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POPULATION THEORIES
AND THEIR APPLICATION
**WITH SPECIAL REFERENCE
TO JAPAN**

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**No. 7. *Population Theories and Their Application,
with Special Reference to Japan***

[September 1934]

For Institute publications, address

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POPULATION THEORIES
AND THEIR APPLICATION
WITH SPECIAL REFERENCE TO JAPAN

By

E. F. PENROSE

FOOD RESEARCH INSTITUTE
STANFORD UNIVERSITY, CALIFORNIA

THE FOOD RESEARCH INSTITUTE

was established at Stanford University, California, in 1921, jointly by the Carnegie Corporation of New York and the Trustees of the Leland Stanford Junior University, for research in the production, distribution, and consumption of food.

DIRECTORS

CARL LUCAS ALSBERG JOSEPH STANCLIFFE DAVIS
ALONZO ENGLEBERT TAYLOR

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First printing September, ~~1934~~

Second printing December, 1935

PRINTED IN THE UNITED STATES OF AMERICA
BY STANFORD UNIVERSITY PRESS

DIRECTOR'S NOTE

At its Honolulu Conference in 1927, the Institute of Pacific Relations undertook the formulation of a research program. In this formulation, one of the Directors of the Food Research Institute had a share. Subsequently, the realization of some of his research suggestions was made possible through the grant of funds to the Food Research Institute by the Social Science Research Council at the instance of the Institute of Pacific Relations. A part of the results of the work thus initiated is presented in the present volume. While it was made possible by the co-operation of the three organizations above mentioned, the work was done at the Food Research Institute, and neither the Institute of Pacific Relations nor the Social Science Research Council is responsible for the views expressed in the present volume.

CARL LUCAS ALSBERG

JOSEPH STANCLIFFE DAVIS

ALONZO ENGLEBERT TAYLOR

Directors, Food Research Institute-

June 1934

FOREWORD

This work is an offshoot of some studies, as yet incomplete, of the economic situation which has developed in modern times with the passing of regional self-sufficiency and the large increase of population in eastern and south-eastern Asia. The existing statistical data relating to these areas are fragmentary and defective, but, as I tried to show in a limited sphere in my *Food Supply and Raw Materials in Japan*,¹ there are still unexploited possibilities of quantitative study of economic conditions in these areas. Some of the studies, already under way, included in the general scheme of which the present work forms a part, are largely of a quantitative nature and are not confined to population questions. Very soon after these studies were started, however, the need for analysis of the population situations of the areas dealt with became evident, and as the work proceeded the conviction grew on me that, so far at least as population problems are concerned, it was the inadequacy of existing theories just as much as the inadequacy of available facts which retarded progress. There are, indeed, some facts which we can be almost certain would be required in the application of any useful population theory. But to a large extent the direction of our search for facts should be determined by the nature of our theories. Hence in its completed form the present study is primarily concerned with theories of population that have a general application. But without some attempt at direct application there would have been a danger that conceptual schemes would have been framed that would have had little bearing on the concrete situations of real life. It is largely owing to a desire to escape from this danger that a con-

¹ Chicago, University of Chicago Press, 1930.

siderable range of illustrative material and fairly numerous references have been introduced into the present study. As it would obviously have been impracticable to have attempted to apply the theories here developed to all regions of the earth or even of eastern and south-eastern Asia in detail in one book, it seemed appropriate in the present study to apply them mainly to the area the population problem of which is commonly regarded as more important than that of any other area at the present time.

It is sometimes said that advances in technology have banished the inevitability of poverty and extreme scarcity, and enabled Man to conquer Nature. Part I, especially chapter i, deals with general principles that have a considerable bearing on this matter. So much has been written on the Malthusian theory that it was my intention at first to treat it very briefly. But much of the literature on Malthus appears to be unnecessarily controversial in tone. There are of course some outstanding writers to whom this criticism does not apply, but they have used a different type of approach from that which I have adopted here as being most suitable to the purpose of this study.

If there is no shortage of land and of natural resources in the world as a whole, and if there is an ever increasing supply of inventions and technical improvements, it does not follow that problems of population have ceased to be important. The problem of the distribution of population remains. Hence the theoretical structure of Part III is based on the fact that a disparity exists, and must always exist, between the distribution of population and the distribution of natural resources. It is this disparity which gives rise to the most important problem of population at the present time. Natural resources of various kinds, accumulations of capital, di-

verse types of technical knowledge and skill, are scattered unevenly over the earth. The fact that they exist in large quantities in the aggregate will not lead to the elimination of extreme poverty unless the factors which tend to reduce the disparity between the distribution of population and the distribution of natural resources, capital, and technology are allowed to operate on an adequate scale.

It is sometimes said that the economic maladjustments of our time arise from the fact that, though the problem of production is near solution, the problem of distribution has not yet been grappled with. Unfortunately this statement is frequently used as a basis for the advocacy of fallacious doctrines of underconsumption. But if, instead, it is interpreted to mean that productive capacity is increasing at an accelerated rate, but that commodities, and factors and sub-factors of production, are not being distributed over the world in such a way as to make possible the full utilization of the increased productive capacity, it then becomes a statement of the central population problem of our age.

The main thesis of Part III was developed directly from the facts of the Japanese situation. Bertil Ohlin's excellent treatise, *Interregional and International Trade*, which appeared in 1933, reached me in the autumn, and I was able, after what had necessarily to be a too rapid reading of so extensive a work, to state a number of points in improved form in my final revision of Part III. I have also adopted a few terms used by Ohlin in place of more clumsy expressions which I used in earlier manuscripts. Ohlin has a formal statement of the idea which from the beginning has played a fundamental part in the present study—that movements of commodities may be regarded as a substitute for movements of the factors of production. The same idea was expressed by Longfield

in 1834,¹ though I was unaware of this until I found a reference to it in Ohlin's work.

It is no part of the present study to give a descriptive account of Japanese industries. The facts about Japan given in Parts II and III are selected solely with reference to the theoretical structure of this study. In recent years much material has been made available to Western students through the work of G. B. Sansom, R. Boulter, and H. Macrae, John E. and Dorothy Orchard, H. G. Moulton and Junichi Ko, G. C. Allen, and others, some of whom are referred to in the present study. An impending work by Shiroshi Nasu will constitute the most important study of Japanese agriculture in any Western language. Occasional criticisms in the following pages of views held by other writers apply only to particular points which happen to be relevant to the theoretical structure of the present work, and are in no case to be interpreted as implying criticisms of the works of the writers in question as a whole.

Statistical tables and charts have been wholly excluded from the present study, and in cases where the reasoning depends on quantitative evidence a few figures have been introduced into the text or the evidence has been referred to in footnotes. This appeared to be the only way to prevent the work from becoming unwieldy. Consequently there is no detailed treatment of the facts of the recent expansion of Japanese exports which has aroused so much interest and controversy in other countries. This matter has been reserved for treatment in a journal article, to be completed in 1934, dealing with economic and financial developments in Japan since the beginning of the world depression.

¹ Mountifort Lontfffield, *Lectures on Political Econonuj.*, p. 2'M). No. 8 in the Series of Reprints of Scarce 'Tracts in Economic and Political Science, London School of Economics and Political Science.

In the applied parts of the present study it has been necessary to deal with matters which have been the subject of intense international controversies. Residence during approximately equal periods of time in Great Britain, Japan, and the United States since the World War has given me an opportunity to view these controversies from several different angles, and, having no personal antipathies toward any of the national groups concerned and no personal preference for any one of them over the others, it has been my aim to maintain an impartial and cosmopolitan attitude, free from the influence of tribal sentiment.

Of the many shortcomings of the present study I am uncomfortably conscious. Further delay in publication might enable some of these to be removed, but inability to give more time to this study in the very near future makes it necessary either to publish it now or to delay its publication for some time, and even in its present form it may be found to have some relevance to world problems which are now and will remain in the near future in the foreground of public interest.

Anything which may be useful in this work should be regarded, not as the product of an individual, but as the result of the opportunities afforded by a number of varied and stimulating environments. An interest in population problems which began during undergraduate studies in economics at the University of Cambridge was intensified by subsequent residence, travel, and contacts in Japan, and particularly by my work, and the stimulus received from my former Japanese colleagues, in the Commercial Research Bureau of the Nagoya Commercial College. The work of setting down and arranging my frequently changing views on the subject, however, began in the Food Research Institute of Stanford University, and the present study was only made possible through

the time and facilities placed at my disposal by the Directors of that Institute, and the numerous constructive criticisms and suggestions which they and other members of the Institute staff have made from time to time. The manuscript has been completely rewritten four times. Dr. Carl L. Alsberg read the three earlier manuscripts, and the improvements made in these were largely due to his criticisms. Dr. Joseph S. Davis read the fourth manuscript, and his criticisms and suggestions led to a number of important final amendments just before publication. Professor J. B. Canning, of the Economics Department of Stanford University, made invaluable criticisms and suggestions regarding the subject-matter of chapter i. These critics have not only saved me from a number of serious errors, but consideration of their suggestions has led me to embark on much analysis which it would not otherwise have occurred to me to make. However, none of those to whom acknowledgments are made here should be held responsible for views expressed on particular points.

I am indebted to Dr. Alonzo E. Taylor and Professor Y. Ichihashi for reading and commenting on an early and subsequently much modified manuscript, and to Professors B. F. Haley and W. G. Beach for reading and making suggestions with regard to certain sections. For other criticisms and suggestions I am under obligation to Bruno Lasker, whose criticisms influenced the final form of chapter ix, Frederick V. Field, and Joseph Barnes. I have also derived a number of ideas from discussions with Helen C. Farnsworth and Robert D. Calkins. I am indebted to Elizabeth Brand Taylor and Ruth Lee Young for much labor in the preparation of four different typescripts, and for other assistance to Hyla G. Loomis of the Stanford University Library.

E. F. .
E. F. PENROSE

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PART I. THEORIES OF POPULATION

CHAPTER I

THE MALTHUSIAN THEORY

Though a considerable literature exists on problems of population, great difficulties face the investigator who sets out to examine the population situation in any specified area. These difficulties arise not only from inadequate factual knowledge and quantitative data, but also from the shortcomings of the theories of population which have so far been constructed. There does not appear to be any satisfactory conceptual scheme which the student of the problems of a particular area can use in an applied study with much hope of reaching satisfactory conclusions. It is not merely that many of the data needed in the practical application of the conceptual schemes cannot be had. In some cases, the schemes are themselves based on inadequately defined concepts; in others, the world and the human beings envisaged are too far removed from the world accessible to our sense perceptions, and from what we can infer about man from his behavior, to serve in their present form as useful instruments in the study of concrete problems. It does not follow that these schemes are useless; rather, they need to be modified and extended. The present study is an attempt to carry out some modifications and extensions.

