruit.

Changes in the direction of international trade in agricultural products are most notable in wheat, in which the overseas countries have to a large extent supplanted Russia and eastern Europe. The principal expansion has been in the trade in tropical products, and in butter and cheese.

Chapter III describes new methods of agriculture, beginning with the increased 'mechanization' of farming operations—especially in wheat production—in North America, Argentina, and Australasia.

Mechanization in these countries has reduced costs, and made for greater efficiency in harvesting grain in good condition, and thus created a tendency to over-production in wheat in relation to other commodities. It has not been possible to make any accurate estimate of the comparative costs of wheat production in, say, the Canadian West and a small European farm. In the one case other products are incidental; in the second, where mixed farming is the rule, live-stock products may be the main product, and the grain crop incidental. The European case most nearly parallel in respect of the costs of production to the Canadian West would be that of the Russian and Rumanian wheat belt. But the effect of mechanization in cheapening production is obviously greater in overseas countries where wages are high than in eastern European countries where labour is less costly.

The relative importance of labour and of overhead charges in the total costs of production affects the power of different types of farm to withstand a fall in prices. Highly mechanized farms have found their high overhead costs an excessive burden in the depression, while the peasant farm—unable in times of rising prices to increase its output—is less handicapped by the disparity between costs and prices in times of depression, since wages form a relatively small proportion of the outgoings.

The results of the main lines of progress in the application of science to agriculture, though possibly less spectacular than those of mechanization, have been even more important factors in facilitating an increase in the volume and quality of production. Science has made possible the extension of the wheat belt in semi-arid areas and in high latitudes. Better knowledge of soil conditions has improved the carrying capacity of grass-lands. In animal husbandry the progress made has, among other results, reduced the period necessary for the maturing of beef, and has increased milk and egg yields. Research into parasitic and insect pests has given a greater degree of immunity against disease in plants and animals; this service, though valuable in temperate countries, has been especially fruitful in tropical and sub-tropical regions. Outstanding advances in the scientific breeding of plants have increased yields per acre and strengthened the resistance of crops to unfavourable conditions. The work done in animal breeding, though it has so far been mainly empirical in character, has greatly improved the quality of animals for all purposes. The beneficial results of the application of scientific research will be much greater if the information provided can be effectively brought to the knowledge of the individual farmer throughout the world. Considerable progress has been made in this respect in the more advanced countries, and

there has been a notable advance in recent years in the diffusion of scientific knowledge in the colonies and dependencies in tropical areas.

The improvements in agricultural machinery and the increased use of mechanical aids in all types of farming, but especially in the harvesting of grain, together with the application of the results of biological and chemical science to plant and animal production, have brought about a revolution in agriculture. The process began in the last century; it gathered strength in the early years of the present century; and the pace has been greatly accelerated in post-War years. This revolution in farming methods is still in progress. Though no part of the world is entirely untouched by it, it has been most marked in the overseas grain-producing countries. It is as difficult to see these changes in their true perspective as it would have been for an observer in 1840 to assess the full implications of the Industrial Revolution.

In Chapter IV we have set out some of the rather meagre available information obtainable on the return from agriculture in general, apart from the present price-fall, in the form of income or wages. It is in fact difficult to base any conclusion as to the relative advantage to be derived in normal times from agriculture and from other pursuits. The money returns, small as they generally are, go further in the country than corresponding amounts in the towns. On the purely money basis the farmer is less well off than the town worker. In the economy of the modern world there are roughly two ideals for the working life: one, the desire for high incomes; the other, a desire for stability and security. The agriculturist throughout the world tends to seek security rather than riches. Though the peasant's life, judged by many standards, may be a hard one, life on the land offers amenities which no city life can give. The drawbacks of rural existence diminish every day; its advantages remain. But the main economic attraction of agriculture has been the sense of stability. That stability is threatened, and by the restoration of agriculture we mean primarily the restoration of reasonable security.

Closely connected with the problem of the returns from agriculture is the question of migration, for the large migration movements in the past have had their origin in the hunger of the landless man for the possession of land, or by the desire of the labourer to earn higher money wages. The fact that migration from Europe to overseas temperate countries is almost at a standstill has formed an additional inducement to European statesmen to protect their own agriculture and to render themselves as far as possible independent of overseas

food supplies. But though this form of migration has ceased, there are movements, especially in the Pacific, which have great importance in agricultural development.

Chapter V shows that depression in agriculture is no new phenomenon, and that waves of depression similar to that from which farmers are now suffering have occurred in the past. Though the circumstances in each case vary, the fall in prices does not appear to be explicable in any instance mainly by the commonly alleged reason of over-production. The competition of overseas production in European markets does not provide an adequate explanation of the collapse of prices. The significant fact is that the periods of prosperity and the great depressions in agriculture have coincided with periods of monetary expansion and monetary contraction. Though other factors must not be ignored, the agricultural history of the last 100 years shows that favourable monetary conditions are essential to recovery. It is outside the scope of this Report to deal with the methods¹ by which the means of exchange should be made adequate to the reasonable demands of world economy, including the financing of a normal increase of production in agriculture to meet a normal increase in consumers' demand.

In the words of the Macmillan Report:²

'Our view is, therefore, that the price level is the outcome of interaction between monetary and non-monetary factors, and that the recent world-wide fall of prices is best described as a monetary phenomenon which has occurred as the result of the monetary system failing to solve successfully a problem of unprecedented difficulty and complexity set it by a conjunction of highly intractable non-monetary phenomena. Whether the international monetary system *could* have solved its problem is a matter on which we should hesitate to express a dogmatic opinion.'

The disorganization of monetary conditions reacts differently on the various branches of industry, commerce, and trade. In Chapter VI, some of the special reactions in agriculture are discussed, including the tendency to a greater spread, in a period of falling prices, between the prices of the raw products of agriculture and the finished products of the manufacturer, and between farm-gate and retail prices of non-processed products. The variation in the prices of individual agricultural products is also examined. A general rise in prices would not, of course, prevent over-production and low prices in particular agricultural products. Under competitive conditions a readjustment of production to consumers' demand should in the long run be auto-

¹ See Chatham House Report on *The International Gold Problem*.

² Committee on Finance and Industry, *Report*, Cd. 3897 of 1931, p. 93.

matically accomplished by the reaction of the prices of individual commodities. But under the existing state of affairs there are so many restrictions imposed by producers' organizations and by governmental interference that the normal function of price in equating supply and demand is only operative within certain limits.

The second part of the Report deals with the attempts made by Governments and producers' and trade organizations to improve the position of agriculture. Before considering these political and other measures it seemed desirable to describe in broad outline the conditions of agricultural production in different parts of the world, and to illustrate the contrast between the New World and the Old, and of the Asiatic and Colonial World with both. Without that background, the policies pursued by the State and by producers' organizations are not very intelligible. Broadly speaking, the new countries have been driven to economize labour by extensive methods of farming and the use of mechanical aids to production; Europe seeks not so much to economize labour as to maintain a large rural population; the character of agriculture in Eastern countries is determined by the pressure of population on the land and by the lack of accumulated capital; and 'colonial' agriculture differs widely according to whether it is conducted by native populations without capital or by European and American planters.

These varying national conditions give rise to stresses and strains in the structure of world agriculture which find expression in various ways. These difficulties might be overcome if the general world economy were healthy and the general level of prices of industrial goods, raw materials, and agricultural products were reasonably stable. But under existing conditions Governments are driven to adopt uneconomic measures, often from motives of political self-preservation. Every country regards the prosperity of its farmers as a fundamental condition of the national well-being. In the last three years the farming class in Europe, America, and Australasia have been faced with disaster, and Governments have snatched at measures of protection, in some cases of extreme protection, in the hope of averting their ruin.

The various devices adopted are shown in Chapters X, XI, and XII. It is important to establish some distinction between permanent and emergency policies. There is a case for the protection of agriculture, which is the outcome of a conviction that a certain balance between urban and rural life is necessary for the State in question; a national policy of this kind has been pursued for decades in France and Germany and did not in the pre-War period involve prohibitive duties.

The protective policies of those countries may be regarded as following a well-defined course. The extreme developments of the last few years in many countries are not necessarily part of a continuous and reasoned policy of this nature, but are, in many instances, expedients devised to meet an emergency. Though the ideal of self-sufficiency detrimentally affects both world trade and the country which adopts it, yet governments have been compelled by the inevitable pressure of events to attempt to protect their nationals against the fall in world prices, even if they do not believe that they can permanently isolate themselves from the consequences of the world crisis. *Video meliora, proboque, deteriora sequor.*

The ostensible object of tariffs, quotas, and bounties on food production is to place the home producer in the importing countries in a position to compete with the foreign producer operating under more favourable circumstances, whether of climate, capital resources, or labour; in fact, to maintain the internal price-level above the world price-level. Defensive protective measures taken by individual importing countries have led exporting countries to take concerted action to circumvent tariff and other obstacles by securing preferential treatment for their products. This group action, described in Chapter XI, can be pursued by means of reciprocal concessions in the case of the colonial empires and the British Commonwealth of Nations. Arrangements of this kind are, speaking generally, free from any difficulties arising from the Commercial treaties which the Colonial power may have entered into with other countries, since mutual preferences between countries under the same sovereignty are accepted as not being in conflict with the Most-Favoured-Nation clause. The East European States have sought to form themselves into a bloc for defence against overseas competition in grain, and to organize collective selling and a preference in West European markets, but their plans have only so far resulted in modified progress.

Chapter XII enumerates and describes the measures undertaken by producers themselves for orderly marketing or for the valorization of individual agricultural products. The movement is analogous to the tendency in industry to arrange for the allocation of markets and the maintenance of prices by national monopolies, or, where the manufacture of the product is widely distributed, by international cartels. Rationalization, however, on an international scale in production and marketing is infinitely more difficult in agriculture than in industry, because of the world-wide distribution in some of the staple products concerned, and because of the difficulty of organizing the numerous small producers. But neither effective measures of

valorization and marketing, national or international, nor the various measures of protection undertaken by single national units nor by groups of units, nor a combination of the two, can of themselves provide a remedy for the world depression in agriculture.

In Chapter XIII we have enumerated the principal international institutions concerned with agricultural questions. There appears to be a certain amount of overlapping of function. It seems apparent that an improvement in the statistical services must proceed from the less to the greater, from the national to the international sphere. That there is some dissatisfaction with the existing state of affairs is shown by the withdrawal of the United States from membership of the International Institute of Agriculture at Rome. The services rendered by Rome, even with restricted financial resources, have been considerable, and the endeavour to secure closer co-operation between Geneva and Rome should be supported.

The fortunes of agriculture are intimately bound up with the industrial and commercial activities of the rest of the world, and the instability from which agriculture now suffers is part and parcel of the malaise affecting the economic systems of all civilized countries.

The rescue of agriculture from its present plight depends primarily on a steady increase of demand for its products, i.e. on a continuous rise in the standard of living. This, in its turn, with all that it implies, such as the reabsorption in productive occupations of the millions of unemployed industrial workers, is dependent upon an improvement in world political, financial, and economic conditions. Measures designed specifically for the assistance of agriculture, usually of a restrictive nature such as are now commonly advocated, may alleviate symptoms of agricultural distress; they cannot remove the fundamental causes of the disease which are world-wide. Acting alone the agriculturist and his friends may usefully work for the rationalization of production and marketing, for the better grading of their products, for the improvement of statistical services, and the dissemination of information. Action, even on these lines, however, can do little towards re-creating in the minds of men that all-important feeling of confidence in the future, without which it will be difficult to remove the many political and economic obstacles which at present impede the revival of international demand for the products of agriculture. Of the modern world it is true to say that it is becoming increasingly difficult for one State to harm the interests of another without injuring its own economy. Only large-scale action in which all the most important nations will collaborate can hope to overcome world-wide difficulties. From the political point of view, it is no exaggeration to

assert that the success of the Disarmament Conference has a direct bearing on the prospects of agriculturists the world over. On the economic side the prosperity of world agriculture is dependent upon the solution of a number of problems, partly financial, partly monetary, partly related to commercial policies. Here again solutions depend on common action between nations, and it must be the earnest hope of all men of goodwill that the forthcoming World Economic Conference will provide an opportunity for constructive action which will further the cause of world recovery, and enable the farmers of the world to extricate themselves from their present plight.

The End

APPENDICES

APPENDIX I. EXTRACTS FROM MATERIAL SENT IN BY CORRESPONDENTS OF THE STUDY GROUP

1. *Relations between the Agricultural and the Industrial, Commercial, and Professional Groups.*
2. *Production and Consumption of Agricultural Products.*
3. *Aspects of the Agricultural Depression.*
4. *The Factory Farm.*
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APPENDIX II. SUMMARY STATEMENT OF THE OTTAWA AGREEMENTS.

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APPENDIX I

EXTRACTS FROM MATERIAL SENT IN BY CORRESPONDENTS OF THE STUDY GROUP

THE Group are—as has been stated in the Preface—indebted to a large number of correspondents who have rendered valuable assistance, generally by way of comment on individual paragraphs, many of which have been acknowledged in the text of the Report. Some correspondents have sent contributions to which it has not been found possible to do full justice in the body of the book. They elaborate a special point, or they present a special point of view. Substantial extracts from these are given below, and we can only regret that it has not been possible to print them in full. Many shades of opinion are expressed, and some controversial points raised. The writers speak for themselves, and their views may differ from those expressed in the Report. The variety of the opinions expressed indicates the need for full discussion of the whole agricultural question. It should be noted that many correspondents are commenting on the first Draft Report submitted. As a result of these comments the present Report differs substantially from the document on which they were asked to comment.

For the convenience of readers these extracts are grouped under the topics to which they refer.

Relations between the Agricultural and the Industrial, Commercial, and Professional Groups

SIR T. H. MIDDLETON.

Starting from the soil as the primary source of wealth the world's inhabitants might be classed in three groups: (a) those who as a result of invention, education, and organization have in the past 125 years got 'in front of the times' of the world at large; (b) the cultivating classes; and (c) those who in non-industrialized countries, though not cultivators, are dependent on agriculture. This group includes the petty traders of peasant countries, and landless partially employed labourers, East and West (e.g. 'depressed' classes in Indian villages, 'corner boys' in Ireland). . . .

It seems questionable whether as many as 20 per cent. of the world population could be classed under (a).

Stated baldly, those who have left the land for group (a) have in the past 125 years reached a relatively high subsistence level by exploiting products raised by the cultivators. Commerce, industry, finance, 'services' have by skill and organization used to their own advantage the cheap raw products of the soil. Sir Josiah Stamp was thinking chiefly of western nations in his address to the Farmers' Club when he said: 'In the 19th century by cheap wheat, manufacturers were able to keep the cost of living, and therefore wages, relatively low, and to make large profits. Out of those

profits they contributed unprecedented sums to foreign investments, and developed with great rapidity the foreign transport systems, which brought into new supply vast quantities of new food-producing lands.' But his generalization, that 'over a long period the world has been fed at less than cost price', applies to the world at large, and the first group of questions raised by the present crisis is: 'Have industry and the various "services" groups over-reached themselves; have they been going too fast; can the conditions of the past 125 years be expected to continue; can the soil be made to support at its present high level the increasing numbers striving to enter the ranks of industry, commerce, and the professions?'

The answers given to these questions by, e.g. the United States and Australia on one hand, and France and Germany on the other, would appear to be different, if we may infer the answers from the national policies which are being followed by these countries.

. . . If one thinks of the world as it might be one would not feel any misgivings about the policies of the United States and Australia; but, as things are, one asks whether the older may not also be the wiser countries. . . .

In many countries efforts are made to equate the earnings of agriculturists and other workers. This is the problem of the United States, and the pressing character of the problem explains, if to Europeans it does not excuse, the country's tariff policy. One section of the American people in recent years reached a very high standard of living supported by industry and commerce; another section, about half the entire population, reached a standard some 60 per cent. lower. The effort of the United States has been to level up; in fact it has had to level down. So wide a spread in levels has brought disaster. . . . The Federal and States Governments have followed a liberal policy in research, education, and financing agriculture. In the United States economic nationalism has very favourable natural conditions. American industry is well captained and well manned. American commercial classes do not lack enterprise. Unlike European countries war increased its capital wealth, yet when industry and commerce soared far above the agricultural level they collapsed. Here again it appears to be a case of industry, commerce, and agriculture falling together.

Does America's recent experience give us in a decade an illustration of something that has happened in the world at large in a century and been brought to light by war dislocation? Are we tied to the soil and thus, in attempting to force the pace, have encountered disaster?

THE RT. HON. W. ORMSBY-GORE, M.P.

A general point of great interest is whether industrial enterprise is more dependent on a more or less prosperous agriculture than agricultural enterprise on a more or less prosperous urban industry. I have come to the definite view that the former is the true proposition, i.e. that one of the main causes of present world industrial depression and unemployment is

the collapse of the purchasing power of agricultural producers. The increased purchasing power of a more prosperous industrial community would not mean much more consumption of food—but would mean more cinemas, wireless sets, beer, &c.! In effect—the present world situation demands a revalorization of agricultural products as a prior and antecedent necessity before there can be any effective industrial recovery. If the Uganda native cannot get more for his cotton than he is doing, he cannot buy a bicycle or a gramophone or so many clothes. The increase of purchasing power of the farmers of the world is the most important and *first* need. It looks as if in Russia the disequilibrium that is preventing any increase in standards of living of everybody is not due so much to industrial or factory failures, as to the deliberate limitation of the purchasing power of the peasant, and the failure of the Soviets' Agricultural Policy over 99 per cent. of the area of their cultivable land.

MR. J. R. HICKS.

Increasing wealth necessarily involves a smaller proportion of economic resources being devoted to the production of necessities and a larger proportion to luxuries. On the whole, then, a smaller proportion of the total labour-force of the world is needed in agriculture; but if people insist on following their parents' trades this is unlikely to come about. There will thus be a relative over-supply of labour in agriculture and a relative under-supply in other occupations—with the natural effect on incomes.

Once this is seen clearly, it becomes possible to put the monetary factor . . . into its proper place. Currency or credit inflation eases the position of the agriculturist, and reduces the pressure to leave the industry. But inflation does not last, and, when it stops, arrears have to be made up. No form of stabilization could be successful which does not lead to a *steady* pressure to leave agricultural occupations. Monetary fluctuations convert the steady relative decline into a series of steps.

MR. J. A. SELBY-BIGGE.

At the first stage of analysis the problems arise of reconciling the different national points of view towards agriculture and of mitigating the effects of geographical and climatic differences that produce a disruptive form of competition. . . . In many instances, national points of view are confused or mixed. Thus agriculture may be regarded as:

- (1) The provision of the maximum amount of food and raw material for the population. (This point of view is inherent in all policies of economic self-sufficiency.)
- (2) A problem of national economy. (Internal market, trade balance, budgetary policy, &c.)
- (3) A problem of national politics. (The protection of the interests of the agricultural class; the balancing of the relative prosperity of the urban and rural population.)

- (4) A problem of national sociology. (The maintenance of a proportion of the population on the land in order to provide a basis of healthy and prolific stock of tenacious character and stable tendencies.)

The geographical differences range from the barren mountains of the Balkans, where cultivation is necessarily carried out with the pick-axe, to the American Wheat Belt, which lends itself by nature to development by every mechanical device and every application of science. Proximity to markets or to seaports is, of course, a natural factor of great importance.

Climatic differences determine not only the nature of crops and their fertility but also the diet and conditions of life of the worker. Whereas the worker in one climate may require a diet of meat, clothing of wool, and a house of stone, the worker in another climate may live equally well on a diet of rice or vegetables, with scanty clothing of cotton, and a house sufficient only for privacy.

As a result of the difference of attitudes towards agriculture and of the difference of natural conditions, we are confronted with a variety of forms which may be typified by the following:

- (a) The collective farms of Russia.
- (b) The industrialized farms of the American Wheat Belt.
- (c) The homestead farms of western Europe.
- (d) The peasant farms of central and eastern Europe and of Asia.

How can a fair living be assured to the workers in each of these heterogeneous forms of agriculture while still preserving the structure and purpose of each within an international framework?

In the Utopia of theoretical Communism there would be no such problem. Each worker—whether engaged in industry or agriculture—would contribute to the common pool of production just sufficient labour to fill the pool with the required quantity of the necessities and amenities of life for all. The collection and distribution of the pool would be a function of government. Each worker would receive from the pool a share that would ensure him a satisfactory livelihood.

However, leaving aside the Utopias, we may examine the position of agriculture as it now appears in relation to the whole social-economic structure.

An observer from another world looking at this structure might reasonably suppose that the scale of values on which remuneration, prices, purchasing power, and other economic factors are based would at least begin at the bottom and mount upwards. Thus, the first and basic value in the scale would be a sufficiency of food and clothing for those who produce the prime materials of life such as food, wool, cotton, and minerals—that is to say, the farmer, planter, and miner, whom we may class together as the land-population and who, in fact, represent the largest section of the world's population. Second in the scale would come the smaller section of manufacturers, whether artisan or big industrialist. The third value would be that of the distributor, including the transporter,

merchant, and retailer. The last value in the scale would embrace the banker, financier, landlord, and rentier—the smallest class of all. . . .

What the observer will actually find is an exact reversal of this scale of values. . . . As one watches the gradual relentless ruin of the farmer, the planter, and the miner, and then the upward spread of the disease of poverty and stagnation, one realizes that the scale of values designed in the form of a pyramid has become inverted. While the bottom has shrunk the top has expanded. In fact, the pyramid now rests precariously balanced on its apex.

I suggest that this simplified description of the present social-economic structure is corroborated by the analysis of facts and determining factors set out in this report.

When one turns to the question of remedies, it is, of course, possible to sketch out on paper an *organization* for dealing with the problem. For instance, one might suggest the following scheme of national organizations:

- (a) Collective farms co-ordinated directly by the State.
- (b) Wheat Belt farms co-ordinated by pools and cartels.
- (c) Homestead farms co-ordinated by private co-operatives.
- (d) Peasant farms co-ordinated by State co-operatives.

Superimposed on this structure of nationally co-ordinated agriculture one might create an international organization consisting of:

- (a) A Produce Exchange to regulate the distribution of produce in accordance with supply and demand.
- (b) A Valuation Board to fix the relative prices of produce and to adjust the agricultural price level to that of industry.

Even so, granted complete international goodwill and efficiency of organization, there would remain unsolved the fundamental problem of valuation. What is to be the basis of valuation? . . . The modern system of cost accountancy suggests an angle from which the problem may be approached. The cost of any manufactured article can be analysed into hours of labour (at varying rates) plus hours of machinery (at different costs) plus material plus proportion of overheads and standing charges. If this process of analysis is extended, one can conceive of machinery costs and material in turn being analysed into terms of labour costs: and by a further extension overheads and standing charges could be similarly analysed with the exceptions of land-value and of interest charges. If we leave aside land-value and interest charges, the final result of the analysis would be the valuation of an article at every stage from primary product to manufactured article in common terms of human labour (at varying rates of reward). To put the scale of measurement into action, we first have to decide on the nature of the lowest unit of measurement—say a day's work by a simple-living peasant or unskilled labourer in a temperate climate. Obviously, his least reward must be a sufficiency of food, clothing, and accommodation—or say a ration and billeting card. Until this is assured the economic and social world can never function smoothly.

If, then, this unit of measurement is accepted the next step is to adjust the varying rates of reward along the scale. These fixed, it remains to pass on down the scale the accumulation of wealth produced by further development and production in the form of a steadily rising scale of living for all, thus avoiding congestion of wealth at one point and consequent shrinkage at another.

The questions of land-value and interest charges—the core of the present capitalist system— . . . lie outside the scope of this paper. I believe, however, that they will shortly have to be faced and answered if civilization is to survive.

SIR JOSIAH STAMP.

The root problems in agriculture are:

(1) That the world as a whole and over a given length of time has almost certainly been fed below cost price for the last 100 years, if one takes into account the proper elements of costs.

(2) That on the supply side from the economic point of view adjustments of agriculture are slow and diminution of total supply particularly difficult to achieve speedily, by the nature of the industry, by the psychology of the farmer, by the widely spread districts from which the supply comes, and by the rapid advance of technical appliances. As against this on the demand side, the demand schedule for changes in price with quantity is extremely inelastic.

(3) The comparative fortunes of the agriculturalist and the industrialist are short lived and may have a rapid nemesis for the industrialist when the impoverishment of his colleague affects his own selling powers. . . .

One must add to these difficulties the confusion produced by the extreme rapidity with which wheat prices fall on the appreciation of gold, and the fact that whole communities have to pay fixed money indebtedness by the sale of agricultural products. . . . The problem touches practically all sides of economic life.

Production and Consumption of Agricultural Products

PROFESSOR DR. JØRGEN PEDERSEN.

From my detailed price studies, which cover the period 1855–1913, it appears that the price of grain is little, if at all, influenced by the cyclical fluctuations in purchasing power and employment in society as a whole. The price of animal products is clearly influenced, but with a considerable time lag. From the theory which I hold that the demand for cereals especially for human food is exceedingly inelastic, and not influenced perceptibly from a reduction in general purchasing power until it becomes extremely heavy and persistent, follows:

(1) That the sharp decline in the price of cereals could be explained by the very heavy crop of 1928 and the maintaining or increase in area as a consequence of the accumulation of stock by the Federal Farm Board and

the Canadian Wheat Pool at a price sufficient to cover normal costs. Later on, reduction in area has been retarded by the industrial depression, which made emigration from agriculture to industry impossible.

(2) . . . When money income is reduced the consumers do not begin with reducing their consumption of bread or similar coarse foods, but they curtail their demand for commodities and services less necessary. If the depression persists they may even be obliged to curtail expenditure on these necessities, and it is possible that this is playing a part in the slow reaction to the decrease in cereal production of the last couple of years, but it must be remembered that the reduction in production has so far not been sufficient to equvalate the surplus stocks in 1929 and 1930.