DIMINISHING RETURNS AND THE MALTHUSIAN SCHEME

The first part of the present work is taken up with a study of conceptual schemes. Among such schemes none has attracted as much attention and exerted as much influence as that of Malthus. This does not necessarily imply that the Malthusian scheme is intrinsically the most significant one, but it does make it impossible to ignore it, particularly in view of the fact that many contempo-

rary writers who are somewhat dubious about the applicability of the Malthusian scheme to the Western world of today believe that it represents the situation in many Asiatic countries.

In 1826, in the sixth edition of his treatise on population, Malthus laid down these propositions:

1. Population is necessarily limited by the means of subsistence.

2. Population invariably increases where the means of subsistence increase, unless prevented by some very powerful and obvious checks.

3. These checks, and the checks which repress the superior power of population, and keep its effects on a level with the means of subsistence, are all resolvable into moral restraint, vice and misery.¹

These propositions, however, are not in themselves an adequate representation of, nor do they do justice to, Malthus' conceptual scheme. The first is harmless if it simply means that man cannot live without eating. But it might be interpreted to mean that actual numbers are what they are because no additions to them could be accompanied by equal or greater additions to the means of subsistence. Whether or not this is implied in the first proposition taken singly, it appears to be implicit in the three propositions taken together.

To bring out the Malthusian theory more adequately some further exposition is required. In the view of Malthus there is less capacity for an increase in population than for an increase in the means of subsistence. This view, and the implications in the three propositions, rested on the belief that population, when unchecked, increases in a geometrical and food in an arithmetical ratio. "The ultimate check to population appears then to be a

¹ T. R. Malthus, *An Essay on the Principle of Population* (London, Ward, Lock), reprinted from the last edition revised by the author, 1890. Except where otherwise stated all quotations from Malthus in the present study have been taken from this source.

want of food, arising necessarily from the different ratios according to which population and food increase" ¹ For the first of the ratios he claimed empirical support in the supposed increase of the American population in his time. For the second ratio he does not appear to have sought any empirical support but considered it "as proved . . . as soon as it was enunciated." ²

However, more detailed investigation shows that Malthus did ultimately advance reasons in support of the view that food could not increase in a geometrical ratio. Field says:

Expressly in his *Encyclopaedia Britannica* article, he notes that food animals and food plants would, if unrestrained, increase geometrically, but that their potential increase is restrained by the limitation of the land suited to them. ³

This brings us to the limitation of the land supply as the basis of the Malthusian theory. Malthus, as we have seen, attributed the ultimate check to shortage of food arising out of "the different ratios according to which population and food increase." In view of the fact that Malthus in 1824 attributed the difference between these ratios to the limitation of land, the last quotation can be restated as follows: the ultimate check to population appears to be a want of food arising necessarily from the limitation in the supply of land. This hypothesis originated before the time of Malthus, but Malthus was the first to make it a live issue, to bring it to the foreground of public discussion, and to destroy the notion that increase in population was necessarily desirable in itself.

¹ *Ibid.*, p. 7.

² Quoted from the third edition of the *Essay*, by E. Cannan, *Theories of Production and Distribution* (London, P. S. King, 1903), pp. 143-44.

³ James A. Field, *Essays on Population* (Chicago, University of Chicago Press, 1931), p. 14. The reference is to an article on "Population" written by Malthus for the supplement to the *Encyclopaedia Britannica* issued in 1824, to which, unfortunately, I have not had direct access.

The hypothesis in question brings us close to the concept of diminishing returns. Malthus himself was not unaware of some of the phenomena associated with this concept.¹ From John Stuart Mill to Harold Wright the followers of Malthus have in general held that in order to maintain his structure intact it is only necessary to substitute the law of diminishing returns for the geometric and arithmetic ratios which Malthus regarded as descriptive of the potentialities of population and food increase, respectively.

Unfortunately the concept of diminishing returns has been formulated by most of the followers of Malthus on questionable lines. Harold Wright says that "this law arises out of the peculiarity of land from an economic standpoint It is unlike capital or labor in that its supply is, broadly speaking, fixed and unalterable"² He then formulates the law in terms of "doses" of labor and capital applied to land, in a way which he believes to be applicable to "old countries,"³ omitting any reference to the problem of the appropriate ratio to be maintained between the variable factors as successive applications of these factors are made to land.

This is unsatisfactory, for population studies and for other uses. In a satisfactory definition attention is not given exclusively to land as a fixed factor. The supply of any factor may, in a given period of time, be fixed, and it is fallacious to suppose that the law arises out of, or is dependent on, the fact that the supply of land in the world is approximately fixed. The truth is that the notion of a supply of any factor being fixed is purely relative to place and time. Even the statement that the world's sup-

¹ For a judicious summary of Malthus' position on this point, see Field, *op. cit.*, pp. 15-16.

² Harold Wright, *Population* (Cambridge, The University Press, 1923), p. 30.

³ *ibid.*, p. 32.

ply of land is approximately fixed is only true of a given geological era or part of an era. Similarly the notion that the supply of any of the factors is not limited is purely relative, and valid only for a given period in a given situation. Periods of time and places can be chosen so that the supply of all the factors is strictly limited. The air of absolutism given to some of those earlier formulations of the law of diminishing returns, which based it exclusively on the fixity in land supply, is misleading.

In a given period in which there are no changes in the state of arts, no inventions or improvements in organization, let the supply of one of the factors of production only be fixed. Then, when increasing quantities of the other factors are applied to the fixed factor, the average output per unit of input of the variable factors increases up to an optimum point, at which it stands at a maximum. Thereafter, output per unit of input diminishes, a point being ultimately reached at which total output declines with any further input of the variable factors. The variable factors have to be applied at each step in optimum proportions to one another, i.e., in proportions which, when the variable factors are applied to the fixed factor, give at each stage a higher output than would result from combining them in any alternative ways.

It is true, of course, that the law does apply to agricultural operations and is a physical law which has been verified by experiments. Mitscherlich, building on von Liebig's "law of the minimum factor"—a path-breaking though not wholly valid formulation—arrived at a formula¹ which, when applied to the results of numerous

¹ Mitscherlich's formula:

$$y = Ail - e^{-k_x}$$

See W. J. Spillman and Emil Lang, *The Law of Diminishing Returns* (New York, World Book Company, 1924), pp. 9, 102-07.

experiments¹ with plants and animals, has given fairly satisfactory results. The formula assumes that with successive equal additions of input each successive increment of product is smaller than the previous increment by some constant percentage. Spillman independently reached an identical formula.² But the Mitscherlieh formula is only applicable to cases involving one variable factor, and it does not provide for an initial stage of increasing returns. Baule, however, adapted the Mitscherlieh formula to cases involving a number of variable factors. The expression which he arrived at, when plotted, gives a sigmoid curve, showing an early stage of increasing returns followed by a later stage of diminishing returns.³ It has been questioned by some whether experimental evidence shows any stage of increasing returns.⁴ However, if the evidence is inconclusive in a positive sense it is also inconclusive in a negative sense. The size of the units and the starting-points from which the experiments have proceeded may have obscured a stage of increasing returns.

The term "factor of production" can, however, be so defined that the law follows as a truism. Thus, Joan Robinson says:

¹ Spillman and Lang, *op. cit.*, pp. 107-36. For an analysis of data on Australian experiments in the light of the Mitscherlieh equation, see J. A. Prescott, "The Law of Diminishing Returns in Agricultural Experiment," in *Economic Record*, May 1928, IV, 85-89. F. Lester Patton, in his *Diminishing Returns in Agriculture* (New York, Columbia University Press, 1926), reviews many experiments confirming the operation of the law in the production of both plant and animal foodstuffs. See also H. R. Tolley, J. D. Black, and M. J. B. Ezekiel, *Input as Related to Output in Farm Organization and Cost of Production Studies*, U.S. Department of Agriculture Bulletin 1277, September 18, 1924.

² Spillman and Lang, *op. cit.*, pp. 7-11.

³ *Ibid.*, pp. 144-45; and P. E. McNall, "The Law of Diminishing Returns in Agriculture," in *Journal of Agricultural Research*, August 1, 1919, XLVJI, 107-78.

⁴ Notably by Patton, *op. cit.*, pp. 46-49. A. B. Wolfe questions Patton's view and cites some evidence relating to Georgia and South Carolina which appears to show an initial stage of increasing returns in agriculture. However, Wolfe's treatment of the matter is cautious. See his "Rent under Increasing Returns," in *American Economic Review*, December 1929, XIX, 596-604.

[When] the various elements required for the production of any commodity [are] divided into groups, each group being a factor of production, in such a way that the elasticity of substitution between one factor and another is less than infinite [the] Law of Diminishing Returns then follows from the definition of a factor of production, and requires no further proof.¹

Even when stated in this way, however, the significance of the law depends on observation and experience. Thus, Mrs. Robinson supports her formulation as follows:

Suppose that there is a single site available for building a house. Then, if capital and builders' labor were perfect substitutes for land, an infinitely high sky-scraper could be erected on this site at constant cost, and there would be no Law of Diminishing Returns. At the other extreme, if no substitution was possible, only a bungalow could be built on the site, and no increase in the demand for house-room, however great, could lead to an increase in its output.

Hence diminishing returns are "due fundamentally to the fact that there is a limit to the extent to which the proportions [of the factors] can change."

This formulation of the law brings out very clearly the fact that it rests on a physical basis. Tolley, Black, and Ezekiel point out that "the production of agricultural commodities involves the life process of plants and animals; variations in input affect output only through

¹ *Economics of Imperfect Competition* (London, Macmillan, 1933), pp. 330-31.

² *Ibid.*, p. 331. This is obviously an appeal to facts. Hence the contrast made in the following passage, though formally correct, is perhaps not entirely apt: "The Law of Diminishing Returns, when the factors of production are defined in a certain way, is merely a matter of logical necessity. But the Law of Increasing Returns is a matter of empirical fact" (*ibid.*, p. 333). In Joan Robinson's formulation the law of diminishing returns is a matter of logical necessity because it follows from a definition which happens to be a statement of "empirical fact." If the definition in question were not in harmony with "empirical fact," the law would still follow logically from it but would have no significance for the world accessible to our sense percepts.

It should be noted, too, that the term "law of increasing returns" has been applied in economic literature to several different concepts not exactly identical. To which of these concepts should the term be confined? This is a matter that should be decided by a consensus among economists purely on grounds of convenience.

physiological reactions."¹ This holds good when the variations in the input of the variable factors are measured in terms of their "deflated" prices. We then have decreasing costs up to a point, followed by increasing costs, the variations in costs being ultimately dependent on the "physiological reactions" in question. In mining and in industry the technical factors are somewhat different in character from "physiological reactions," but they still arise out of the constitution of the physical world. Of course, the extent to which substitution which is practicable in a technical sense will be carried in an economic enterprise will depend on the relative prices of the factors: the optimum proportions for combining the variable factors change with changes in the relative prices of those factors. But facts of the physical world make it impracticable and unprofitable to carry substitutions beyond certain points. The study of the nature of these facts is of theoretical and practical importance; and it must not be supposed that, because the law of diminishing returns can be formulated on the basis of a definition derived from agreed facts of everyday experience, therefore the statement of the law in terms of the results of experiments, and the experimental study of the workings of the law in agriculture and elsewhere, are valueless.