I hold, therefore, that the monetary factor has played no part whatever in the original fall in cereal prices after 1928. It can be explained solely by the increase in production in 1928 and the subsequent accumulation of stock and the consequent failure to reduce the area, which was later on made difficult by the aggravation of the industrial depression, depriving agricultural labour of the substitution price for their labour which the facility of getting work in town supplies in prosperous years. What has been said here of cereals applies also to some extent to other foods, but not to industrial raw materials such as cotton and rubber; here the general conjuncture undoubtedly plays a larger part, but yet you will agree that it is not necessary to introduce the alleged shortage of gold in order to explain the fall in rubber prices; the increased production which was even further increased by the adoption of the Stevenson scheme is sufficient explanation, and also in cotton there has been a failure to reduce production to some extent brought about by the American valorization scheme.

On the whole it may be said that agriculture in the leading nations in recent years has tried to copy the monopolistic policy of the town industries in spite of the fact that the fundamental presumption of such a policy did not exist. Agriculture has tried to fix prices without being able to control production; that must, of course, result in disaster.

MR. A. N. DUCKHAM.

The possibility of seeking new outlets for productive capacity in both land and men that have been or should be replaced by increased technical efficiency in, for instance, cereal production, requires further consideration than has hitherto been devoted to it.¹

Propaganda in some Western countries has been devoted to increasing the consumption of milk and fruit. . . . The demand for cereals is admittedly inelastic. But there may be an advantage to the farmer in the increased production of foods of a semi-luxury type (not rigidly limited in consumption by the size of the human stomach), which are high in labour costs either directly or indirectly. Eggs, for instance, which are produced mainly

¹ The following notes are not intended to have reference to any Asiatic or tropical countries.

from cereals on which labour has already been expended, are high in labour costs (i.e. in absolute costs from the economist's point of view) and in acreage required (e.g. to produce 1,000 calories or 1,000 grammes of protein as eggs requires more land than the production of 1,000 calories or 1,000 grammes of protein as wheat). Foods of this type would include lamb, butter, eggs, poultry, vegetables and salads, soft and hard fruit, sugar, luxury cheeses, and confectionery. . . . The consumer would have to be educated to a higher standard of diet. The general idea would be to try and extend the United States standard of feeding (but not the United States standard of living qua non-agricultural goods) at the expense of the demand for industrial goods and services—if necessary. Such a campaign would no doubt tend to decrease the demand for some low-cost foods such as rye or wheat, but this would probably be compensated by the demand for cereals for conversion into animal foodstuffs or by the demand for acreage for high-cost products. Malnutrition, in Great Britain at all events, is not necessarily a question of cash but largely consumer-ignorance.

Appreciable sums are spent on ready-made cereal preparations such as biscuits, cakes, and scones of various types which are cooked with low-grade fats (from the nutritional point of view), and from cereal preparations low in roughage, protein, vitamins, and minerals. A change-over to the type of foods suggested above should, therefore, have favourable health reactions—the campaign could with justification be waged from a public health platform. Any additional cost to the consumer might indeed be more than compensated from a national point of view by improved human efficiency and lower health-maintenance costs. Further, it should be noted that the semi-luxury foods suggested, e.g. eggs, butter, milk, meat, salads, are consumed in a less manufactured state than most cereal preparations (including bread, cakes, &c.), and that a greater percentage of the consumer's food pound should, *prima facie*, therefore, go to the farmer. In practice, however, the greater perishability of such semi-luxury foods may increase wastage between farmer and consumer and thus increase the farm-gate to consumer 'spread' and diminish the farmer's percentage of the consumer's food pound.

But even a turnover to the 'finer' food products would ultimately be faced by the inelasticity of food demand. There are still unexplored demands for industrial raw materials, particularly those which can be grown in temperate lands, e.g. flax. New uses for some of the industrial raw materials supplied by the farmer may be discovered. In trying to find new markets for agricultural raw materials, rubber research and propaganda organizations have had some success in finding new uses for rubber. . . . Can agriculture provide more essentials to the makers of consumers' goods of the future—*aeroplane fabrics, television apparatus, new electrical insulating materials, new types of gramophone records?* What sort of industrial raw materials will be demanded in the future? Can agriculture produce them economically? If so, in what areas?

Again, although we have now a glut of oil and coal and power production and although hydro-electric supply is becoming more and more efficient, supplies of oil are known to be limited, at least in their present cheap form (i.e. without mining). Can agriculture find new cheap sources of power? All power is ultimately a product of the sun—if the latest theories as to the origin of oil are correct—and agriculture is (basically) using sun power to convert or reduce carbon from an incombustible form to a combustible form, through the catalytic agency of certain iron and manganese, &c., compounds in the green leaf. Power alcohol has not been very successful to date, but past failure is no reason for despair. Imagine, if you like, the prairies of Canada and the Blacklands of Russia producing from some new plant cheap sugar for industrial power. . . . There is at least a minor case for the diversion of the agricultural research worker's attention from commodities of ultimately inelastic demand (particularly as the population of western Europe and North America, and possibly elsewhere, is likely to reach maximum in the next 30 years) to the search for new semi-luxury foods and new industrial raw materials and to finding out where they can most economically be produced. . . .

The research worker tends at present to confine himself (*a*) to fundamental research, and (*b*) to everyday problems of contemporary products, often without considering whether he is encouraging them to grow where they should not or whether he will or will not increase the farmer's income. Future products and land utilization planning would surely provide quite as interesting a field.

MR. R. J. THOMPSON.

In considering the causes of the slump in prices since 1929 the influence of over-supply, particularly in the form of accumulated stocks, is frequently overlooked or unduly minimized. It may be true that over a long period the increase in production has not been abnormal, if account is taken of the increase in population, but it seems equally true that, in the short period since 1929, an entirely exceptional and unprecedented position has arisen owing to the world's markets being burdened with enormous stocks, with the result that the supply offered for sale on the international market has been continuously in excess of any possible demand.

Wheat, sugar, coffee, cotton, tea, wine, olive oil, wool, silk and rubber all show this characteristic in varying degrees. In some cases demand declined, but the essential factor was that stocks, having once been accumulated, could not be reduced because annual production continued to be approximately equal to current demand. These stocks dominated the market, and produced a condition of over-supply which was a major influence in the fall in prices. . . .

The fact that this was happening to such a wide range of products within a short period of time naturally had a cumulative effect, and had reactions in reducing demand for industrial products, and in conjunction with

monetary causes was a vital factor in the general economic depression. In addition, during this period there has been a heavy production of maize, butter, bacon, and frozen lamb, and the international market has had to dispose of a supply of these products much in excess of the normal at proportionately low prices.

Wheat affords a particular example of the influence of heavy stocks. These first rose to abnormal proportions as a result of large world production in 1928. In the following year, although the crop in exporting countries was much reduced, European production was large and the purchases by the chief importing countries were lighter, with the result that stocks, though somewhat smaller at the end of the year, were still quite exceptional. In 1930, there was again a heavy world crop, and, though purchases by importing countries were about average, stocks on 1 August 1931 were slightly higher than at the same date in 1929.

The following figures¹ compiled by the International Institute of Agriculture give an idea of the position. The first column shows the total estimated exportable supplies, that is, the surplus available in exporting countries, while the second column shows the extent to which this was drawn on, with—in the third column—the residual exportable stocks remaining at the end of the season, i.e. on 1 August.

TABLE XXVII

Millions of bushels

| | <i>Exportable supplies.</i> | <i>Total quantities imported.</i> | <i>Exportable stocks residual at the end of the season.</i> |
|---------|-----------------------------|-----------------------------------|---|
| 1926-7 | 1,070 | 819 | 251 |
| 1927-8 | 1,110 | 801 | 309 |
| 1928-9 | 1,420 | 886 | 536 |
| 1929-30 | 1,130 | 662 | 468 |
| 1930-1 | 1,350 | 804 | 546 |
| 1931-2 | 1,338* | 880* | 458* |

* Estimated.

In a normal year, a residual stock of about 250-300 million bushels is carried forward and is used to cover requirements until the new crops become fully available, but as will be seen the stocks in hand since 1929 have been far above these figures.

The pressure of these excess stocks on the market has been somewhat mitigated by the fact that an appreciable proportion has been held by the Federal Farm Board, otherwise the decline in prices would have been much more rapid. At the present time the Board is believed to have fully

¹ *Monthly Crop Report*, October 1931 and March 1932, International Institute of Agriculture.

150 million bushels in hand, and, until this stock is disposed of or counter-balanced by a deficiency in current production, it seems obvious that we have a condition of over-supply which must keep prices depressed.

The above figures show the exportable stocks in the four principal exporting countries, Canada, United States, Argentina, and Australia. Estimates of the total world's wheat stocks on 1 August, and of the world's visible supplies¹ point to the same conclusion, viz. that in the last few years the immediately available supplies have been far in excess of anything formerly known.

TABLE XXVIII
Millions of bushels

| <i>1 August.</i> | <i>World's wheat stocks.</i> | <i>World's visible supplies.</i> |
|------------------|------------------------------|----------------------------------|
| 1921 | 476 | 134 |
| 1922 | 507 | 121 |
| 1923 | 461 | 139 |
| 1924 | 578 | 162 |
| 1925 | 419 | 131 |
| 1926 | 482 | 139 |
| 1927 | 521 | 168 |
| 1928 | 590 | 218 |
| 1929 | 858 | 350 |
| 1930 | 809 | 378 |
| 1931 | 904 | 437 |

Wheat was not alone among cereals in having excess supplies in this period. Rye, which is extensively used as a bread grain in many parts of Europe, was also abundant in 1928, 1929, and 1930. Mr. G. B. S. Broomhall, of the *Corn Trade News*, writing in 1931, observes that 'for the past three years the European market has been burdened with a large and unwieldy surplus of rye'. Barley and oats were also plentiful, particularly in 1929, while the production of maize in Argentina in 1931 was enormous. As Argentina is almost entirely dependent on the European market and has few facilities for storage this meant a very ample supply of a cereal which as a food for live stock competed with all other kinds of grain. The price of all these grains and of wheat are, in fact, closely related, and the relative abundance which has prevailed all round has undoubtedly been an important factor in depressing cereal prices. Turning to another product, the effect of excessive production on prices is well illustrated in the case of sugar, but perhaps even more than in the case of wheat it is the accumulated stocks which have presented an intractable problem. In September 1930, they had risen to 6½ million metric tons as against

¹ World wheat stocks quoted from *Wheat Studies* of the Stanford Food Research Institute, and visible supplies from Broomhall's *Corn Trade Year Book*.

3.7 million tons in 1926; they thus amounted to about 50 per cent. more than one year's sales on the open market under the Chadbourne Agreement. Total production rose from 26.4 million tons in 1927-8 to 28.8 million tons in 1930-1.¹

Coffee is another example of a crop suffering from heavy stocks. In July 1931 the carry-over was estimated at 1,600,000 metric tons as compared with 500,000 metric tons in 1927. This was more than sufficient to cover the consumption of all the importing countries for a whole year. As in the case of sugar, it was not a falling off in consumption, but excessive production which led to the crisis in coffee. The average production in the five years 1926-30 was about 50 per cent. above pre-War, while the average consumption had only increased by 30 per cent.

Other commodities which were affected in 1929-31 by large stocks combined with heavy production and accompanied in some cases by a reduction in consumption are tea, cocoa, wine, and olive-oil.

In the case of cotton, visible stocks rose from 1,060,000 metric tons in August 1929 to 1,910,000 tons in August 1931, the result mainly of a reduction in consumption unaccompanied by any corresponding decrease in production. Wool is another example where considerable stocks in hand in Europe have had to face an output up to or above the average at the moment when demand was reduced.

Live-stock products do not lend themselves easily to long-period storage, but the fall in prices since 1929 in several commodities seems clearly to have been the result of exceptional production. In the case of butter, the quantities entering international trade have shown for some years a constant tendency to increase; the total exports from the principal butter-exporting countries rose from 402,400 metric tons in 1924-6 to 522,700 tons in 1930, while in 1931 there was a further increase of about 5 per cent. The United Kingdom is by far the most important market, and here there has been a rapid increase in imports from 6,397,000 cwt. in 1929 to 8,071,000 cwt. in 1931, accompanied by a heavy decline in prices, New Zealand butter, for example, falling from an average of 173s. 9d. per cwt. in 1929 to 114s. 6d. in 1931.

A very similar position has arisen in the case of bacon. The total imports into the United Kingdom rose from 8,278,000 cwt. in 1929 to 11,138,000 cwt. in 1931, while prices, taking Danish bacon as a type, fell in the same period from 112s. 8d. to 63s. 6d. per cwt. Another example of large supplies having a depressing effect on prices is found in the British imports of frozen mutton and lamb (chiefly the latter), which increased from 5,631,000 cwt. in 1929 to 7,112,000 cwt. in 1931.

These instances show that a decline in consumption cannot be regarded as by any means general, and that with some commodities a substantial

¹ The figures relating to sugar and other products are in the main quoted from *The Agricultural Situation in 1930-1*, International Institute of Agriculture, 1932.

increase in supply must be regarded as an important factor in the slump in prices between 1929-31.

On the whole, there seems to be evidence that we have in agriculture generally during the period 1929-31 a position of over-supply, which is quite sufficient to account for a large part of the decline in prices of these products. In a number of cases, this supply was the result of high output, which, failing to be fully absorbed in the year of production, has given rise to excessive stocks. In some instances, the surplus has been made more unmanageable by reduced consumption, but in others consumption has remained about normal.

It has to be borne in mind, moreover, that the effect of cheapness and abundance in one commodity is rarely limited to that commodity alone. Other commodities with which it is more or less directly in competition are also affected. The price relationship of the different kinds of cereals has already been mentioned. Another interesting example is the fact that the low prices of cereals in Europe from 1929 stimulated pig production and resulted in a marked increase in the exports of bacon; cheap bacon in its turn had an effect on other kinds of meat. Again, the low prices of butter necessitated a proportionate reduction in the prices of imported cheese and also affected milk prices in this country. The competitive position of the various textiles is obvious, while the supply and price of coffee, tea, and cocoa must also react on one another; in cases of this kind, prices are forced down to a level much below what would have been reached had the surplus been confined to one product alone.

If it is true that over-supply and its attendant consequences constitute one of the basic causes of the present depression in agricultural prices, then reduced production should, at least from a short period point of view, provide a remedy. This may come either as a forced reduction due to economic pressure, or by a failure of the bounty of Nature, or both, and the result may conceivably be a swing of the pendulum in the opposite direction.

Apart from these 'natural' causes, experience has shown how difficult it is to secure any logical adjustment between supply and demand by any national or international effort. Nevertheless, in spite of the unsatisfactory results obtained so far, it still seems as though a solution should be sought in the direction of 'orderly marketing' linked with 'orderly production'. The international regulation of production may perhaps be impracticable, but agreement between exporting and importing countries as to the quantities to be placed on the market (as in the case of the Chadbourne Sugar Agreement) may offer a way out. It may well be argued that when outlets for superabundant production cannot be found without disorganizing world trade, it is better to adopt methods which avoid the worst excesses of unrestricted competition. Collective agreements between exporting countries as to their respective contributions which would ensure sales at reasonable prices would yield a larger aggregate sum than is

obtained by forcing excessive quantities on an unwilling market. Under a properly organized system, this might prove more profitable on the average than individual competition.

SIR A. C. HUMPHRIES.

Statisticians differ in their methods and figures as to the stocks of wheat in the world, but this fact emerges from all the lists: Stocks have increased in the last six years, but if the increase be divided by six, and the figures so ascertained be compared with those as to the average production per annum for the period, the excess is found to be exceedingly small per annum. If this excess be compared with the so-called world's production, it represents less than 2 per cent. of the whole, and if it be compared with the production in the great exporting countries of the world the percentage of annual increase is only about 4 per cent.

When a statistician or economist submits figures as to the debit or credit margin between the costs of production and delivery and the prices paid by the ultimate user of the commodity he generally uses average costs, but . . . it is desirable to understand what this means. An average implies that a material proportion of those figures brought into account are more favourable, and that a material proportion are worse than the average. For example, the cost of transferring wheat from Winnipeg to London or Liverpool at any given time is known, and in effect fixed, but the cost of getting wheat from various points in the Prairie Provinces to Winnipeg differs greatly, and such variations may mean the difference between a 'profit' or a 'loss' to various producers. . . . An increased production in recent years represents in money a greatly decreased value. If the annual production of wheat had been 4 per cent. or conceivably 2 per cent. less per annum, this deplorable state of affairs might and probably would have been obviated.

One hears that a power-hammer can be used to crack a nut, and the simile can be applied to the succession of Governmental actions and international conferences all designed to remedy the dreadful economic position largely caused by the very small excess production indicated herein. These regulations and conferences have been abortive. Their most hopeful result is a recommendation that some international authority should prepare and issue authentic statements as to supply and demand, work which actually is already done efficiently by various persons and bodies. In this connexion it may be necessary to point out that in the grain options market there must be a 'bull' for every 'bear' transaction. If the producer who seems to be intensely suspicious of the grain trade realizes this elementary fact he should realize also that the desired information already forthcoming is provided honestly for both 'bulls' and 'bears'. Nothing by way of forecast, however influential the authors may be, can be more than skilled honest guessing.

At the British Association Meeting in 1931, I also spoke as follows:

'The rough physic of bad prices has not been allowed to work the

cure in its own way uninterruptedly, for the depreciated exchange values of some currencies have tended, and still tend, to minimize in some countries the restraining effects of low prices. Then we have had interference by bodies who are not risking their own personal possessions in a venture. Intentions were or may be good but the results are bad. Anything which interferes with the automatic operation of supply and demand in such matters, only prolongs the agony, unless an importing nation is prepared to abandon the cult of cheapness and, by tariffs, is prepared to ensure a living for its own producers, leaving the operation of supply and demand mainly to exporting countries. Be that as it may, the very fact that huge quantities of wheat are held by bodies outside the grain trade and may be released for reasons other than commercial ones, has worked disastrously. There is a tendency to reconstitute stocks in importing countries, now that prices are so low, but buyers generally knowing the danger of the holding of stocks by such controllers, have refrained from holding large stocks themselves. If that had not been so, the unwieldiness of surpluses would have been minimized.'

The possibility of obtaining international agreement as to the restriction of production or shipment of wheat appears to be, and, in my opinion, is practically nil, and if that view be correct the only effective remedy is the undiluted 'rough physic of bad prices'. This book most usefully points out the very great extent of farming for subsistence, and if low prices should prevent some farmers from producing wheat for export, they can at least seek to produce some other article, or in the last resort farm for subsistence. This remedy, deplorable though it may be in some of its effects, is at least better than a prolonged agony based on futile hopes, leading to the same result for a minority of farmers. For the majority a betterment of their position is more likely to come in this way than in any other.

Aspects of the Agricultural Depression

MR. ALEXANDER LOVEDAY.

On the problem of the general level of prices and of agricultural prices it is necessary to consider:

(1) The fact that when the general trend of prices is falling the prices of agricultural goods are likely to fall more, and that, therefore, you get a manufacturing goods versus agricultural goods price discrepancy—at any rate over short cyclical periods. For this there are a number of reasons of which I will mention:

- (a) The facts that falling prices generally equal general depression, which equals in industry, unemployment, but in agriculture not greatly reduced production and unemployment, but greatly reduced prices (possibly increased production).
- b) The fact that the demand for foodstuffs is relatively inelastic, so that when in such circumstances the supply of any product increases (or

through lower N.I. demand has really contracted) demand is not readily increased by the lower prices offered.

or (c) To a limited but still important extent, restraint from production in agriculture is rather equivalent to scrapping plant than to setting it . . . up. (This must not be exaggerated.)

(2) Falling prices have different economic and social effects in industry and agriculture: economic because of time element largely, i.e. rent terms—crop periods—period of growth for live stock. Social because the farmer lives on his farm—eats more—clothes less, &c. Because land constitutes in the aggregate an element in the life of its tiller which he is much more directly interested in conserving than machinery does in the life of its minder.

(3) In recent—post-War—years, there has probably been a price movement to the disadvantage of the agriculturist—outside North America at any rate, cf. *supra*—which is due in part to (a) increased production of the more important agricultural staples *only*, (b) to the cartelization, &c., of the industrial products the agriculturist wants, (c) to unemployment doles, (d) to reduced consumption per head of such staples.

The price disagio or profit disadvantage would probably prove to be much less than is generally believed if fruits—including semi-tropical—dairy products, eggs, &c., could be taken adequately into consideration. In fact, the difficulty in all the analysis is to allow sufficiently for the newer developing agricultural products. . . . Too much attention (relatively) is apt to be paid to the changes in the conditions of the production of the old staples and too little to the growth of the relatively prosperous branches of agriculture, dairy farming, fruit farming, sisal, bulbs, bush fruits, &c.

The post-War price discrepancy is no doubt also partly due to a largely unanticipated (though quite natural) relative decline in the post-War consumption of certain major agricultural staples.

Finally, it may be, though I have not seen the thesis proved, that as during a short term price decline, an agricultural v. industrial product price discrepancy is normally formed—(this is the case and is not a post-War oddity) so in a long term price decline, there is a tendency to such a discrepancy. Theoretical reasons for this seem to me to exist, but I have not seen the point proved.

MR. C. W. GUILLEBAUD.

There is a good deal of evidence going to show that the real ratio of interchange between raw material and agricultural produce on the one hand, and manufactures on the other was moving in favour of the former between 1900 and 1914. There has been much argument as to the cause of this—some say that in this period, population was increasing faster than technical progress in agriculture so that diminishing returns were characterizing agriculture, others say that increasing returns in industry were

increasing the amount of manufactures produced by a unit of labour and capital, with the result that though a unit of agricultural produce would buy more manufactures than before, it was not true that more labour and capital had to be employed in manufacturing industry to buy a unit of agricultural produce than previously.

Conditions since the War have been so exceedingly abnormal and out of balance that no long run deductions can be drawn from the actual history of this time. But assuming that industrial organization and the monetary and credit system can be so adjusted as to enable full advantage to be taken of the immense strides in industrial technique, there seems no reason why producers of raw produce would not be able in future to buy manufactures with their produce on very favourable terms. Despite all the improvement in agricultural methods recently, it is at least doubtful whether they have increased the amount of agricultural products that can be turned out by unit of labour and capital, as much as industrial improvements (at least *in posse*) have increased the amount of manufactures that can be turned out with a unit of labour and capital. At the present time industry is depressed because agriculture is depressed, and the fact that the market for industrial products is thus heavily contracted prevents industry from reaping the advantages of large-scale production and so of producing with low costs per unit of output. It is obvious, of course, that the breakdown of the monetary and credit mechanism of the world has contributed in a very large measure to cause and perpetuate the existing disequilibrium.

I very strongly concur in the view that the present slump is not a phenomenon of over-production, but rather one of under-consumption due to economic and financial maladjustment.

In general, in regard to the monetary aspect of the problem, I agree with the extract from the Macmillan Report cited in the Summary of this Report. I do not regard either money or credit or gold as the chief autonomous factor in bringing about the crisis. The notion of a world shortage of gold is to my mind completely false as a cause of the depression, while the mal-distribution of gold is initially an effect but in its subsequent reactions a partial cause of depression.

Similarly, deflation is not, in general, a deliberate policy adopted by central and other Banks in order to lower prices, but is rather a consequence of low profits and depressed markets which give no incentive to the business community to borrow credit from the banks. The absence of a prospect of trading with a profit diminishes the volume of investment while not checking individual saving to anything like the same extent. While this process continues there is a steady contraction in the total of money incomes and monetary purchasing power, and the depression is intensified. Even if the world had not laboriously got back between 1924 and 1928 on to an international gold standard, I doubt whether any monetary system capable of being put into practical operation would have stood up against the strains and stresses of the post-War years.

DR. V. P. TIMOSHENKO.

A characteristic of the present agricultural depression, as may be true of any agricultural depression in general, is the lack of balance between the price levels of agricultural and industrial commodities. Yet, such relationship between agricultural and industrial prices is typical not only of the periods of *agricultural* depression but also occurs frequently during depression phases of the business cycle. The analysis of the ratio of farm to industrial prices during fifty years in the United States of America¹ shows that a low ratio of agricultural to industrial prices generally precedes, or is coincident with, a business revival; that is, it occurs some time during the business depression. A low ratio of agricultural to industrial prices may even be considered as a factor making for business revival, because an increase in the margin between the price of finished manufactured products and the price of agricultural raw materials will have a tendency to increase the profits of industrial enterprises and at the same time to decrease the cost of food to consumers, who will in turn spend more on industrial products.

In the past, low agricultural prices as a rule have been coincident with an increased purchasing power for the community. In the present depression the situation is different. The decline of agricultural prices which has taken place since 1929 has had nothing to do with a large volume of crops resulting from a high yield. On the contrary, the world crop of 1929 was a rather small one, and the crops of the following years (1930-1) were not exceptionally good. Under such conditions, the low level of prices was not compensated by a larger volume of crops. Consequently, the purchasing power of agricultural and raw-material-producing countries has fallen greatly. The depressing effect of a smaller purchasing power on the market for manufactured goods outweighs the possible stimulating effect on industry of the low costs of raw materials and food. As a result it is difficult to see how the low ratio of agricultural to industrial prices now prevailing can cure the business depression. . . .

Such financial factors as sudden restriction of credit for agricultural countries, which began to be felt as early as 1928, and have become of special importance since 1929, also have to be taken into consideration in explaining the agricultural depression. The financial difficulties of agricultural and raw-material-producing countries forced them to sell their products at low prices. However, we may call attention to the fact that substantial decline of many agricultural prices began (see Table XVII a, pp. 92-3 of the Report) in 1928, when the curtailment of credit for agricultural countries was still of slight importance. . . . The contraction of credit simply magnified the effects of already existing over-production. . . .

The remedies which must be attempted in order to cure the present

¹ For a fuller discussion see V. P. Timoshenko, *The Role of Agricultural Fluctuations in the Business Cycle*, Michigan Business Studies, vol. ii, No. 9, 1930, particularly pp. 16-25.

catastrophic fall in prices and the agricultural depression, are not to be limited to the field of agriculture itself. Some of them must belong to the realm of monetary and credit policies. For these reasons, we think that the discussion of short-term remedies (a) protection of agriculture by means of tariffs; (b) restriction of production; (c) valorization schemes; and (d) organization of producers for 'orderly marketing' could be widened. . . .