From the definition of "factor of production" given above it follows that there are numerous factors of production, and that there is no case for confining the term to the conventional categories of land, labor, and capital. Each of these can be split up into a number of different factors,² and others can be introduced. The usage to be adopted depends on the nature of the particular problem in hand. Indeed the degree of elasticity of substitution

¹ *Op. cit.*, p. 40.

² Bertil Öklin introduces the concept of "sub-factors." See an excellent discussion in his *Interregional and International Trade* (Cambridge, Harvard University Press, 1933), pp. 68-90.

between any two factors is relative to particular periods of time.

Now the limitation of the elasticity of substitution between the factors, taken in conjunction with the approximate fixity in the supply of land in the world in any given geological era, might hypothetically bring about a situation in which the rate of increase of the means of subsistence would diminish in relation to the rate of increase of population. This situation may have existed in some communities in historic times. In these circumstances the increase of population would, sooner or later, be halted. As a hypothesis, therefore, the Malthusian theory, in the amended form given to it by a suitable interpretation of the concept of diminishing returns, is logically consistent within its limits.¹ All hypotheses and conceptual schemes necessarily abstract from the world revealed by our sense perceptions. The question that arises is whether or not the Malthusian scheme includes enough elements, and gives sufficiently appropriate weights to the elements included, to constitute a suitable instrument with which to approach the population problems of the modern world.

Malthus has been severely criticized for what is represented to be a disproportionate attention to food in relation to population. For example, Lionel Robbins, commenting on certain statements by a successor of Malthus, says: ". . . we are back again in the Dark Ages with Malthus and the Classics and their fodder maxima."² Malthus was somewhat open to criticism on this point, but the familiar criticism repeated by Robbins seems to have been very much overworked. There are several reasons why food problems have always had a special rele-

¹ There are other aspects and implications in the Malthusian theory which have to be considered later.

² "The Optimum Theory of Population," in *London Essays in Economics* (London, Routledge, 1927), p. 114.

vance to population problems. At many stages in world history the problem of how to obtain in a given area an adequate supply of food has greatly outweighed in importance the problem of how to obtain supplies of other commodities. Experimental researches in the field of medicine and biochemistry have made it clear that the physiological adequacy or inadequacy of diets has a far greater influence on the movements of vital statistics and of data on morbidity than is exerted by the consumption of other commodities. There is an order of urgency of needs, and the need of food is among the most urgent. As yet it is inadequately met over large parts of the world, and even in the most advanced communities there are many who are unable to satisfy this need adequately. If the cost of production of any commodity—other than food—that supplied one of the most urgent needs were to rise, the inelasticity of the demand for the services of this commodity would lead to the transfer of productive factors from other uses, thus raising the prices of the factors and increasing the costs of production of other commodities, including foodstuffs. Since the demand for foodstuffs is relatively inelastic, the rise in the costs of production would lead to the transfer of productive resources from industries the demand for the products of which was relatively elastic to the food-producing industries. The impact of the initial shortage of a commodity other than food would thus be felt in the food-producing processes. Moreover, experience has shown conclusively that the demand for some kinds of foodstuffs is less inelastic than the demand for others. A rise in the costs of food, or a lowering of incomes available for the purchase of food, leads to the substitution of cheaper foods mainly consisting of carbohydrates for the more expensive animal foods rich in vitamins, mineral salts, and the proteins of the best amino-acid make-up. Substitution of this kind

speedily lowers resistance to infections and increases mortality and ill health.

Though it is true that, as Field says, Malthus' "thinking is dominated by the problems of the country gentleman of 1750 rather than by the new industrial system,"¹ this is not without its advantages, since there are still many important regions where a predominately agricultural economy prevails, and many of the industrial regions are largely dependent on imports of food, their demand for which is, apart from the influence of fluctuations in the domestic harvest, highly inelastic.

Altogether, the stress laid on food in the Malthusian scheme is not an important weakness, if indeed it is a weakness at all; and some of Malthus' critics hardly show an adequate realization of the importance of food in the social economy. The real weaknesses of the Malthusian scheme lie in a different direction.

From the standpoint of its serviceability for the interpretation of modern conditions, the Malthusian scheme suffers on the one hand from an undue emphasis on the limitation of the supply of land, and on the other from inadequate stress on the possibilities opened up by industrialization and international trade. Both of these shortcomings are to a considerable extent in turn the outcome of a tendency to underestimate the importance of inventions and improvements in the arts. In the time of Malthus the limitation of the supply of land was more important for particular communities than it is now, and industrialization and international trade were still of relatively small dimensions.

In later chapters I shall try to show that any population theory that is to be applicable to the modern world must be developed in close conjunction with the theory of international trade. The Malthusian theory has hardly

¹ Field, *op. cit.*, p. 17.

met this requirement adequately, even in the hands of its modern expositors. This is not to say that either Malthus or his modern expositors have been unaware of the relationship in question, but they have neither analyzed it adequately nor given to it the relative weight which it should receive. It has an intimate bearing on the problems created by the limitations on the area of land. But I shall postpone to a later chapter an analysis of the way in which the movements of commodities between regions increase the effective supply of land which contributes to the maintenance of the people in a given region.

There is a second means which has contributed toward offsetting the economic consequences of the limitation of the supply of land in the world as a whole. Some types of inventions and improvements effect an absolute economy in the use of land. For example, the invention of the automobile freed for other uses much land hitherto given to raising oats. The supply of power for field operations, and for some forms of transport, has been obtained with less use of land than had previously been required. This is equivalent from an economic standpoint to an increase in the total supply of land.

Improvements in agricultural technique also in many cases effect economies in the use of land, considered in its aspect of extension in space. The invention or discovery of new varieties of seed which will produce greater yields per unit of area enables a larger crop to be raised on a given area of land without increasing the cost of sowing, or, after the initial stage, of producing, the seed. This result resembles closely, from an economic standpoint, that which would follow an increase in the area of land on the globe; for productive purposes it is in fact rather more favorable than the latter, since it enables a larger volume of productive activities to be carried out on a given area of land, and thus reduces costs incurred

in the transportation of people and goods. Another variant of this type of "invention," of great quantitative importance in recent years, has been the development of plant varieties which, by virtue of special resistant powers to certain unfavorable environmental influences, or by virtue of a specially short period of maturation, have enabled cultivation to be carried into regions which formerly could not be used at all or could only be used to less advantage in the production of something else.¹

Agricultural inventions and improvements of these types change the optimum proportions for combining the factors of production. At the new optimum, less land has to be combined with the other factors than was required at the old.

The literature of population, as late as the last decade, has from time to time been filled with gloomy prognostications of impending shortage of foodstuffs and raw materials. Ominous forebodings have been freely indulged in, which, if accepted at their face value, would have left little hope for continued economic advance. But forecasts of this nature have not been justified by events. It would be interesting to trace in detail the factors which have led to their falsification;- but for the present it must suffice to point out the fallacy of setting limits to the scope of inventions and improvements in the arts. It is

¹ Professor J. B. Canning, of Stanford University, has pointed out to me that these illustrations can be generalized; that the amount of any given sort of service yielded by land is a function of at least four independent variables: (1) the accumulating knowledge of the arts of cultivation; (2) the substitution of industrial transformations for the processes that occur in domestic plants and animals, e.g., the development of sucrose and glucose refining, preparation of edible fats and oils from vegetable sources, etc.; (3) the numbers of population; and (4) the physical quantity of land. Historically the first two have been more important than the last two.

² See an analysis of the precise factors which led to the falsification of Crookes's famous predictions in regard to the future of the wheat supply: J. S. Davis, "The Specter of Dearth of Food: History's Answer to Sir William Crookes," in *Facts and Factors in Economic History* (Cambridge, Harvard University Press, 1932), pp. 733-54.

impossible to foresee the future course of changes in the state of the arts, and this limitation works in favor of the pessimist, who can sometimes forecast approximately what would happen if the state of the arts remained constant, while the optimist cannot foresee the exact *modus operandi* by which a hypothetical shortage may be staved off. However, the apparent realism of the case presented by the pessimist is deceptive and rests on the inherently unrealistic hypothesis that the state of the arts will remain constant. There is nothing to indicate that the supply of inventive capacity and of skill in organization is likely to peter out. On the basis of recent experience, it appears more likely that it will continue to increase rapidly. Of course, we cannot foretell the course of events in the indefinite future. It is not inconceivable that economically significant inventions might occur less frequently at some future period than they do now. What is clear, however, is that no such period is yet in sight. There appears to be no evidence that increase in knowledge will lag behind increase in population.

THE PRESSURE OF POPULATION

Malthus himself did not regard his scheme as a representation of conditions that might conceivably arise in the future. Rather he regarded the pressure of population as a continuously operating force. This viewpoint is tersely expressed by Harold Wright as follows:

Hume, Wallace, Condorcet and even Godwin had written of the dangers of overpopulation, but they had regarded it as an evil which might arise in a more or less remote future. Malthus pointed out that the population was constantly held in check, in all times and in all countries, by the evils which arise, directly or indirectly, from pressure upon the food supply. If people refrained from having children because they had insufficient means to support a family, or if children died in infancy from diseases caused by malnutrition, the population was being kept down by want of food, though no one might die of starvation. "A man who

is locked up in a room," said Malthus, "may fairly be said to be confined by the walls of it, though he may never touch them." Even so was the human race confined to the numbers which the world's produce would support at any given time.¹

Some modern commentators, who are in general agreement with the doctrines of Malthus, accept this part of his doctrine only with some qualifications. Thus Harold Cox says that "it is hardly true to say, as Malthus said, that population is everywhere pressing against the means of subsistence."² Similarly, A. N. Whitehead, who bases some important sociological views to a limited extent on the Malthusian principle, considers that China and India illustrate that principle, but that in western Europe during a thousand years "the so-called checks were such that the Malthusian law represented a possibility, unrealised, and of no importance," because "from the age of Charlemagne to the present day a persistently increasing population has been accompanied by an equally persistent rise in the general standard of life."³

In grappling with these issues, it is necessary above all to avoid the ambiguity that rests so often in apparently simple statements. What, for example, is the exact meaning of the statement that population is checked by pressure upon the food supply, or that population is pressing on the means of subsistence?

It is an indisputable fact—and Malthus did not dispute it—that some of the checks to population growth do not arise from any shortage of the means of subsistence. Many diseases and most accidents come within this category. The death-rate is therefore to a large extent in-

¹ Wright, *op. cit.*, p. 33.

² *The Problem of Population* (London, Jonathan Cape, 1922), p. 34.

³ *Adventures of Ideas* (New York, Macmillan, 1933), p. 94. However, Whitehead later allows that there have been occasions when the law has been of sociological relevance to Europe, on account of Europe's interactions with the Near East.

influenced by factors which have nothing to do with shortage of food or of other material necessities.

Yet there is no doubt that, apart from some difficulties in the interpretation of the final sentence, each statement in the passage cited above from Wright is a substantially accurate representation of facts. In all countries,¹ even at the present time, inadequate nutrition affects the quantity and quality of the population to an extent which, however, varies in different countries. In all countries, there are people who refrain from having children because they have insufficient means to support a family. In all countries, it is probable that some lives are shortened as a result of malnutrition in infancy.

Such is the situation still, even in the countries where standards of living have risen most. Yet these facts, in themselves and apart from further analysis, do not give an adequate basis for the practical solution of any problem of population. For the facts that some people in a country are inadequately nourished and that others are deterred from having children by the fear that a similar fate would overtake them and any children they might have do not really give any decisive indications of the relationship between numbers and the supply of land and of other natural resources. The social institutions of the community as well as the basic economic situation of the country have to be studied before the significance of the facts under consideration can be appraised. Malnutrition is not always due to poverty; it is sometimes due to ignorance of the requisites of safe nutrition and to the persistence of traditional dietary habits and tastes. But poverty plays a large part, probably a major part. In some groups, incomes are inadequate to purchase a satis-

¹I am not sure that this statement would be accurate if the word "communities" were substituted for the word "countries," permitting the consideration of areas and groups within countries.

factory diet; in others, however, they are more than adequate. Similarly, in some groups, incomes are inadequate for bringing up a family; in others, more than adequate. Two questions therefore arise. First, there is the question whether or not in a given case it is possible, without reducing numbers or increasing resources, to effect social changes which will enable the individuals concerned to receive larger incomes. Secondly, there is the question whether or not, in any given case, in the absence of changes in social organization, maldistribution of income might persist whatever the size of the population, and, even if the region were underpopulated (however underpopulation might be defined), it would cause people to refrain from having children because of insufficient means. Hence, particular cases of the restriction of families on account of small incomes are to be interpreted as checks on population, but not necessarily as checks on overpopulation.

This can be made clearer by supposing some of the institutions that exist in most countries today to be altered. A society organized on communistic lines may be conceived of, in which all children are brought up in public institutions at public cost. In other words, the whole care and maintenance of children might be placed in the same position as the primary education of children occupies today in all civilized countries. If to some readers this may seem Utopian or unrealistic, since it implies the abolition of the family, another hypothesis will serve as well. Let us conceive of a society in which remuneration is given purely on the basis of family needs. Some approximation toward this principle is to be found in the various schemes that have been advocated, and some of which have in an extremely limited sense been practiced in a few industries, under the terms "family allowances," "family endowment," "family income insurance." Sup-

pose that remuneration is so adjusted **that when a child** is born the income of the parents is raised **to the full** extent of the additional costs incurred. Then there will be no incentive to postpone marriage for fear of the costs of children's upbringing, and no incentive, after marriage, to refrain from having children merely on financial grounds.

Next, let us suppose that there are two societies equal in numbers, human capacity, and natural resources, but in one of which remuneration is organized along conventional lines, without differentiation according to size of family, while in the other remuneration is adjusted completely to family needs. In the former society certain families will be restricted or marriages postponed on account of inadequate incomes. In the latter, these checks will not operate, and more children may be born than in the former case. Will the people in the second community as a result become worse off on an average than those in the first? If so, at what point? Are we to conclude that, as soon as the numbers in the second community exceed those in the first, the means of subsistence will decrease in relation to population in the second community? Or are we to conclude that both communities are overpopulated, but that in the second community the overpopulation has gone so far that new checks must supervene to bring down its population to the level of the first?

This analysis can be further refined. Suppose, as before, there are two communities identical in respect of numbers, innate human capacity, and the possession of natural resources, but that in the first the distribution of wealth is more uneven than in the second. In consequence, a larger number of people in the first community will be compelled to postpone marriage, or, after marriage, to restrict their families, than in the second. In

both communities, a considerable number of persons restrict their families, and the lives of some individuals are shortened by malnutrition. But in the first community, these checks are greater than in the second. Since both communities have equal advantages in respect of natural resources, this difference cannot be attributed to the facts of the physical world; it is, rather, the outcome of differences in social institutions and social organization.

It is important to note, in connection with Malthusian doctrines, that there is no insuperable obstacle, inherent in the physical world, which will prevent the first community from increasing its population to the level already attained in the second community, by changing its social institutions, and as a consequence its distribution of wealth, until they become identical with those existing in the second.

It follows, therefore, that in considering the situation of any given community, or of the world as a whole, it cannot be said *a priori* that actual numbers are what they are because no additions to them could be accompanied by equal or greater additions to the means of subsistence. The conclusion seems inescapable that, while the Malthusian scheme is a legitimate hypothesis regarding what might, in certain conditions, occur in the future, and what may have occurred in the past among some communities, it does not follow that the scheme necessarily represents a situation which has already been reached in all countries or in any specific country.

THE SOCIAL THEORY OF MALTHUS

An attempt has been made in this discussion to consider the Malthusian scheme, not merely as Malthus expounded it but also in the light of the somewhat amended versions of it given by his modern followers. But the Malthusian scheme as a whole cannot be satisfactorily

grasped, nor can its merits be fully appreciated, nor its shortcomings adequately realized, without some consideration of the social theory of Malthus himself.

Let us first turn to the question why Malthus thought that population was always pressing on subsistence. Malthus himself would have had a ready answer to the critical analysis of that part of his doctrine in the preceding section of this chapter. The idea of a society in which the upbringing of children was undertaken by the state, or one in which remuneration was based on family needs, would have been the target of his most vigorous attacks. In such a society, he would have held, everyone would marry at the earliest possible moment, and such a swarm of children would be born that population would quickly outstrip the means of subsistence and new checks would supervene to drag down the population, by increased vice and misery, to its former level. The chief motive that stimulated Malthus to write his first *Essay on the Principle of Population* seems to have been a desire to discredit Utopias, and he certainly regarded as Utopian any society organized on communistic lines. In the later editions of the *Essay* the main force of his attack was directed away from Utopias to the English Poor Laws, which he opposed on the ground that they encouraged early marriage and procreation.

As regards the distribution of wealth, Warren Thompson sums up the position of Malthus as follows:

.... Malthus saw that the system of distribution which prevailed in a nation had its influence on the growth of population . . . he would also agree that a better distribution would for a moment relieve many human ills. His main contention is, however, that such a distribution would be of only momentary benefit. The lower classes of the population would soon be at the subsistence level again.¹

¹ *Population: A Study in Malthusianism* (New York, Columbia University Press, 1915), p. 15.

The difficulties or the prospects of the difficulties of maintaining families, acting as a deterrent to early marriage, constituted the most desirable check, in the view of Malthus, to the growth of population, and prevented the population situation from becoming worse than it was. Now redistribution of wealth in the direction of greater equality would for a time tend to reduce these difficulties for some persons without correspondingly increasing them for others. In other words, the most desirable check would be diminished and its place would have to be taken by the least desirable checks. The benefits accruing temporarily to the lower-income class from the redistribution of wealth would soon be lost.

Viewed from this angle, the Malthusian scheme appears to be a theory of social structure and organization, an attempt to account for the fact that societies are divided into social classes which receive very unequal incomes. The general outlines of the social structure are, in this view, determined by a natural law of population. As Halevy says of Malthus: "*Il tient à démontrer que le phénomène qui Vintéresse, la pression exercée par la population sur les moyens de subsistance, est un phénomène non temporaire, mais constant, en vertu d'une loi nécessaire.*"¹ Field makes a similar point: "To him the principle of population was imbedded deep in the constitution of man. It was like the weevil in the bean, the sprite in the heart of man which accounts for his behavior. Nature had made man so"²

To understand the social theory of Malthus himself, it is important to note, however, that, though he admitted that the principle of population led to a somewhat melancholy view of life, unlike many of his followers he considered the principle to be, on the whole, beneficial to

¹ E. Halevy, *La formation du radicalisme philosophique* (Paris, Alcan, 1901), II, 177.

* Field, *op. cit.*, p. 32.

man. This part of his doctrine is based on certain postulates concerning human nature. In the revised form of the last edition of his *Essay* he says:

The desire of the means of subsistence would be comparatively confined in its effects, and would fail of producing that general activity so necessary to the improvement of the human faculties, were it not for the strong and universal effort of population to increase with greater rapidity than its supplies. If these two tendencies were exactly balanced, I do not see what motive there would be to overcome the acknowledged indolence of man, and make him proceed in the cultivation of the soil ¹

The principle of population, therefore, appears as the essential motive force behind social progress. Man, indolent by nature, is stimulated to activity by the desire for marriage and the necessity, after marriage, of providing subsistence for a family. The removal of this stimulus would be "destructive of all the germs of future improvement." Clearly, however, its maintenance is dependent on the maintenance of the family as an institution. The displacement of the family by any communist scheme providing for the upbringing of children in public institutions would remove the stimulus in question. So also would the adoption of poor-relief schemes based on family needs, and the modern schemes of family endowment if applied on a sufficiently generous scale. Hence not only has the family to be preserved but parents must always be made responsible for meeting the costs incurred in the upbringing of their children. The institutions of the family and of private property have to be maintained permanently as means through which the stimulus to activity that the principle of population was designed to provide may be made effective, and through which alone a desirable check on the potential growth of population may be substituted

¹ Malthus, *op. cit.*, pp. 446-47. This viewpoint was maintained from first to last by Malthus. See the *First Essay on Population*, the reprint for the Royal Economic Society (London, Macmillan, 1926), pp. 348-71, and especially pp. 358-59.

as far as possible **for** undesirable checks which will inevitably operate in the absence of the former. Malthus defends these institutions uncompromisingly, regarding them as permanent and indispensable:

To the laws of property and marriage, and to the apparently narrow principle of self interest we are indebted for all the noblest exertions of human genius, for everything that distinguishes the civilised from the savage state. A strict inquiry into the principle of population obliges us to conclude that we shall never be able to throw down the ladder by which we have risen to this eminence. . . . The structure of society,¹ in its main features, will probably always remain unchanged.

He goes a step farther, advancing the same reason as before:

. . . . I should always particularly reprobate any artificial and unnatural modes of checking population, both on account of their immorality and *their tendency to remove a necessary stimulus to industry*. If it were possible for each married couple to limit by a wish the number of their children, there is certainly reason to fear that the indolence of the human race would be very greatly increased. . . .²

By implication, if not specifically, this rules out not only infanticide and induced abortion, but also contraception, and for the same reason that changes in the family and private property systems were ruled out as undesirable.

The basis, then, of Malthus' conceptual scheme is to be found in the biological and psychic make-up of man and the constitution of the physical world. There were the psycho-physical facts of sex on the one hand, and the natural agents that contributed to the raising of crops on the other. A natural law of population circumscribed social relationships and limited the possibilities of social progress. Because of certain innate characteristics of human nature, this law of population was, nevertheless, es-

¹ Malthus, *op. cit.*, p. 543.