The danger of all these measures is that they try to raise agricultural prices at the time when the prices of manufactured commodities are also very much depressed. . . .

If we recognize that at least the acceleration of the price decline (for food and raw materials) was caused by the financial difficulties of agricultural countries resulting from the sudden and drastic curtailment of the credit extended to them, then any improvement of their financial position through the greater inflow of capital into these countries, and any recovery of their credit, would contribute to a stabilization of agricultural prices. In any case it would increase the purchasing power of these countries for ready-manufactured commodities without forcing them to sell their stocks of agricultural products at low prices. Improved credit conditions in these countries would facilitate also their adjustment to the new condition of the world market and would permit them to lower their costs of production. The cost of credit in agricultural countries is very high, in spite of the cheapness of short-term money in the leading industrial countries.

. . . International action designed for facilitating the extension of credit in agricultural countries must be considered as the first in a series of short-term remedies. An organization of agricultural credit for the south-eastern European countries on international lines as planned by the League of Nations may be of great importance from this point of view. Similar schemes for the non-European agricultural countries would be also of great significance. Some diversion of activity may be established among creditor countries: France, with the smaller creditor countries of Europe (Switzerland, the Netherlands), could take care of the east European agricultural countries; the concerted action of Great Britain and the United States of America could be directed towards the financing of the oversea agricultural countries.

The extension of credit to agricultural and raw-material-producing countries may depend on the lowering of tariff duties on manufactured goods and the removal of other limitations on imports (such as quotas, licences, &c.). The removal of such restrictions might benefit a country's own agriculture also because the prices of manufactured exports would be lowered for it. At the same time the market for manufactured exports would be widened, and consequently purchasing of raw materials and food by industrial countries would increase. The purchases of raw materials and food may be increased to some degree also by the reduction of the reparation payments for Germany.

There is no doubt that excessive measures of agricultural protection in Europe, introduced particularly since 1929, must be adjusted downward. . . .

It must be assumed that substantial protection of agriculture by means of tariffs will continue in the principal countries of Europe. But pre-War experience has shown that stable and not excessive tariffs on agricultural imports would not stop exports from the countries with extensive forms of agriculture. Russia during the last decades before the war substantially increased her agricultural exports in spite of comparatively high tariffs, and her exports increased particularly to the countries protecting their agriculture (Germany and Italy). If the protection of agriculture by European countries should assume the pre-War forms (moderate tariffs fixed for a long time), then the countries with extensive types of farming would adjust themselves to such conditions. Such adjustment may be possible, particularly because of the improvement of agricultural methods, which may be employed more easily by countries with extensive forms of agriculture and large-scale farming than by European countries with their peasant small-farming traditional methods.

The measures discussed in the Report, such as organization of producers for orderly marketing, control or restriction of production, valorization schemes, and so forth, may be of importance for the strengthening of the position of agriculturists against industry. . . . The principal source of danger involved in these measures is the attempt to secure a monopolistic control of production or marketing, while it is very difficult, practically impossible, to secure a monopolistic position in agriculture for any long period. The monopolies in the field of agriculture are inherently short-time monopolies, for the reason that the use of monopolistic power by organizations of agriculturists would inevitably result in over-production and a collapse of prices. In such conditions the use of monopolistic power would not stabilize agriculture. On the contrary, it may finally result in still greater unbalancing of the supply and demand. . . . For this reason it would be better if co-operative organizations of producers in agriculture would not attempt to apply monopolistic control of prices but would limit their activity to purely co-operative purposes such as an elimination of some of the intermediary profits or the lowering of the costs of marketing.

DR. GEORGE PAVLOVSKY.

The close study of the international agricultural situation, in which I have been engaged these last two years as head of the Economic Division of the International Institute of Agriculture, would appear to me to suggest the following conclusions:

(1) That the present agricultural depression is an integral part of the general economic depression which affects all economic activities.

(2) That the economic depression, which entered into a critical stage since 1929, but whose roots go back to the War, is not due to cyclic

economic fluctuations, but results from structural changes in the economic system.

(3) That, being due to structural changes, the present depression resembles that of the closing quarter of the last century, but with the fundamental difference that the latter was produced by mal-adjustments inherent in a period of expansion of production and outlets which led to the definite creation of the world market, whereas the present depression results, in the first instance, from a restriction of outlets and an utter disorganization of the world market.

(4) That the superficial likeness between the two periods of depression with regard to monetary conditions, viz. in both cases the appreciation of gold, should not be allowed to overshadow the essential points of difference. During the nineteenth-century depression the appreciation of gold was caused by the practically universal adoption of the gold standard, as a necessary factor of world economy, whereas now it is mainly accounted for by political and financial causes, viz. by international debts and reparations, as well as by the restrictions imposed upon international trade in commodities.

(5) That the disorganization of the world market is produced by the particularist economic and commercial policy adopted since the War by all countries, by the diversion of trade into artificial channels, which is due to the necessity of meeting heavy liabilities abroad arising out of the financial settlement of the war, and by the deliberate intervention of governments and producers' organizations on the market with a view to controlling prices.

(6) That the present agricultural depression, besides being the result of the general economic depression, is also due to certain specific agricultural causes.

(7) That the principal specific causes of the present agricultural depression are mostly structural in character. Important structural changes have taken and are still taking place in both the supply of and the demand for agricultural products. On the side of supply they consist in technical improvements and in the rapid increase in extensive farming in overseas countries, stimulated originally by the War and the practical disappearance of Russia from the world market. On the side of demand, in all the more advanced and wealthier countries the consumption of cereals shows a decrease due to changes in diet and the development of mechanical transport.

(8) That these structural changes in agriculture necessitate a reorganization of agricultural production, involving a transition from cereal-growing to other branches. This readjustment has been proceeding for some time, but has lately been seriously impeded by the aggravation of the general economic depression and the growth of unemployment, which reduce the effective demand for the finer products of agriculture.

(9) That, owing to the close connexion between the industrial, financial,

and agricultural aspects of the present world depression, the agricultural problem cannot be dealt with and solved separately from the economic problem as a whole.

(10) That, consequently, the view held by many agricultural experts that the solution of the agricultural problem can be achieved by measures bearing only upon agricultural production or marketing, such as the restriction of acreage or output or the artificial control of prices, cannot be accepted without serious reservations. The question may well be asked whether the consequent rise in the prices of first necessities of agricultural origin, unless it is accompanied by a simultaneous increase in the purchasing power of the consumers, which can only result from an improvement in general economic conditions, might not, in the long run, rather aggravate than improve the situation. The incomes of the urban and industrial consumers being unchanged, such a rise in prices would involve a reduction of the margin available for the purchase of manufactured goods and would tend to restrict industrial production. A reduction in industrial earnings and employment might eventually recoil upon the farmer by a diminution of the demand for agricultural products, and it is a fine point to decide whether, in the end, this would be prevented by the potential diversion of part of the farmers' increased earnings to the purchase of industrial products.

SIR WILLIAM DAMPIER.

The conclusions to be drawn from a study of agricultural economics seem to me to be chiefly the following:

The importance of monetary factors in controlling agricultural prosperity and adversity as demonstrated by history, show clearly that a radical cure for present difficulties can only be found, in common with a cure for the general economic and financial crisis, along the lines of monetary policy. It is essential first to raise the average price level of wholesale primary commodities, that is to lower the value of money, and then to stabilize that price level, that is to stabilize the value of money in terms of commodities. Till this is done, raising artificially the price of selected commodities by tariffs, quotas or otherwise must result in a lowering of other prices, since the *average* price level is controlled by the amount of currency and credit multiplied by its velocity of circulation. From this point of view, the only valid argument for artificial measures is that they may produce a false psychological idea of confidence, and thus help the velocity of circulation of money and so indirectly raise, temporarily at any rate, the general level of prices.

The real solution of the special agricultural problem is the same then as the solution of the general economic and financial problem—the provision of adequate supplies of currency and credit as the need for them arises, and the creation of confidence, so that currency and credit are drawn into circulation. . . .

There is no reason to suppose that a deliberate process of reflation in

Great Britain would get out of hand and become run-away inflation, such as Germany experienced after the War. There is a large margin between wholesale and retail prices—wholesale are at or below pre-War figures, while retail are still about 40 per cent. above. Thus, there is room for a large rise in wholesale prices before the cost of living is affected. It is, of course, essential to prevent a rise in nominal wage-rates till industry and agriculture have once more become profitable; the heavier burden of fixed and semi-fixed charges, in a time of falling prices, is one of the chief causes of our present troubles. But, even if the cost of living should begin to rise, no one can justly claim that a return to the real wages of 1928 is a hardship. When our troubles are overcome, we can once more start on the upward path of a rising standard of life. But that is impossible till the economic machine has been again lubricated with profits and international trade is running smoothly.

PROFESSOR DR. KARL BRANDT.

It is possible to lay too much stress on the question of specialized grain and mainly wheat cultivation with the aid of machinery. There is no doubt that the combine has cut down the costs of production of wheat sharply, and that the extension of the wheat growing districts to semi-arid regions has created a fundamental shift in the general wheat supply of the world. But in the general question of the international agricultural situation it is a mere accident that the development of agricultural progress is just now in favour of this special type of farming. . . . It may be that the total of the various advances which have been made during the last ten years in different fields of production, which are a main part of modern peasant farming, have brought about a greater revolution than that in the monoculture wheat growing. When . . . the same intensive study is given to the improvement of mixed farming—the joint production of animal and plant products—as has already been devoted to the problem of mechanized wheat harvesting and threshing, then the competition between peasant farming in European style and overseas specialized farming will turn immediately in favour of the former. The shifting of the European peasants to the use of more and more good machinery drawn by horses and to the general use of electric power, to the use of high quantities of fertilizer, mainly nitrogen, the shifting from grain growing to vegetables and to more and more intensive dairying, amounts to an agrarian revolution. The main question for Europe seems to be how to employ at a fair standard of living a number of men and families as large as possible, because most of the European nations have a surplus of human labour. The maximum of human beings who can be maintained at a fair standard of living in agriculture is only given by the yield per acre reached by a special type of farming. It is the typical sign of intensive and modern peasant farming, that the turnover of the farm in money per acre increases more and more with the decreasing acreage of the single farm and the increasing intensity of labour investment. It depends mainly on the intelligence of the peasant

farmer on what an acreage he can live. In Germany there are thousands of farmers who are able to live at a fair rate on $2\frac{1}{2}$ acres or less, by combining cropping with poultry farming, bee-keeping or other types of intensive small peasant farming. The education of farmers in the use of all the modern possibilities of intensive farming is the decisive factor in their ability to compete with overseas mechanized methods. For Europe, a main point of view in agricultural as well as in social politics should be that a widespread system of little peasant farms provides the very strongest basis for the industry and the economic life of a nation in general. The peasant farm provides for more skilled labour in farming and home industry in relation to area than is the case on the large farm. Therefore, it is a fundamental principle in domestic policy in European countries to encourage the development of well-equipped and intensive modern peasant farms, with highly educated and really fit peasant farmers. One should not forget that the peasant farm—with the low percentage of sales off the farm and a large proportion of home consumption—is able to withstand agricultural depression much better than big farms, that multiple production confers a high degree of elasticity and of resistance power. . . .

On the other hand, the big specialized farms which prosper in good times suffer more in times of depression. The concentration of high risks in their case is a cause of weakness in national economy. Peasant farms do not benefit as rapidly in a business revival as big specialized farms, but the general conviction of European statesmen seems to be that the certainty of steady development is more valuable than the ability to make the most of rising prices.

. . . I do not believe that there is any proof to-day that the American wheat farmer in Kansas is really able to produce wheat at a cheaper rate than the European peasant farmer. The latter produces all kinds of grain as by-products in the range of many other products, and has a very different criterion of costs, because work is well distributed all the year round and because manuring utilizes another by-product. I feel that the cheapest grain is grown to-day in Denmark and not in Kansas or in the Argentine. The security due to a steady yield all the year round of Danish farmers cannot be beaten, whilst the Argentine and Kansas farmer has to carry immense weather risks. The security of Danish cropping lies in the intensive manuring and the high state of humus substance in the soil. Special knowledge of agriculture in many European countries convinces me that in all European countries there are immense reserves for reducing the cost of production and improving the yield per plant, per animal, and per man employed. Another immense reserve lies in the direction of improving the quality of agricultural products and in adjusting production to the shifting consumers' demand.

MR. A. P. MCDougALL.

A most momentous factor in world agriculture is the trend towards the industrialization of farming in important branches, such as wheat and sugar

and rubber. We have not yet arrived at a stage when it is possible to say that large-scale farming on mechanized or factory lines will displace peasant production. The Russian attempt is as yet too early a stage. Many of the great prairie wheat farms of America have, I am informed, already been broken up into small units. Rubber produced by the natives in Java or elsewhere has proved to be an unexpectedly strong competitor to the great rubber estates, where expensive white management and paid labour of all kinds are employed. We are told that the native rubber problem has prevented the Governments interested in the restriction of rubber output from entering into any schemes for the improvement of the industry based on limitation of production. My own investigation into the problem of the jute industry in India convinces me that there is no insuperable difficulty in securing such restriction if rubber estates can produce as economically as the natives producing on their own.