²*Ibid.*, p. 572. The italics are mine.

sential to any kind of progress at all. Melancholy as was the prospect for the human race in view of the operation of the law, it was a better prospect than any which would have opened up if the law had not been ordained. The essence of wisdom consists in shaping social institutions and social relationships in conformity with the conditions which must be fulfilled if the necessary evils involved in the operation of the law are to be minimized. The objective of education should be to spread a knowledge of natural law which should serve to promote desirable adjustments of social relationships.

In the Malthusian scheme, the conclusions follow logically from the premises. If the truth of the premises be granted, the validity of the conclusions cannot be disputed. Malthus, not differing in this respect from most of his contemporaries, presented his material in a discursive and unsystematic manner, so that the soundness of his logic is not immediately apparent,¹ and can only be confirmed after his premises and conclusions have been sorted out and rearranged.

Malthus has been subjected to many misdirected attacks, of which two instructive examples may now be considered briefly. His theory has been criticized in recent times on the ground that it makes no provision for underpopulation and an optimum population. But in fact Malthus had little or no need to consider such concepts, because it followed from his premises that any condition likely to be designated by the term underpopulation could only in the nature of things be transient. If population was always pressing on subsistence, so that any increase in subsistence must be quickly offset by a corresponding increase in population, it was hardly worth while to elabo-

¹ For some time, it was not at certain points apparent to me, and I am indebted to Professor J. B. Canning for some criticisms of a paper of mine which led me to a re-examination of Malthus' position which in turn led to the writing of this chapter in its present form.

rate a concept of underpopulation. In "new" countries, of course, population was not at first pressing on subsistence, but this condition was only temporary. Malthus also looked to a future in which postponement of marriage accompanied by chastity between puberty and marriage might relieve the pressure on subsistence, and, in surveying the situation in different countries and districts, noted that postponement of marriage was already forced on some communities more than on others. But this "preventive check" was not operating anywhere on such a significant scale as to give rise to any condition to which the term underpopulation was likely to be applied, and in the hypothetical society in which he conceived the preventive check to be in full operation Malthus, logically enough, saw no reason to consider the possibility of "a deficient population." He thought the preventive check, if adopted, would halt the population increase until the means of subsistence had caught up and overtaken population. After that, he envisaged increasing subsistence with population again increasing "at such a distance behind as to effect the relative proportion which we desire" ¹ Admittedly, this is a little vague, but after all, even under the preventive check, Malthus anticipated that marriages would take place at the age of about twenty-eight for women, and that after marriage no attempt would be made to restrict offspring. Even with a fairly high death-rate this would seem to leave the way open for a fertility rate ample to provide for a substantial margin above replacement needs. If we accept Malthus' postulates, we can hardly quarrel with his view that "while the springs of industry continue in vigour, and a sufficient part of that industry is directed to agriculture, we need be under no apprehensions of a deficient population." ²

¹ Malthus, *op. cit.*, p. 460.

² *Ibid.*, p. 461.

When the Malthusian scheme is viewed as a whole, it is apparent that the concept of an "optimum" population as understood by students of population in our time is irrelevant to the scheme. Malthus conceived of man as urged toward the consummation of the sex passion. He wanted men and women to postpone marriage until they could support a family. He regarded the necessity of making provision for a family as the main stimulus to activity in man. Even in the hypothetical society where the preventive check was fully operative, a man would marry as soon as he was in a position to support a family. It seems to me to be implicit in Malthus' scheme that in such a society a man would no longer delay marriage after he was able to support a family, as—assuming that birth control was not practiced—he might be obliged to do in certain circumstances if he were motivated by a desire to see the income optimum population (defined in the next chapter) attained. His object in postponing marriage was not to obtain the maximum income for himself; it was to obtain a sufficient income to support a family. The ultimate objective was the consummation of the sex passion within the institution of a self-supporting family unit. Malthus' ideal was a society in which this objective was reached by all the people, and it seems to follow that a population of a size which rendered possible its attainment would have been Malthus' idea of an "optimum" population. Such an optimum is quite different from the optimum conceived of by modern exponents of the so-called optimum theory of population. It cannot be too strongly emphasized that the term optimum is always and necessarily relative to an end or objective. There is no such thing as *the* optimum population or *the* optimum theory of population.

The second illustration of misdirected criticism of Malthus centers on the question of birth control. Malthus has been strongly criticized because he not only declined to

advocate birth control **but** disapproved of it. Most modern followers of Malthus have regarded the advocacy of contraception as a logical consequence of the acceptance of the Malthusian scheme; some have hinted that theological prejudice prevented Malthus from accepting it as a more desirable remedy than postponement of marriage.

When the Malthusian scheme is viewed as a whole, however, there does not appear to be anything illogical or inconsistent about Malthus' disapproval of birth control.¹ The grounds for this disapproval have been indicated above. They are to be found in the postulate that the prospect of having to support a family is a necessary stimulus to activity without which there would probably be no human progress. Given this postulate, it would have been inconsistent in Malthus not to have disapproved of birth control, and he was taking a strictly logical step in concluding that it was undesirable that married people should be able "to limit by a wish the number of their children." Nor do I think that it can be maintained that the postulate that man's natural idleness could be overcome only by the necessity of supporting a family was trumped up by Malthus expressly in order to give an appearance of rational justification for an inherent prejudice against birth control. For, as I have already shown, the view that the principle of population was necessary and on the whole beneficial to the human race, because it alone could provide an adequate stimulus to activity, was consistently maintained by Malthus from the time when he first wrote to the end. It was set out prominently in the first *Essay*, before Malthus had developed his theory of the preventive check, and at a time when there is no reason to suppose that he

¹ Compare "Note on Malthus' Attitude toward Birth Control," by Norman Himes, which appears as Appendix A in the recent reprint of Francis Place's *Illustrations and Proofs of the Principle of Population* (London, Allen & Unwin, 1930). Though I hesitate to disagree with so well-informed a writer as Himes, I am doubtful whether he is fair to Malthus on this point.

had much interest in or knew much about birth control. It was maintained throughout, not as a frill or trimming, but as an integral part of the Malthusian system. It is possible that Malthus was led to adopt it through prejudice, and it is possible that Malthus entertained some specific prejudice against birth control. But the supposition that he first adopted the view that the pressure of population on subsistence was the only effective stimulus to human activity, or that he later refrained from abandoning that view because of prejudice against birth control, appears to be far-fetched, if not entirely groundless in the light of what evidence is available. He seems to have adopted the view^r in question for reasons unconnected with the question of birth control, and it is difficult to see how, as long as he maintained this view, he could logically have advocated birth control.

The followers of Malthus who have represented the adoption of birth control as a logical consequence of the Malthusian scheme do not appear to have envisaged the Malthusian scheme as a whole. They have concentrated on certain parts only of the scheme and have ignored other parts. In doing this, they have made a significant departure from the Malthusian scheme without making clear the importance and extent of the departure.

The Malthusian scheme is logically sound and consistent.¹ It follows that the processes by which the conclusions are derived from the postulates are not open to criticism. To say this is not to imply agreement with the Malthusian scheme as a proper representation of what is happening in the world revealed by our sense percepts. It is, however, to imply that criticisms have to be directed to the

¹ In saying this, I do not imply that Malthus is not open to criticism on the way in which he set out his scheme. For example, in the first *Essay*, he professes to use only two postulates--that food is necessary to man and that the sex passion is necessary and constant. Clearly, Malthus did not derive all of his conclusions, even in the first *Essay*, exclusively from these postulates. His postulates are scattered about and not all set down at the start.

postulates only. Are the postulates supported adequately by facts, or, if not so supported, do they, alternatively, give useful results which have prediction value? Are adequate weights given in the conceptual scheme to the different factors all of which are admittedly operating in some degree?

Clearly the Malthusian scheme does not emerge unscathed from an examination along these lines. First, no elaborate investigation is needed to refute the notion that man relapses into a state of idleness, lethargy, and torpor unless he is stirred to activity by the necessity of maintaining a wife and fairly large family. Admittedly, it is easier to see this in the present age, when small families are the rule in Western countries, than it was in the time of Malthus. Still, it can hardly be maintained that Malthus had adequate evidence from his own times to support his hypothesis. The utmost he was really justified in saying was that there was at that time insufficient experience to demonstrate that habits of energy would be maintained if the necessity of providing for an economically self-sufficing family unit were removed.

Secondly, it does not follow that when the incomes of workers are increased, by means other than the preventive check, even when they are increased by social legislation involving redistribution of wealth, the increase will soon be wiped out by an increase of numbers. Frequently an opposite result has been experienced in modern times.

However, the spread of a knowledge of birth-control methods has been largely responsible for this inversion of Malthus' expectations, and in his time it is improbable that birth control was widespread. Let us therefore consider the situation in other communities where birth control has had little influence. Vera Anstey writes as follows on India, where presumably little birth control is practiced:

In the past an increase in productivity, as far as can be judged, has almost always eventually resulted not in a permanent improvement in the standard of life, but in the maintenance of a larger population at the old, or at an only slightly improved standard.¹

In other parts of her book, however, Vera Anstey gives evidence indicating some rise in standards of life in India, though not a substantial rise, and this view is supported by other studies on India.² Patton says:

Chinese standards of living are, in fact, about the same as those of other parts of the world which are as yet untouched by the Industrial Revolution and most of which are incidentally very sparsely populated. That the apparently stationary condition of China and many other unprogressive parts of the world is really one of progress at an unusually slow rate is increasingly indicated by archaeological discoveries. There is hardly a country in which have not been found evidences of former inhabitants who lived a technologically inferior type of economic life and very probably a less productive one.³

A considerable part of China is of course by no means "untouched by the Industrial Revolution." In fact, during the present depression there have been times when more constructional activity was to be seen in China than in any other country of the world. However, the point made by Patton is important, and it is doubtful whether Whitehead is entirely sound in regarding the Malthusian doctrine as relevant to India and China but not to the Europe of the last eleven hundred years.⁴ Satisfactory evidence is of course lacking, but is it not possible that there has been as much economic advance in China and India, slow though it has been, as in the Europe of the first two-thirds of the period in question?

¹ *The Economic Development of Modern India* (London, Longmans, Green, 1931), pp. 40-41.

² See the references in my review of six recent books on India in the *Journal of Political Economy*, June 1934, XLIII, 417-19.

³ Patton, *op. cit.*, p. 78.

⁴ See above, p. 17.

Given a stationary condition of the arts and a limited supply of land, it is inevitable that if the population increased continuously it must encounter checks due to lack of the means of subsistence. But it is unlikely that the concept of a stationary condition of the arts has been applicable to long periods in the history of the great civilizations.

Of course, the "preventive check" has operated in some degree in most communities; marriage is not commonly entered into and consummated as soon as it is physically possible, and one of the reasons for its postponement is to be found in economic factors. The fact that the check operates in some degree almost universally does not invalidate the position of Malthus, which was that marriage was not postponed long enough by all the people. The full operation of the preventive check implied that no one would marry until he was in a position to support five or six children.¹ The population may be pressing on subsistence in the Malthusian sense even when some marriages are postponed. The only complete remedy for this situation, according to the theory, is the exploitation of the preventive check to its limits. If that check is ex-

¹ The term "support" used by Malthus is admittedly somewhat ambiguous, but may presumably be interpreted as having reference to some existing conventional standard. But whatever the standard, Malthus should have considered the possibility that, for many, marriage under the conditions laid down would have had to be postponed until advancing age would not have left time, unless the husband were to be very much older than the wife, for such a number of children to be born. In many cases, it would have involved celibacy or childless marriages, and presumably would have thus defeated its purpose of operating as a stimulus to activity. Further, if the five- or six-child family were general under the preventive check, then, even assuming a death-rate as high as that in Malthus' time, the population would increase fairly rapidly. Hypothetically, circumstances could be conceived in which this might, owing to factors already discussed, lead to population pressure. If the preventive check continued to operate to the full, this would presumably show itself by lengthening the time necessary to accumulate the means to support a family. This in turn would gradually reduce the time left for childbearing in marriage, and thus reduce the size of families. Malthus does say that ". . . the most eligible age of marriage could not . . . be fixed," but he seems open to criticism for not developing all the possible logical consequences of the remedy which he advocated.

exploited only partially, and some people embark on marriage with inadequate means, it follows that the positive checks must be substituted to that extent for the preventive checks, and population will press on subsistence.

Yet, in spite of this, it appears that over considerable periods of time subsistence has increased somewhat faster than population in certain communities in which the average age of marriage has probably not exceeded that which was customary in Malthus' time and country, and in which there is little or no indication that birth control was practiced or that the preventive check was significantly extended. Even in Malthus' own time and community, it does not appear that there was any downward secular trend in average income, though of course the Napoleonic Wars created serious disturbances. Clapham points out that

.... the legend that everything was getting worse for the working man, down to some unspecified date between the drafting of the People's Charter and the Great Exhibition, dies hard after the price fall of 1820-21, the purchasing power of wages in general—not, of course of everyone's wages—was definitely greater than it had been just before the revolutionary and Napoleonic Wars....¹

An improved standard of living that cannot be referred to an extension of the preventive check or to birth control may arise in two ways. The first and most obvious is an improvement in the state of the arts. The second is due to an increase of population in conditions in which former numbers were, for reasons that need not be expounded at this stage, inadequate to exploit the possibilities of the environment to the fullest extent. Periods of rapid improvement of the arts are apt to be unstable. Technical advance commonly necessitates shifting of

¹ J. H. Clapham, *An Economic History of Modern Britain* (Cambridge, The University Press, 1926), Vol. I, chapter vii. Consult also chapters ii, iv, and xiv.

some of the productive factors away from old lines into new ones, and in the nature of things the factors of production are imperfectly mobile. In addition, the different factors have different degrees of mobility, and readjustment after a displacement takes longer in the case of some than in the case of others. The transition periods are commonly marked by much human distress, especially in communities in which improvement in the social arts lags behind improvement in the technical arts. When population is growing in a period of rapid improvement of the arts, even though subsistence may be growing faster than population, the distress which the frictions of transition bring on some groups is apt to be attributed to the growth of population. During the Napoleonic Wars, displacements caused by a war of continental dimensions were added to displacements caused by changes in industrial technique.

There is no doubt that, although Malthus was well aware of the significance of inventions and improvements in the arts, yet, in his scheme, he underestimated the importance of this factor in relation to the importance of the other factors of which he took account. This constitutes a defect which has become more and more serious since the time of Malthus.

There remains, however, another avenue to be explored, which constitutes the second method outlined above by which material well-being may be maintained in spite of increasing population and apart from the preventive check and birth control. Clapham says:

That the industrial revolution, with the attendant changes in agriculture and transport, rendered the maintenance of a rapidly growing British population possible, without resort to the cabin and potato standard of life, is beyond question; but the sequence of events should not be misconstrued. First the death rate fell, after 1740, in an age of growing comfort and medical knowledge, when as yet invention had wrought no true industrial revolution

—the age which ended, say, with the first application of steam to cotton spinning in 1790.¹

Now it would not be correct to infer from this passage that there was no change in the arts between 1740 and 1790. But the passage may raise some doubts as to whether the maintenance, and perhaps improvement of living standards in the period in question was wholly due to improvement in the arts. Let us therefore consider in what circumstances subsistence might keep pace with a growing population without any change in the arts, and without any extension of the preventive check or of birth control. It will be convenient to assume for a moment that this situation arises in an area which, like Japan during the greater part of the Tokugawa period, had very little commercial intercourse with the rest of the world. Malthus would have allowed that this situation could exist for a time in a "new" country, where population was small in relation to the land supply. But this does not dispose of the possibilities. In certain circumstances, I believe, the situation might exist in "old" countries.

Summarizing and extending the analysis in the second section of this chapter, the factors which affect the death-rate may be classified as follows: (a) those which have no connection at all with shortage of the means of subsistence, and which could not, in the existing state of knowledge, be altered by changes in social organization; (b) those which do not arise out of shortage of subsistence but which could be altered by improvements in social organization; (c) those which, though they do arise out of inadequate consumption of necessities, are the outcome of ignorance, in some cases remediable, and not of inadequate purchasing power; (d) those which, while arising out of inadequate possession of the means of subsistence by certain groups, could be remedied by changes in social

¹ Clapham, *op. cit.*, pp. 84-85.

organization (improvement in the social arts) without change in technical skill;¹ (e) those that have to do with shortage of subsistence arising out of the factors discussed in connection with diminishing returns, and which, in the existing state of the arts, will operate in some degree whatever the form of social organization; (f) those which arise out of shortage of subsistence due to a backward state of the arts and which are not remediable by any change in the size of the population.

In practice, it is extremely difficult to estimate the relative importance of these factors. For example, lowered resistance to infections, due to malnutrition, plays some part in the death-rate from tuberculosis, but in certain cases tuberculosis is contracted by persons abundantly supplied with the means of subsistence. However, difficult as the border-line cases are, there are many cases which are easy to classify. Certain occupational diseases can be unhesitatingly classified under *b*. Some cases of cancer come under *b*, but many, if not most, under *a*.

The relative importance of these different factors has varied at different periods in the history of different communities, and the variations have not coincided exactly, although there has been some general correspondence in the changes occurring over a large part of the world.

Regarding the relative importance of the different factors at some specified stage in the history of a community, a hypothesis can be formulated from which the possibility may be inferred that even in an "old" country an increase of population unaccompanied by marked change in the arts does not necessarily lead to a reduction in the amount of subsistence per head of the population.

Of the six groups of factors classified above, only one,

¹ The hypothesis that a change in social organization can be carried through without affecting the arts in industry and agriculture raises some difficulties, which, however, may be passed over without detriment to my present purpose.

e, is to be ultimately associated with the relations between numbers and resources. No changes except changes in the arts or reduction in numbers can reduce the influence on the death-rate of the factors included under *e*. It will be convenient to designate this group of factors as "population factors." The other five groups, *a*, *b*, *c*, *d*, and *f*, may—again merely for convenience—be designated the "non-population factors." This last term must be used with caution, especially by those who are wont to use Malthusian terminology. Of the five groups of non-population factors, three—*c*, *d*, and *f*—affect the death-rate directly through inadequate consumption of the means of subsistence by a part of the community. The non-population factors are therefore not all dissociated from lack of subsistence; only *a* and *b* are so dissociated.

Let us now return to the hypothesis of a community which over a fairly long period has only very limited possibilities of commercial intercourse with the rest of the world, and in which, over the period involved, there is very little improvement in the arts in industry, agriculture, commerce, and transport. It will simplify matters if we suppose also that there are no appreciable changes in fertility rates during the period. In these conditions let us assume that at and previous to the beginning of the period the non-population factors operate on so large a scale that the population factors have not been brought into play at all. In other words, the effect on the death-rate of the factors *a*, *b*, *c*, *d*, and *f* is so great that the population is not nearly large enough to require full use of all the land under the political control of the community. The supply of land in relation to population is such that an enlarged demand for the means of subsistence could be met, even in the existing state of the arts, without any rise in unit costs.

If in these circumstances such a type of change occurs

in the social arts as a discovery in the field of medicine or hygiene and its application, the effect of the non-population factors on the death-rate will be reduced, the death-rate will fall, and the population will increase. But, for a period of time that may be very considerable, subsistence will continue to increase as fast as population, and the population factors will not in that time be brought into operation.

In drawing up this conceptual scheme, I have deliberately left gaps in the outlines. No rigid scheme along these lines could ever represent fully the circumstances of real life. For instance, the supposition that the arts remained absolutely stationary over a long period is probably hardly ever valid for real life, at least in communities in which we are likely to be interested. The same holds for the supposition that a change occurs in the social arts but no change whatever for a considerable period afterward in the arts in industry, agriculture, transport, and commerce.

The points brought out in this analysis, however, may throw some light on actual situations that have existed in some communities in the past. The possibility is at least worth consideration. The hypothesis that non-population factors could raise the death-rate so high as to exclude the operation of the population factors seems quite likely to represent correctly a situation that has actually been widespread in the past, especially in periods of great epidemics and in periods and among communities where the state of the arts has been relatively backward. It is not clear that even long-established communities have always suffered from land shortage, quite apart from the adoption of the preventive check or of birth control. There are, indeed, examples of the operation of non-population factors on so great a scale in a given period as to leave at the end of it a situation in which unmistakably land

was relatively abundant and labor the relatively scarce factor of production. The period of the Black Death in England illustrates this.

When this situation exists, there is, as was demonstrated above, room for an increase in population without an improvement in the arts. However, the assumption of stationary arts is for most communities so unrealistic that it is best to abandon it at once after it has momentarily served an expository purpose. I believe that a more realistic scheme would take the following lines. First, the death-rate is reduced, owing to the reduced influences of the non-population factors other than those described under *b*. This may result from the cessation of a great epidemic, or an improvement in hygiene or a discovery in medicine, or an increase of knowledge or an improvement in social organization. The population then increases; the state of the arts is also improving. But for a considerable time the increment of population is greater than that part of the increment of the means of subsistence which is accounted for by the improvement in the arts. Yet the total increment of the means of subsistence is as great as and perhaps greater than the increment of population. The difference between the total increment of the means of subsistence and that part of it which is an outcome of an improvement in the arts is due to the fact that at the commencement of the period the relation between land and population was such as to permit of an expansion in production, in response to an increased demand, without a permanent rise in unit price, even in the existing state of the arts.