The main factor which we must take into consideration is the resistance which the peasant farmer has shown time after time. The great masses of native producers not only in Europe, but especially throughout the part of the world bordering on the Pacific Ocean must be taken into account. Mass production of wheat and other grain in the Western Hemisphere may appear to be a sound business proposition, as it was during and immediately after the War. A superficial view would tend to indicate that production on these lines would kill the teeming millions of peasant cultivators in other parts of the world. Such a conclusion leaves out of account the staying power of civilizations based on peasant life. These are the only people in the world who can survive war, pestilence, and financial disaster. Their standard of living may be reduced to a level incredibly low, but they still survive and produce their crops. The surplus which they sell in order to provide for their meagre requirements may buy very little of the manufactured output of the world, but because of this industry suffers even worse than they. This is clearly proved by what is happening at the present moment. America, a country based on capitalistic output with inexhaustible resources which have as yet been barely touched, is in a state almost verging on disruption. India, a country of poverty-stricken peasants, where the standard of living has been materially reduced as a result of mechanized mass production elsewhere has, in comparison with the more highly developed races, no economic problem to face. The purchasing power of the masses of peasant cultivators has been seriously interfered with, but we hear of no land going out of cultivation because wheat is selling at 10s. to 12s. per qr., as in the case in more highly developed countries. Exactly the same thing applies to every other nation in the East where by far the greater proportion of the world's population exists. The political difficulties in China do not materially affect this argument, nor is the argument upset by the position which now exists in the central states of Europe. It is quite true that there the political and economic crisis is enhanced by the low price of grain, but it is largely due to the fact that,

owing to political interference with free exchange of goods, it is impossible for them to market their produce in adjoining countries. Their standard of living has been interfered with, not only by the collapse of grain prices, but by other political and economic conditions. An aggravation of existing conditions in these countries will probably mean the repudiation of debts and a very much reduced standard of purchasing power, resulting from a lowering of their export trade, but there is no reason to believe that these European nations which are based on a peasant population will not survive the economic crisis better than the highly organized industrial countries. The classic example in Europe of the latent powers of a peasantry is to be found in the experience of Denmark when in face of bankruptcy after the German-Danish war, she transferred herself into a nation of peasant cultivators. She was fortunate even beyond her expectations in increasing her wealth and in maintaining a relatively high state of economic welfare, through capturing the demand for perishable products, arising from the industrial expansion of England in the nineteenth century. But even if this unexpected windfall had not come to her, the rulers of the state of Denmark were wise in transforming her whole social and economic structure.

The possibilities of agricultural development on industrial lines in the immediate future have not been proved, and, though it may be that Russia and the great prairie lands of America with their relatively small population per square mile may establish themselves so far as grain growing is concerned on mechanized lines, this does not apply to the more densely populated parts of the world. In China it is unthinkable. It is equally so in India, and no attempt has been made to show how even in England it can become general practice. The problem of each nation with a closely settled population, from the point of view of production as distinct from other economic problems, is how to take advantage of the resources of science and technical efficiency to the fullest possible extent, in order not only to maintain their own standard of living but to compete with countries which have greater natural resources capable of development.

The Factory Farm

MR. CHRISTOPHER TURNOR.

A comparatively new development and one that in one form or another will probably play an increasing important role is the 'Factory Farm'. There has been much confusion of thought over this term, and large-scale mechanized *prairie* farming has been put forward as the Factory Farm, when it is obviously nothing of the sort. The real factory farm is a development of the old world, not the new. Germany, Czechoslovakia and Hungary furnish examples. The basic principle that underlay the creation of the factory farm was that the producer must as far as possible 'process' his commodities rather than sell them as raw material. This principle has been recognized in Europe and acted upon to a greater or less extent for

the past forty years. In Great Britain it has hardly yet been recognized. The main object was to bring producer and consumer together by cutting out the middleman as far as possible, so that the producer should receive his share of trading profits. The creation of subsidiary industries, involving as it would the erection of many factories, would help in the organization of markets, these factories would contract with the surrounding farmers, just as the sugar factories and the new canning factories do now, and the farmer would have a secure and *direct* market.

International Agreements

PROFESSOR DE MICHELIS.

M. de Michelis writes:¹ 'It is true that international attempts towards meeting the crisis, apart from the collection of information on the various aspects of the problem and discussions tending towards better mutual understanding, have so far yielded few positive results, but it is none the less true that, as the crisis is essentially an international phenomenon, it is only by international action that the depression can be cured. It is essential to bear in mind that any international action aiming at the solution of the crisis demands from each individual country some sacrifice of its own immediate interests for the restoration of international trade and of world economy; and that agreement of this kind is by no means a simple matter.

'Under these conditions we cannot expect rapidly to achieve concerted action on the basis of international agreements. The aggravation of the crisis is preparing the way for such agreements by demonstrating to every country the importance of the world market and of international economic co-operation in the economy of to-day and the interest each country has in world restoration.

'In recognizing the international character of the present crisis in agriculture, it should also be recognized that the only way to its solution is that of co-ordinating national requirements with the requirements of the whole modern economic system, which is essentially international, and that co-ordination of this kind is only possible on the basis of international agreements. Thus, while acknowledging the failures encountered by attempts hitherto made in this direction, it is necessary, in my view, carefully to avoid any exaggeration of such failures and so shake the confidence of the patient in the only remedy which may one day prove to be his cure.'

SIR ROBERT GREIG.

The conclusions which I draw from reading this draft are both grave and hopeful. The gravity of the situation is obvious. The production of food and other essentials for profit or as a by-product of a method of living is fundamentally wrong even when left to the free play of the markets and the unstable equilibrium of supply and demand. It results in enormous

¹ Translation.

wastage of land, labour and capital, and in gluts and famines. But when there are superimposed upon the natural difficulties of food production and distribution the artificial handicaps of duties, prohibitions, stimuli and discouragements due to national fears and consequent agrarian policies founded upon these fears, then there is a risk of the break up of civilization as we know it. These would seem to be fair assumptions from the facts which appear in the draft. Common-sense procedure is to organize agricultural production and distribution on a world basis. This is clearly not practical politics for a long time to come. Nevertheless this is the end to strive for as no other policy so far as we can see at present will ultimately provide a general prosperity and ensure against famines or deficiencies of some commodity at some time or other.

In moving towards international controls or arrangements progress, therefore, should be made through the encouragement of all kinds of groups, groups for the sale of a commodity (the Wheat Pool), arrangements between groups of nations for reciprocal purchases and sales, cartels and agreements between producers. The actions which would appear to be desirable should then fall into these lines:

(1) The publication of this and similar books for the education of the politicians in particular and others in general. It might be possible to arrange for the translation of such a book for wide circulation or for the compilation of similar books in the most influential countries.

(2) Further and more detailed examination of the attempts to co-operate and co-ordinate which are described in the later chapters of the draft. An examination of the factors, psychological and otherwise, which cause the failure or partial success of these schemes.

(3) Persistent efforts by the League of Nations and the International Institute of Agriculture and other bodies to induce grouping and concerted action in the control and distribution of agricultural products.

On general grounds I believe in such a long range policy, not in any attempt to fix the peasant to the farm. On the one hand, the applications of science will continue to make the production of food easier and cheaper. On the other hand, as culture spreads the peasant will be less and less inclined to work a twelve-hour day and to live in the odour of cow dung. Probably the immediate crisis in agriculture as in industry can only be met by international or partly international agreements as to currency and monetary policy, but I am looking beyond that to the ultimate aim.

I have said that there is hope as well as gravity in the situation. The attempts at grouping which are described in the last chapters suggest hopefulness. There is a stirring in the dry bones. Straws which show the way the wind blows are such as these. A year or two ago the President of the National Farmers' Union of Scotland publicly advocated producers' cartels or international control of farm products, and published his proposals. This man was no visionary but a practical and successful farmer. Schemes are now under discussion by farmers and auctioneers for the organization

of Empire meat production. These are no great matter, but no doubt the yeast is working in many parts of the world and the situation is not, therefore, so hopeless as it may appear.

DR. A. J. V. UNDERWOOD.

Measures for improving the condition of agriculture may be divided into two classes, those which are intended to ameliorate the economic situation generally and are thus applicable also to commerce and industry, and those which would apply specifically to agriculture.

The first class comprises the reduction or abolition of war debts, reparations, and tariffs, the elimination of national hostilities, international co-operation in currency policy, &c. These measures, which are now becoming generally recognized as desirable, need not be further discussed here.

With regard to measures specifically for agriculture, the ideal solution of the problem would appear to be international co-operation in the disposal of export surpluses. This would involve agreement as to the amounts produced by each country and would most probably necessitate government action in each country to impose co-operative export and to ensure the agreed production or export as in the Tin Restriction Scheme, as contrasted with the Chadbourne Scheme, which is essentially an agreement between groups of producers. It might also involve government action on the part of the importing countries. There would probably be a division into two camps between importing and exporting countries, when discussing such an international agreement.

The difficulties would be much greater than in the Tin Scheme, where only a few countries can produce tin, while practically any country can produce wheat. Compared with the Chadbourne Sugar Scheme, the difficulties would be much greater, as few sugar-importing countries are able both to produce more sugar and to incur the heavy financial burden required to establish a new sugar industry or to extend an existing one. Agreement with the importing countries would thus be vastly more important in any scheme for a crop such as wheat than in either of the two schemes mentioned.

For these reasons it is hardly conceivable that any such scheme could materialize for very many years. The practicable steps at the present time would appear to be limited to the removal of obstacles in the way of international trade in general and to promoting regional agreements among producers with similar interests. Such agreements might ultimately form a basis for a wider measure of international co-operation and regulation.

Agricultural Credit

MR. D. GRAHAM HUTTON.

The credit needs of agriculturists are met by a variety of agents in all countries: ordinary banks, land and mortgage banks, co-operative credit societies, and special agricultural institutes. The funds for extending these

credits come from the national savings fund, which in its turn is primarily a function of industrial profits.

With a general fall in price levels, therefore, the agriculturist not only loses by reason of the increased incidence of his existing indebtedness, but also by reason of the consumption of capital going on in industrial undertakings, the shortage of credits, and the deflationary raising of the rate of interest. Yet, often enough, his credit needs are not for a long term, but only for about two to five years—a period sufficiently long to see the end of the immediate crisis in values. It is, therefore, advantageous for him, if he can do it, to borrow a medium-term credit to wipe off his current indebtedness, and thus hope to wipe off the new credit when the price of his products normally resumes an upward trend. This, however, is a virtual impossibility, for the tightness of the credit market in such deflationary periods, coupled with the general reduction in purchasing power, indispose potential lenders to lend for agrarian medium-term credits.

In such a state of affairs, therefore, the economist would look to see a certain proportion of bankruptcies among agriculturists who cannot pay their way at the lower prices, and a consequent loss of the agricultural investments made at a higher level of prices and a lower value of money. The ensuing restriction of agricultural production to cultivators working on or above the new level of marginal costs would, at next harvest, curtail supply, prices would either rise or remain stable, and a new equilibrium would be reached, at which new credits might again be extended. But this theoretical view assumes that industry is not touched by the price movement. Actually, of course, in a world-wide downward trend of prices, industrial bankruptcies of infra-marginal firms also occur, and the widespread destruction of investments ('savings' at former money values) brings about a new equilibrium—a new level of prices at which fresh investments ('savings' at the new level) might be made when prices are lower.

The disadvantageous situation of agriculture lies in the fact that the liquidation process rendered necessary by this 'Sanierung' (as the Germans euphemistically term it) involves a complete change of occupation, not only of land, but also of labour and effort; and this complete change can only be made by a movement towards the towns and industry—which, *ex hypothesi*, are at the same time undergoing the same process and registering high unemployment. Thus comes about the national tendency to tax the consumers and industrialists in order to maintain, at all costs, the farmers on their holdings. In countries exporting primary products this tendency assumes paramount importance and can hardly be condemned, except on the theoretical economic view. But then the initial downward pressure upon the agricultural price level is perpetuated, and the reaching of a final equilibrium between supply and demand is indefinitely postponed.

In this state of affairs, and assuming a world which aims at continuing its economic interdependence on trading and on specialization for exports, the agriculturists have only two alternatives:

1. They can co-operate, first nationally, and then internationally, to ration out production and markets, so that, coupled with State aids mentioned above, they can at least pay their way as long as demand continues.
2. They can adopt new methods of technique, new combinations of productive factors, and new organization so that, while the incidence of older debts becomes heavier as prices fall, the unit-costs are lowered.

By the first alternative above, countries like Brazil (coffee), U.S.A. (cotton and wheat), Straits Settlements (rubber), Canada (wheat) have attempted to share production and marketing, and to make long-term supply contracts. This is one method, known as 'valorization', aiming at maintenance of prices from the supply side. By the second alternative above, fresh credits are necessitated, and, as has already been shown, in a period of general deflation and falling prices this is almost an impossibility until final equilibrium has been reached. . . .