This situation may continue for a considerable period, depending on the rate of increase of the population and the extent of the slower improvement in the arts. It cannot continue indefinitely, but the expansion in demand which it brings is stimulating to enterprise and favorable

to innovation. Hence, after a time the improvement in the state of the arts is accelerated until it is able to provide an increment of the means of subsistence that grows steadily greater than the increment of population. Up to this point, no substantial changes in fertility have occurred, but later, in some modern communities, the relations between population and resources come to be markedly influenced by a more widespread use of physiological inventions which bring human fertility under a considerable degree of human control by means which do not involve the suppression of the sex passion, the enduring nature of which was emphasized by Malthus.

I do not claim that this scheme is more than tentative, but even as it stands it appears to have some relevance for the interpretation of events in Great Britain from the early eighteenth century onward. The earlier part of it may have some validity as an interpretation of events in some medieval communities and in some modern communities in, for example, Central Africa and some of the islands of the Pacific Ocean.

Some difficulties of adjustment were passed over in one of the hypotheses in the foregoing scheme. In a community whose numbers have been kept so low by what I have called non-population factors operating on the death-rate that the land has not all been brought into use, it becomes necessary, when population increases without a corresponding improvement in the arts, to increase the utilization of land. As the unutilized or partly utilized land is never distributed evenly over the whole region,¹ increased land utilization will necessarily involve migration within the region. Costs will be incurred in overcoming the obstacles which always tend to hinder migration. In practice, the natural obstacles are not all; to them there

¹ I am indebted to Dr. Merrill K. Hennett of the Food Research Institute, Stanford University, for directing my attention to this point.

must be added obstacles of a sociological character, for example, the reluctance of individuals to dissociate themselves from familiar surroundings and from friends and relatives. Thus, Japanese farmers and their families have not been willing to migrate in large numbers to Hokkaido, and special inducements have been offered by the government to attract settlers to Hokkaido from Honshū. Obstacles of this type are greater when the region in question may be divided into subregions which differ in climate and conformation. Consequently, there are instances of agricultural congestion in some parts of a region, side by side with inadequate land utilization in other parts. Internal migration does not, of course, differ in principle from international migration, though more effort appears to have been devoted to the study of the latter than of the former.¹

The factors classified above under f require further consideration. In all countries in ancient and medieval times, and in Asiatic countries until very recent times, the state of the arts has been such that widespread poverty, judged by modern standards, has been inevitable, whatever the size of the population. When the state of the arts has improved, material well-being seems, as far as imperfect indications enable us to judge, to have improved even with a growing population; in Malthusian terminology, the means of subsistence have apparently increased faster than population. It has been maintained by some that increasing population has actually stimulated improvements in the arts. Others hold that improvements in the arts have effected a rise in material well-being in spite of increases in numbers, and would have effected a still greater rise if numbers had remained smaller. It is con-

¹ Our knowledge of the circumstances under which Internal migration has taken place within regions is, on the whole, very fragmentary. See a suggestive study: A. Redford, *Labor Migration in England, 1800-50* (New York, Longmans, Green, 1922).

ceivable that each of these contentions has been valid in different cases and that in other cases, though increase of population has stimulated inventiveness, material well-being would have risen more than it did if the rate of increase had been slower. There is a further possibility, which does not appear to have been considered in the literature of population. Changes in the state of the arts may have been very much more important in certain periods, in their effects on material well-being, than changes in the numbers of the people at any given stage of the arts. Students of population do not always escape the danger of exaggerating the social significance of the particular "subject" which they study, in relation to the social significance of phenomena which are not in the center of their field of vision.

To sum up: In the light of modern knowledge derived from the physical and social sciences it is indisputably clear that even in the most advanced modern communities the death-rate, and with it the changes in total population, have always been affected to some extent by the fact that some individuals do not consume adequate quantities of the means of subsistence, either because of inadequate purchasing power or for other reasons. But the statement that population is always pressing on subsistence has meant a good deal more than this to Malthus and some of his followers. They have implied that there is an ever present pressure of population on subsistence arising out of the relationship between numbers on the one hand and the supply of land and natural resources on the other.

If all the postulates laid down by Malthus were adequately supported by facts, this view would have to be accepted. In the foregoing discussion, however, it has been maintained that some of these postulates are not adequately supported by facts; consequently the conclu-

sions which are dependent on those postulates are invalid. Modern followers of Malthus have commonly passed over his postulates about human nature as if they were unessential to his scheme. In fact, however, acceptance of these postulates about human nature is a necessary preliminary to acceptance of the doctrine that population is always pressing on subsistence. It should be added that it does not follow that, if Malthus' postulates about human nature are rejected, therefore population cannot be pressing on subsistence in any community. It does follow, however, that there is no a priori ground for assuming that such a situation exists; each case in which its existence may be suspected must be examined on its own merits.

Malthus' whole social theory must be taken into account if his population scheme is to be evaluated. The failure of some students of population to do this has given rise to much unnecessary controversy. The attempts of economists to confine their discussion to what are regarded as "economic" factors and to exclude the parts of the scheme that are conventionally supposed to be outside the scope of economics leads to a distorted and partial view of the scheme.

Regarded as a representation of a sequence of events and a situation that had always existed in the past, that existed in Malthus' time, and that would continue to exist in the future except in so far as the preventive check were extended, the validity or invalidity of the Malthusian scheme as a representation of the facts of real life is indissolubly bound up with the validity or invalidity of the social theory which found expression in it. If this social theory is valid, social relationships are shaped by an inexorable natural law of population, from which there can be no appeal. But if the assumptions about human nature which form the basis of this social theory are rejected, the scheme, while it still retains its internal logical consist-

ency, loses its validity as an interpretation of social relationships in the world known to us, and would be applicable only to a world inhabited by different beings from those which inhabit this earth.

Cleared of its postulates about human nature, the Malthusian scheme remains as a suggestive set of hypotheses which may possibly represent the sequence of events that have occurred in the past in certain communities over certain periods of time, and which represents a sequence of events that might occur in the future if no adequate counteracting influences were to offset, or change the relative importance of, those factors taken into account in the scheme.

In the history of population literature the Malthusian theory has stood unrivaled in its power to arouse interest, to stimulate thought, and to impress on the world the importance of population problems. It performed a great service when it destroyed the notion that increase of population is necessarily and intrinsically desirable at all times and places. Today, however, it is clear that the Malthusian theory is inadequate and in many respects unsuitable as a tool for use in the analysis of population problems. Further evidence of this will come out in the second part of the present study, when the position of Japan at the present time will come in for consideration in the light of population theories.

It has frequently been alleged that Malthus betrays bias and prejudice in the formulation of his population theory. The analysis given above leads to the conclusion that, whatever bias he might have entertained, it did not vitiate the processes by which he derived his conclusions from his premises. If he was influenced by bias or prejudice, he was influenced by them only in his choice of premises. From this standpoint, he was open to suspicion, if only because his principle of population led to a de-

fense of the leading institutions of the society in which he grew up, and which were also the institutions most dear to the social class to which he belonged. In the main, he supported the status quo, and, though he criticized adversely some features of existing social organization, the changes he desired were changes that would redound to the advantage of the bourgeoisie, while leaving the main features of existing social organization unchanged. Halévy says correctly: "*Malthus ne vise qu'a l'augmentation numérique de la classe moyenne.*"¹ In his vigorous attacks on the Poor Law, Malthus jumped too hastily to conclusions. As Clapham has pointed out:

Campaigning against the poor law, Malthus wrote bitterly of the English "population raised by bounties." The many who have since echoed his bitter cry should at least have paused to recall that the rate of growth was very nearly the same in Scotland, where there were no bounties, and may have been even greater in Ireland, where there was not so much as a poor law.²

It is not necessary, however, to enlarge on this question. Whether the postulates in the Malthusian scheme stand or fall depends, not on whether or not class bias or theological bias led Malthus to adopt them, but on the results of scrutiny in the light of facts. We all have preconceptions, and these are only a hindrance in cases where we cling to them after it has been shown that relevant facts do not support them. It must be admitted that Malthus had fewer facts to work with than we have. What is of significance is that some of Malthus' postulates do not square with available facts. The exact processes by which he came to adopt those postulates are of only secondary importance to us, and in any case it is too late to subject him to psychoanalysis.

¹ Halévy, *op. cit.*, p. 174. In confirmation, see Malthus, *op. cit.*, pp. 535-30.

² Clapham, *op. cit.*, p. 54.

CHAPTER II

THE INCOME OPTIMUM POPULATION

FROM MALTHUS TO THE OPTIMUM THEORY

Malthus founded his conceptual framework on natural laws. He believed that Utopian schemes ran counter to laws imbedded in the nature of the universe, and were therefore unrealizable. Malthus and Marx, radically divergent though their attitudes were toward socio-economic problems, had this in common, that both of them believed they had discovered inexorable processes at work, shaping "the historico-economic succession of events" regardless of the wishes and aspirations of individual minds, and only slightly modifiable by consciously directed social action.

A conceptual scheme supposed by its author to be based on natural laws is designed to represent a situation inherent in the external world. The investigator who believes his scheme to be based on natural law condemns every alternative scheme as "unscientific." He claims that certain laws are operating inexorably, and that all he is doing is to discover and describe them. In view of their inevitable character there is not much that can be done about them. Hence it might seem that the inevitability of what is and what will be removes the incentive to consider in detail what ought to be. With Marx, however, what will be is identical with what ought to be: an inexorable process of evolution will ultimately bring mankind to the haven where he wishes it to rest. Malthus is less glowing: he speaks only of "the partial good which seems to be attainable." Since, as we have seen, Malthus believed that mankind, left without the stimulus of the principle of population, would sink into "a general and fatal

torpor/' it must be inferred that when he speaks of a "partial good" he has in mind a more comprehensive good that might be attained if human nature were different from what it is.

Both Malthus and Marx, then, seem to have been influenced by ideas of what is desirable: something like a concept of welfare lurks in their consciousness. But their ideas of natural law force them in the main to identify what is desirable with what will be an inevitable outcome of certain dominating historical processes.¹

When, however, the concept of natural law is abandoned, conceptual schemes have to be constructed on a new basis. They must differ fundamentally from the older schemes. The view that there is an inevitable tendency for population to overtake subsistence has to be discarded, and it seems to follow that the movements of population in relation to natural resources are not subject to any inexorable law whatever, but are influenced by a variety of factors, including social and institutional factors. As to the net outcome of these factors, no generalized prediction can be made. On the whole, they are subject to conscious human control.

Malthus' scheme did not completely close the way to human control, but the scope of the measures of human control which he thought possible was so extremely narrow that it could only mitigate very slightly the effects of natural law. He himself did not appear to be very hopeful that the remedy which he favored would be applied in practice on a wide scale.

Some modern students still cling to the Malthusian theory in a somewhat uncritical fashion, but two other approaches to population theory have been developed in

¹ There is of course always a possibility in such cases that the investigator's views of what will be are themselves shaped to some extent by his notions of what ought to be.

recent decades. One of these will be considered in the second section and the other in the third section of this chapter. The theory underlying the first approach has not been elaborated with much care; in fact, a characteristic of this approach has been to sidetrack theoretical difficulties and questions of definition and to proceed in empirical fashion to the application of certain statistical tests.