When a *general* movement of prices occurs, and while it lasts, the agriculturist suffers a more radical redistribution of his cost-burden than the industrialist, without being enabled to change quickly to another process or to curtail at once his output. Demand for his products is highly inelastic, and yet for non-economic reasons his Government refuses to allow him, on any large enough scale, to go out of production. Default or fresh credit is necessary, and this can seldom be given by individuals who, in the general fall of prices, themselves find their savings diminished in earning power. The State is invoked, and gives subsidies or tariff-protection in one of its multifarious forms. Industrial demand for agricultural products then suffers, purchasing-power is declining, and prices fall farther. The creditor-debtor connexion becomes 'frozen stiff'. Banking difficulties in primary countries develop, and external debt-services go by default. Currency difficulties next develop, and finally currency standards are overturned, and international trade is drastically curtailed to the absolute minimum, in order to 'preserve credit' by 'favourable balances of payment'.

Thus, the agriculturist would desire, in his envisaged economic Utopia, neither falling prices (with the above effects) nor rising prices (with the ensuing cut-throat competition and dangers of debts and stocks). He would desire, in his most enlightened mood, a form of stable prices, with perhaps a very gradual long-run trend upwards. Be that as it may, the problem inherent in all discussions of price-stability cannot be divorced from scientific progress in technique of production, population, gold supplies, banking and credit developments, and a host of other factors entering into either the supply or demand side of the price equation. Nevertheless, one fact is certain: the agriculturist, either nationally or internationally, stands more in need of medium- and long-term credit accommodation than any other producer, as long as the general price level tends downwards. An attempt has been made (October 1931) to institute and work an international

Mortgage Bank in Europe. Mortgage bonds have been increasingly floated since the War on foreign centres—though the present financial crisis has led to widespread defaults, as in the case of the Hungarian Mortgage Bonds. Co-operative action inside each primary country may eventually lead to international credit organizations, such as were recommended by the Warsaw Conference of the European agrarian countries in November 1930. It is only along some such detailed organization lines that world agriculture can hope to prevent a wholesale bankruptcy epidemic from thinning its ranks. Many economists would consider the thinning by far the sanest procedure, even for agriculture itself. But, abstracting the possibility of any international attempts at stabilization of the purchasing power of the standard of value, it would appear that only in the spheres of agricultural credit, production, and marketing co-operation can the present extent of world agriculture be maintained, and even then the duration of such maintenance is problematical in the extreme. For, in the last analysis, economic nationalism and short-sighted self-sufficiency programmes are not compatible with the over-extension of agricultural production for export, and upon the latter the notions of international trade and world price depend. If, however, each State can become self-sufficient for its main agricultural items, the effects of world price movements will be of no consequence—for world prices themselves will be hard to calculate, and each State will bear its own portion of the ensuing redistribution of agricultural capital, land, and labour.

APPENDIX II

THE OTTAWA AGREEMENTS¹

In respect of Agricultural Products

THE Agreements concluded between the United Kingdom, the Dominions, and India, *in so far as they are concerned with agricultural products*, may be summarized as follows:

In the Agreements made with Canada, Australia, New Zealand, South Africa, Southern Rhodesia, Newfoundland, and India the United Kingdom agrees to continue after 15 November 1932 entry free of duty into the United Kingdom of goods consigned from any part of the Empire and grown, produced, or manufactured in the Dominions and India which, by the Imports Duty Act, 1932, are now free of duty, subject, however, to certain reservations as regards eggs, poultry, butter, cheese, and other milk products, in the case of which, free entry for Empire produce will be continued for 3 years certain. The United Kingdom Government, however, reserve the right to review, if necessary, at the end of this

¹ For further details see Cmd. 4174, *Summary of Proceedings and Copies of Trade Agreements*, Imperial Economic Conference at Ottawa; also *Parliamentary Debates*, House of Commons, 18 October–3 November; House of Lords, 26 October–10 November.

TABLE XXIX
New Duties¹

| | <i>Duties to be imposed by Great Britain by agreement with:</i> | | | | | |
|--|---|---------------------|----------------|----------------------|---------------------------|---------------|
| | <i>Australia.</i> | <i>New Zealand.</i> | <i>Canada.</i> | <i>South Africa.</i> | <i>Southern Rhodesia.</i> | <i>India.</i> |
| Wheat, per quarter | 2s. | .. | 2s. | .. | .. | 2s. |
| Maize, flat white, per cent. ad valorem | .. | .. | .. | 10 | 10 | .. |
| Rice, husked, also cleaned whole, per lb. | .. | .. | .. | .. | .. | 1d. |
| Butter, per cwt. | 15s. | 15s. | 15s. | 15s. | 15s. | .. |
| Cheese, per cent. ad valorem | 15 | 15 | 15 | 15 | 15 | .. |
| Raw apples* and pears, per cwt. | 4s. 6d. | 4s. 6d. | 4s. 6d. | 4s. 6d. | .. | .. |
| Canned apples,† per cwt. | 3s. 6d. | .. | 3s. 6d. | 3s. 6d. | .. | .. |
| Other canned fruits,† per cent. ad valorem | 15 | .. | .. | 15 | .. | .. |
| Dried fruits, now dutiable at 7s. per cwt. | 10s. 6d. | .. | 10s. 6d. | 10s. 6d. | .. | .. |
| Eggs in shell, not exceeding 14 lb. per great hundred | 1s. | 1s. | 1s. | 1s. | 1s. | .. |
| Eggs in shell over 14 lb. but not exceeding 17 lb. per great hundred | 1s. 6d. | 1s. 6d. | 1s. 6d. | 1s. 6d. | 1s. 6d. | .. |
| Eggs in shell over 17 lb. per great hundred. | 1s. 9d. | 1s. 9d. | 1s. 9d. | 1s. 9d. | 1s. 9d. | .. |
| Condensed milk whole, sweetened, per cwt. | 5s. | 5s. | 5s. | 5s. | .. | .. |
| Unsweetened condensed whole milk, per cwt. | 6s. | 6s. | .. | 6s. | .. | .. |
| Milk powder and other preserved milk not sweetened, per cwt. | 6s. | 6s. | .. | 6s. | .. | .. |
| Honey, per cwt. | 7s. | 7s. | .. | .. | .. | .. |
| Vegetable oils, per cent. ad valorem | .. | .. | .. | .. | .. | 15 |
| Linseed, per cent. ad valorem | .. | .. | .. | .. | .. | 10 |
| Raw oranges (1 April-30 Nov.), per cwt. | 3s. 6d. | .. | .. | 3s. 6d. | 3s. 6d. | .. |
| Raw Grapefruit (1 April-30 Nov.), per cwt. | 5s. | .. | .. | 5s. | 5s. | .. |
| Grape, other than hot-house (1 Feb.-30 June), per lb. | 1½d. | .. | .. | 1½d. | .. | .. |
| Raw peaches and nectarines (1 Dec.-31 March), per cwt. | .. | .. | .. | 14s. | .. | .. |
| Raw plums (1 Dec.-31 March), per cwt. | .. | .. | .. | 9s. 4d. | .. | .. |

¹ Freedom from these duties applies to these products from all Imperial sources, but they are scheduled under the countries to which they are of especial importance.

* Excluding apples consigned direct to a registered cider manufacturer for use in making cider.

† In addition to duty in respect of sugar content.

period, the basis of preference on these articles, and, after due notification, either to impose a preferential duty on Empire products of this nature or to bring such produce within any quota system which may be established for the United Kingdom market.

The Canadian Agreement, Article 4, and the Australian Agreement, Article 5, provide that the United Kingdom duty on wheat in grain may be removed if, at any time, Empire producers are unable or unwilling to offer wheat on first sale in the United Kingdom at a price not exceeding the world price and in quantities sufficient to supply the requirements of the United Kingdom's consumers.

The United Kingdom agrees to impose certain duties on foreign food-stuffs. These duties are scheduled (See Table XXIX) in the *Summary of Proceedings* (Cmd. 4174) at Ottawa. The concessions apply to all the products named when of Imperial origin, but the lists show to which units of the Empire they are of particular importance.

The United Kingdom agrees not to reduce without the consent of the Dominions the duty of 10 per cent. on foreign agricultural products scheduled under the various Agreements. The following table shows which are of particular importance to each Dominion and to India:

TABLE XXX
Maintenance of Existing Preferences

| <i>Australia</i> | <i>New Zealand.</i> | <i>Canada.</i> | <i>South Africa.</i> | <i>India.</i> |
|------------------|---------------------|----------------|----------------------|------------------|
| Leather | Leather | Timber of all | Sausage cas- | Tea |
| Tallow | Tallow | kinds im- | ings | Coir yarn and |
| Canned meat | Canned meat | ported into | Dried fruits, | matting |
| Barley | Dried peas | the U.K. in | other than | Unbleached cot- |
| Macaroni | Casein | substantial | currants, not | ton yarn |
| Wheat flour | Meat extracts | quantities | specified in | Leather (un- |
| Dried peas | and essences | from Can- | Table XXIX | ressed hides |
| Dressed poultry | Copra | ada, in so | Wattle bark | and skins |
| Casein | Sugar of milk | far as now | and tanning | other than |
| Eucalyptus oil | Sausage cas- | dutiable | extracts | sole leather) |
| Meat extracts | ings | | therefrom | Oilseed cake and |
| and essences | Seeds, grass | | Potatoes | meal |
| Copra | and clover | | Maize pro- | Spices |
| Sugar of milk | Gums, other | | ducts | Teak and hard- |
| Sausage cas- | than gum | | Fruit pre- | woods now |
| ings | arabic, gum | | served by | dutiable |
| Wattle bark | tragacanth, | | chemicals or | Bran and pol- |
| Asbestos | shellac, | | artificial heat | lard |
| Dried fruits, | sticklac, and | | except fruit | Rice meal and |
| other than | seedlac | | preserved in | dust |
| currants, not | | | sugar | Tobacco |
| specified in | | | Fruit juices | Castor seed |
| Table XXIX | | | Ground nuts | Sandalwood oil |
| | | | Goat skins | Ground nuts |
| | | | Ostrich feathers | |
| | | | Lucerne seed | |
| | | | Kafir corn and | |
| | | | meal | |
| | | | Box wood | |

The United Kingdom Government agree to invite the Governments of the non-self-governing colonies and protectorates to accord to the Dominions any preference which may, for the time being, be accorded any other part of the British Empire (excluding inter-colonial preferences in South Africa), and will invite certain of them to accord new and additional preferences. The schedules of these proposed preferences are attached to the various agreements.

The Canadian Agreement also provides that the United Kingdom shall invite Parliament to pass the necessary legislation for the modification of the conditions at present governing the importation into the United Kingdom of live cattle from Canada.

The United Kingdom Agreements with Canada, South Africa, and Southern Rhodesia provide that the United Kingdom shall invite Parliament to pass legislation which will secure for a period of ten years the existing margin of preference for Empire over foreign tobacco, so long, however, as the duty of foreign and manufactured tobacco does not fall below 2s. 0½d. per lb., in which event the margin of preference shall be equal to the full duty.

The Agreements with Australia and South Africa provide that the United Kingdom will invite Parliament to pass the necessary legislation to secure to Australian and South African wines not exceeding 27 degrees of proof spirit, a preference over similar foreign wines of 2s. per gallon.

The United Kingdom Agreement with Canada declared the intention of the United Kingdom to arrange, as soon as possible after the Commission then sitting on the re-organization of the Pig Industry in the United Kingdom had reported, for the quantitative regulation of the supplies of bacon and hams coming on to the United Kingdom market, and that under such quota arrangements provision will be made for the free entry of Canadian bacon and hams of good quality up to a maximum of 2,500,000 cwt. per annum (Article 6). The Canadian Government undertook to modify the existing regulations governing the importation of pedigree stock from the United Kingdom in a manner already agreed upon in the main between the two Governments (Article 18).

The Agreements with Australia and New Zealand provide for the restriction of imports of beef, mutton, and lamb into the United Kingdom. The statement is so important that it should be read in full.¹ We may state here the reasons given for the establishment of a meat quota in the United Kingdom. 'The present wholesale prices of frozen meat are at a level which has resulted in grave depression in the live-stock industries of the United Kingdom and the Dominions. This depression is likely, if continued, to bring about a serious decline in production and consequent ultimate injury to the consumer. Such a position is so serious that it is essential to take whatever steps may appear feasible to raise the wholesale prices of

¹ pp. 54-5 of Cmd. 4174 of 1932. Declaration by the United Kingdom Government appended to the Australian Agreement.

frozen meat in the United Kingdom market to such a level as will maintain efficient production. . . . The policy of the United Kingdom Government in the settlement of a meat quota is, however, subject to the intention first to secure the development of Home production, and secondly to give to the Dominions an expanding share of imports into the United Kingdom.' The Dominions on their side undertake to regulate the exports of meat to the United Kingdom within the framework of the scheme.

Should it appear at any time that, in consequence of the restriction on foreign imports, supplies of meat are inadequate to meet the requirements of consumers in the United Kingdom, then the United Kingdom Government may remove such restriction until supplies are again adequate.

TABLE XXXI

The maximum quantities of foreign meat to be allowed to be imported into the United Kingdom during each quarter of the period from 1 January 1933 to 30 June 1934 (expressed as a percentage of the quantities imported in the corresponding quarters of the twelve months ended 30 June 1932).¹

| Meat. | 1933 | | | | 1934 | |
|--|-----------------|-----------------|----------------|---------------|-----------------|-----------------|
| | Jan.- March. | April- June. | July- Sept. | Oct.- Dec. | Jan.- March. | April- June. |
| Chilled beef | 100 | 100 | 100 | 100 | 100 | 100 |
| Frozen beef (carcases and boned beef) | 90 | 85 | 80 | 75 | 70 | 65 |
| Frozen mutton and lamb | 90 | 85 | 80 | 75 | 70 | 65 |

A supplementary statement on the Agreements with regard to meat is provided in a letter from the Right Hon. J. G. Coates to Mr. Baldwin, dated 19 August 1932.²

The quantities of prospective meat supplies from New Zealand are indicated in this letter. The Australian commitments in respect of meat supplies to the United Kingdom are embodied in the Declaration by the United Kingdom Government referred to on p. 289.

The United Kingdom Agreement with Southern Rhodesia provides that the United Kingdom Government shall invite Parliament to pass legislation securing to Southern Rhodesia coffee an enhanced margin of preference of 9s. 4d. per cwt. (previously 2s.) over foreign coffee. A similar provision appears in the Indian Agreement.

During the course of the Conference it was announced on behalf of the

¹ In 1931 our sources of supply were as follows:

| | (Million cwt.) | | | |
|------------------------|----------------|------------|--------------|---------|
| | S. America. | Australia. | New Zealand. | Others. |
| Chilled beef | 9.3 | nil | nil | nil |
| Frozen beef | 0.9 | 1.1 | 0.4 | 0.3 |
| Frozen mutton and lamb | 1.8 | 1.5 | 3.5 | 0.3 |

² See pp. 60-1 of Cmd. 4174 of 1932.

United Kingdom that Parliament should be invited to convert the present duty on bananas into a specific duty of 2s. 6d. per cwt., and to extend the duty on grapefruit to cover the whole year.

The Agreements, except those in regard to meat, are for a period of five years. If not denounced six months before the end of that period they are to continue subject to six months' notice of denunciation by either party.

The Indian Agreement provides for free entry into the United Kingdom for Indian goods within the scope of the 10 per cent. duty and any additional duties imposed under the terms of the Import Duties Act. The United Kingdom agrees to impose a 10 per cent. duty on foreign linseed, and to co-operate in promoting greater use of Indian cotton in the United Kingdom. The Agreement is subject to six months notice of denunciation by either party.¹

Apart from the preferences granted by the United Kingdom on the agricultural products of the Empire, there are some important arrangements between different parts of the Empire relating to various products. These preferences are most important in respect of the tropical and sub-tropical products of British Colonies and Mandated Territories, such as vegetable oils and oil-seeds, spices, wines and spirits, &c. For instance, the Australian Agreement provides that:

'His Majesty's Government in the Commonwealth of Australia undertake to accord to the non-self-governing Colonies and Protectorates and the Mandated Territories of Tanganyika, the Cameroons under British Mandate, and Togoland under British Mandate, preferences on the commodities and at the rates shown in Schedule G, and also any preferences for the time being accorded to the United Kingdom if His Majesty's Government in the United Kingdom so request.

'Provided that His Majesty's Government in the Commonwealth of Australia shall not be bound to accord any preferences to any Colony or Protectorate which, not being precluded by international obligations from according preferences, either (i) accords to Australia no preferences, or (ii) accords to some other part of the Empire (in the case of Northern Rhodesia, excepting the Union of South Africa, Southern Rhodesia, and the Territories of the South African High Commission) preferences not accorded to Australia.'

Schedule G is attached, and is as follows:

Asphalt, bitumen and natural pitch, 10 per cent. ad valorem. Dry gums, viz. Balata, gum arabic, gum copal, gum damar, gutta percha, jelutong, sticklac and seed lac, 15 per cent. ad valorem. Essential oils, viz. bay leaf, cinnamon, cinnamon leaf, citronella, clove, geranium, lemon-grass, lime, orange, patchouli, pimento, 15 per cent. ad valorem. Bananas: 40,000 cents per annum from Fiji will be admitted in reasonably equal monthly

¹ A Resolution of the Government of India recommending ratification was introduced into the Legislative Assembly on 7 November, and was referred to a Select Committee, which was to report on 21 November.

quantities at 2s. 6d. per cental provided the goods are entered at the ports of Sydney and Melbourne. Cocoa, raw, $\frac{1}{2}$ d. per lb. Fruit juices, 3d. per gallon. Fruits (preserved in liquid, or partly preserved, or pulped): (a) quarter-pints and smaller sizes, 6d. per dozen; (b) half-pints and over quarter-pints, 1s. per dozen; (c) pints and over half-pints, 2s. per dozen; (d) quarts and over pints, 4s. per dozen; (e) exceeding a quart, 1s. 3d. per gallon. Coco-nuts, whole, 1s. per cwt. Plumbago and graphite, 15 per cent. ad valorem. Sago and tapioca, 15 per cent. ad valorem. Spirits, viz. Bitters: (i) when not exceeding the strength of proof, 5s. per gallon; (ii) when exceeding the strength, 5s. per proof gallon; Rum: (i) when not exceeding the strength of proof, 5s. per gallon; (ii) when exceeding the strength of proof, 5s. per proof gallon. Sponges, 15 per cent. ad valorem. Timber, viz. logs, not sawn when not for use in the manufacture of plywood, 20 per cent. ad valorem. Tobacco: unmanufactured, entered to be locally manufactured into cigars, 6d. per lb.; tobacco, manufactured, 1s. per lb.; cigars, 2s. per lb. Underground spices, viz. arecanuts, cardamons, chillies, cinnamon, cloves, ginger, mace, nutmegs, pepper, pimento and vanilla, 15 per cent. ad valorem.

Progress was made at Ottawa in the arrangement and modification of proposed and existing inter-Dominion Agreements, but no definite information on these questions is as yet available.

The preferences accorded by the Dominions in return for the concessions granted by the United Kingdom refer in the main to industrial goods and are, therefore, outside the scope of this book.

APPENDIX III

DIRECT RELATIONS BETWEEN PRODUCERS' AND CONSUMERS' CO-OPERATIVE SOCIETIES

[See Chapter XII, Section VI]

THE International Co-operative Alliance was in its origin a consumers' movement. It is concerned with the representation of co-operative interests in general, with the formulation of a common policy, and with the exchange of information and collection of statistics. The producers' associations are now much more strongly represented than formerly. At the Vienna Conference of 1930, agricultural societies of Baltic and Balkan States were represented, in addition to the Danish, Hungarian,¹ and Russian organizations, which are members of long standing. Two bodies of first-class importance were represented for the first time at an I.C.A. Congress, the Canadian Wheat Pools and the French Federation of Co-operation and Agricultural Credit. (The latter body is also a member of the International Commission of Agriculture.) At the Congress reports

¹ In Denmark and Hungary co-operation is strongest on the producers' side, and the co-operative societies are not divided into consumers' and producers' societies.

were received from seventeen European countries reporting the establishment of institutions for furthering collaboration between consumers' and agricultural producers' societies.

In some mainly agricultural European countries there is no separate organization of consumers' and producers' co-operative societies, the co-operative movement being mainly agricultural; in these cases the question of direct trading relations between producers and consumers only arises in foreign trade. In Germany repeated attempts have been made to develop closer relationships between agricultural and consumers' societies, but so far without far-reaching success, though something has been done in the direct supply of eggs. In certain European countries the different political tendencies of urban and rural population are an obstacle. Although the co-operative movement is officially non-political, the consumers' societies in several continental countries are in fact usually dominated by the political parties of the Left. The producers' societies, on the other hand, support the agrarian parties, generally of the opposite tendency. These political considerations tend to slow down enthusiasm for direct relations and to introduce different interpretations of co-operative principles. Other main obstacles are the factor of distance, and the difficulty of establishing control over the chain of distributive processes, from the place where the agricultural products are produced to the place where it is finally consumed.

Direct relations between producers' and consumers' co-operative societies¹ have been established in villages or groups of villages, where societies receive the produce of their members and return it to them ready for consumption: rural bakeries of this type are common in France and Czechoslovakia, and rural butchery co-operative organizations of this kind are fairly numerous in Canada, where they are known under the name of beef-rings; in the Jura and Savoy, the *fruitières* fairly frequently return part of the cheese to the members who supply the milk. In small centres and towns of medium size, the existing organization of markets permits direct contact between the individual consumers of the town and the individual producers of the neighbourhood. Consumers' co-operative societies usually make a practice of buying food products from their agricultural members.

With the increase of the population of the towns and industrial regions, the zones from which they draw their supplies extend, the relations between producers and consumers are more and more distant and indirect, and the division between agricultural and consumers' societies necessitates a contract or joint undertaking to establish direct relations.

In 1923 and 1924 co-operative dairies in Moravská Ostrava (Czechoslovakia) experimented in direct supply to consumers' co-operative shops. It was reported in June 1930 that the schemes had succeeded, in spite of

¹ The following examples and quotations are taken from an article by Dr. G. Fauquet, 'Principal Types of Co-operative Relations between Producers and Consumers of Agricultural Products', in the *Annals of Collective Economy*, January-March 1927.

great obstacles, overcome by the generous outlook of the members on both sides, and that the Central Dairy was in 1930 supplying sixty shops. But the most illuminating event in Czechoslovakia was an agreement in 1928 between the Czechoslovak C.W.S. and the producers' societies.¹ In other cases co-operation took the form of amalgamation. In Malmö (Sweden) two large dairies, one belonging to a consumers' society with eighty-five shops, the other belonging to a farmers' co-operative society with twenty shops, were amalgamated as the Malmö Central Milk Organization, with a board on which both sides were represented.

In international trade, direct relations between consumers' and producers' societies have been established by national federations of societies; individual societies rarely undertake international trading. The most important work in this direction has been done by the English Co-operative Wholesale Society. The Co-operative Wholesale Society has direct trading relations with various producers' organizations in the British Dominions, in Argentina, and in Russia.²

The growing importance of international co-operative trade in foodstuffs has necessitated the foundation of mixed societies managed jointly for their common advantage by consumers' co-operatives and agricultural co-operatives. Joint undertakings of this kind have been founded by the C.W.S. and unions of agricultural societies in New Zealand and Denmark.

In 1919 the National Dairy Association in New Zealand approached the C.W.S. with proposals for direct trade. It was agreed that it would be necessary to have a clearing-house to arbitrate between the two interests, and this led to the formation of a New Zealand Produce Association Limited, London. In 1920 a deputation of the C.W.S., with the London representative of the National Dairy Association of New Zealand, visited New Zealand in order to set up the necessary selling organization in that country. The Dominion organization is the New Zealand Producers' Co-operative Marketing Association Limited, of which ninety-six co-operative dairy companies are members. The turnover of the New Zealand Produce Association Limited (net sales) rose from £1,108,000 in 1924 to £1,973,908 in 1929. In this arrangement neither party is under any obligation to sell to, or to buy from, the other. The New Zealand Association obtains certain advantages, since the C.W.S. Bank places its credit at the disposal of the New Zealand producer.³

The Danish Co-operative Bacon Trading Company, established in England in 1902, at present groups eighteen Danish co-operative slaughter-houses. The Company markets one-third of the Danish bacon imported into Great Britain. Its rules provide that the net profits shall be divided

¹ *Report of the I.C.A. Congress at Vienna, 1930*: H. J. May, Appendix I, 'Relations between Consumers and Agricultural Co-operative Organizations'.

² Imports from overseas co-operative organizations by the C.W.S. in 1929 were valued at £3,311,544 out of total imports valued at £43,722,027.

³ H. J. May, 'The New Zealand Produce Association', in a report prepared for the Joint Committee, 1931.

equally between the slaughter-houses and the firms which buy the products, among which is the English C.W.S. The share due to the slaughter-houses is divided between them in accordance with their deliveries of bacon, and each buyer similarly receives a discount proportionate to the value of his transactions with the Society.

The C.W.S. has also helped producers' organizations in financing the movement of commodities, particularly in the case of the Western and South Australian Wheat Pools,¹ and in the case of Russian grain.

In Central Europe international trading contracts have been made by co-operators. An arrangement was made in August 1931 between Prisad, the privileged company for the export of wheat, supported by the central union of the Serbian agricultural co-operatives in Belgrade, and the central purchasing organization of consumers' societies in Prague, in which the latter agreed to buy all its imported agricultural products from Prisad, given terms equal to other suppliers and if Prisad would make its foreign purchases through the Prague society. So far international trade between consumers' and producers' co-operative societies has been conducted by direct dealings between the buyers and sellers, either through founding a joint enterprise or through contracts. 'The creation of an International Agency to deal on behalf of the National Co-operative Wholesale Societies has been, if not abandoned, at least postponed.'²

¹ For a full account of these transactions see a paper read by Sir Thomas Allen to the Co-operative Congress on 'The Marketing, Pooling, and Financing of Co-operative Production in Relation to Consumers', *Report of Congress of International Co-operative Alliance*, Vienna, 1930.

² See G. Fauquet, 'Co-operation of Organized Producers and Consumers', *Review of International Co-operation*, September 1931.

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ABBREVIATIONS

Agr. = agriculture, agricultural
Int. = international

NOTE

Where references to a subject have been very numerous, an indication of the more important entries has been given after the page number.

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