The second of these approaches, however, exhibits more clearly a breakaway from the Malthusian approach. With the wide scope for human control which the modern investigator who has shaken off the incubus of natural law can allow in his conceptual schemes, and the absence of any known general law governing the relation between numbers and resources, the emphasis in this approach has turned to the concept of an ideal or optimum relationship between numbers and resources that will serve as a standard in the light of which the actual relationship may be evaluated. This approach represents a departure from the concept of natural law, and is in reality based on a somewhat different philosophy of science from that found in the writings of the classical economists and of Marx. For, in whatever terms the optimum relationship is specified, this relationship is deliberately laid down as a desirable end, which is not reached automatically, but which ought to be pursued and is not rendered unattainable by alleged facts about human nature such as made Malthus so dubious about the possibilities of success of the remedy which he proposed.

OVERPOPULATION AND MOVEMENTS OF PER CAPITA INCOME

The term "overpopulation" has often been used as if it were self-explanatory or had some absolute significance. In reality it is, of course, a purely relative term. To say that a region is overpopulated is to say that there are too

many people in it, and this at once raises the question—too many in what sense or according to what criterion? Various answers have been given to this question, and an evaluation of the different criteria will be attempted in this chapter and the next.

The term "optimum," which has been so freely used in population discussions in recent years, is a purely relative term, though perhaps more than any other term it has been commonly used as if it had some absolute significance. There is not one optimum; there are a number of optima, according to the ends or purposes in view and the criteria agreed on in different circumstances and by different students. The optimum is relative also to time and to place.

The areas selected for study by population writers are usually those constituting nations or states, dominions, and dependencies: sometimes a compelling practical reason is that the economic and vital statistics necessary in such investigations are only available in homogeneous form for areas delimited on political lines. In some cases, such areas coincide to a considerable extent with geographical regions, but in many cases the areas are most unsuitable. For instance, there is little point in asking 'whether or not "China" or "Russia" is overpopulated. Japan proper may, however, be studied as a unit more appropriately than many national areas on account of its well-developed transport, communications, and educational institutions, though cultural factors have somewhat hindered migration to Hokkaido from the other islands.

The saying "There is nothing absolute except Relativity" should be a guiding principle in population studies. In the present study I have adopted the practice of always preceding or following the term "optimum population" with an adjective or adjectival clause.

The first of the two approaches to be considered in this

chapter is based on an extremely simple hypothesis. With a minimum of theorizing it takes a decline in per capita income as evidence of overpopulation and an increase in it as evidence of the absence of overpopulation. This theory has had the approval of eminent economists. Thus the late Allyn Young wrote:

I should go along with Professor Carr-Saunders so far as to hold that so long as increasing population is accompanied by increasing average real income there is ground for the presumption that no overpopulation exists.¹

Beveridge, after criticizing the optimum theory, states his position as follows:

. . . . we must be content to ask how the actual return is moving whether it is rising rapidly or slowly, is stationary or is falling, whether rise or fall is tending to become faster or slower than in the past.

So long as the return to labor is rising rapidly or steadily, few men, save economists in search of argument, will concern themselves about overpopulation, or ask how the rise can be made greater. If it is falling, or after a rise has begun, tends to rise much less rapidly or to hesitate, the time for serious concern is at hand.²

The social income appears to be a more pertinent criterion than the "return to labor." There will probably be fairly general agreement with the last sentence in this quotation. But it is difficult to accept the view that a community in which there is a steady rise in per capita income has no need to concern itself with population questions. In cases where the rate of increase of per capita income is considerable, its absolute level may still remain very low over long periods. This situation has existed in some Asiatic countries, and in such cases population factors require serious consideration.

¹ Allyn Young, in a review of *London Essays in Economics*, in *Economica*, March 1928, VIII. 115.

² Sir William Beveridge, *Unemployment, 1909 and 1930* (London, Longmans, Green, 1931), p. 377.

To say that an area is overpopulated is to say that there are too many people in it, in some sense or other. There may be much disagreement on the proper criterion to apply, but all will agree that the crux of the matter is the influence of numbers on something. Now per capita income, per capita production, and the return to labor (however "return" may be defined) vary from time to time, and their variations are not necessarily connected with the numbers, or variations in the numbers, of the people. Inventions and improvements in the arts increase per capita income and the return to labor regardless of the size of the population, though this, of course, is not to deny that the extent to which a given invention is applied in a given area may be influenced by the relation between numbers and resources. Changes in the organization of industry and in the efficiency of workers and executives may also in themselves produce changes in per capita income, quite apart from changes in the size of the population.

Variations in per capita income are not merely a matter of long-period trends. They are involved in the course of business cycles. As Robertson says in the course of a study of the trade cycle,

The evidence seems to show that the most important phenomenon which we have to attempt to explain is a quasi-rhythmical fluctuation in the real income of the community under consideration.¹

In years of trade depression, various indexes of economic conditions show worsening tendencies for a time. It would obviously be unreasonable to interpret these symptoms, occurring simultaneously or with short-time lags in countries of greatly different population densities and relations between numbers and resources, as evidence

¹ D. H. Robertson, *Banking Policy and the Price Level* (London, P. S. King, 1926), p. 6.

of overpopulation.¹ Industrial and trade fluctuations may be regarded as maladjustments common to underpopulated and overpopulated and—if there are such—optimum-sized communities. A good case can be made for the view that these fluctuations are in some degree—though not in the degree to which they have hitherto existed—inevitable accompaniments of technological advances which in the long run raise per capita income. Unfavorable movements in indexes of economic conditions, due to maladjustments incident to technological advance and to other causes, should not be interpreted as evidence of overpopulation, nor favorable movements as evidence of the absence of overpopulation.²

In some cases the numbers of the people may play only a minor rôle, possibly even none at all, in variations in per capita returns. Before mere movements of per capita income or returns can reflect the influence of the numbers of the people, the difficulty has to be overcome of removing from the total variations in per capita income or returns that part due to factors other than the size of the population, or variations in the size of the population. Unless gross variations in per capita returns can be corrected in some way for the influence of non-population factors, they throw no reliable light on the population situation.

In practice it is extremely difficult, and it may prove

¹ Some might be disposed to regard the different phases of the trade cycle as manifestations of short-period fluctuations in the optimum, however defined. It might be held that the optimum varies at different stages of the trade cycle. But mere changes in numbers cannot eliminate the trade cycle, which arises out of a disharmony, a maladjustment, between a set of factors, rather than an absolute shortage, due to the "niggardliness of nature," of one factor in terms of all the others.

² Carr-Saunders, in a quotation given below (p. 96), regards "some figures for the last few years" (which he leaves unspecified) as giving "clear indications that Japan is somewhat overpopulated." It is doubtful whether he has given adequate consideration to the influence of non-population factors on the figures which he has in mind.

to be impossible, to separate the economic effects of changes in the size of the population from the economic effects of factors unconnected with the numbers of the people. But economics contains many theories regarding the influence of this or that factor whose effects in the actual world are intermingled with the effects of other factors in so complex a manner as to defy isolation in the present state of our knowledge and possibly in some cases for all time. We cannot escape the difficulty by assuming that the gross effects produced partly by the particular factor under consideration and partly by other factors¹ are all produced by the former.

In practice Beveridge recognizes the possibility that other factors besides population factors may produce a decline in per capita income, and attempts to take account of it when discussing the English situation. Doubtless the other writers who have expressed approval of the hypothesis under consideration would also in practice recognize the possibility of the operation of non-population factors: indeed Allyn Young's cautiously phrased statement quoted above shows some implicit recognition of this possibility.

But a hypothesis or conceptual scheme should be clearly stated in advance of its application and not left to be inferred from the procedures adopted in a concrete inquiry. And Beveridge, though in practice he is ready to consider the possibility of factors other than population producing a decline in per capita income, does not appear to be ready to consider the question whether or not a rise in per capita income may take place in spite of overpopulation.

¹ Hugh Dalton, in discussing a principle in public finance, well says: ". . . its practical application is often very difficult. But the difficulty is inherent in the subject and cannot be legitimately avoided by substituting a wrong principle for a right one, in order to arrive more easily at practical conclusions."—*Public Finance* (New York, Knopf, 1923), p. 10.

However, it must not be concluded that the results of a consideration of the relation between the growths of population and of probable per capita returns are valueless. To establish the probable absence of a decline in per capita income greatly weakens the grounds for alarmist predictions with respect to the population problem of Japan. Dalton, a very able exponent of the so-called optimum theory of population, has pointed out that in the case of a decline in per capita income

there may be more ground for pessimism . . . than for optimism in the converse case. For, if the more obvious forces of economic progress are in action, such as the development of new natural resources, new means of communication, new inventions, and the accumulation of new capital, there is a presumption that income per head should rise. If it can be proved, and such proof is not always easy, that, apart from the influence of changing numbers, economic influences are, on balance, favorable to a rise in income per head, and if, in spite of these favorable influences, income per head falls, we can infer, first, that some degree of maladjustment exists, and, second, that it is increasing so fast as to outweigh the forces of economic progress.¹

In the case of Japan, then, this particular ground for pessimism arising out of declining per capita income does not appear to exist.² This conclusion is in itself of considerable importance, and is somewhat damaging to the contentions of those who have made alarmist predictions regarding the political and social consequences of the increase of the Japanese population.

THE ECONOMIST'S OPTIMUM THEORY

Facts that will be outlined later³ show that it is more likely than not that, if we adopted the criterion of over-

¹ Hugh Dalton, "The Optimum Theory of Population," *Economica*, March 1928, VIII, 38. Dalton's masterly essay appears to be the best statement yet made on the optimum theory.

² This of course is not to overlook the fact that the present world depression has caused a decline in per capita income in Japan as in other countries.

• In chapter v.

population favored by Beveridge, Allyn Young, Carr-Saunders, and others, we should have to conclude that Japan is not overpopulated. If we had the necessary data for the application of this criterion to other Asiatic countries, the results might be highly disconcerting to those who regard general overpopulation as the chief source of poverty in Asiatic countries. The subject is too large to discuss here, but I venture to assert that it would be difficult to find areas where average income per head is definitely declining—apart, perhaps, from a few regions where such internal political chaos prevails that economic conditions would deteriorate in any case, and apart from temporary stress arising out of the present world depression,

Reasons have already been given for rejecting this criterion of overpopulation. If overpopulation is to be defined in terms of per capita income (a question to be dealt with later), it should be obvious that only those movements in per capita income are relevant which are a consequence of the relations between numbers and resources. When, for example, per capita income in a community has increased faster than population, the question arises whether or not, if population had increased less rapidly than it did, or had remained stationary, or had declined, average per capita income would have increased more than it actually did in existing conditions. This is a very pertinent question to consider in relation to the Japanese situation.¹

Acceptance of the two propositions, (1) that the people in a given area have a higher income per head average

¹ Its importance is, in my experience, often realized by those who have not made any study of population theory. I recollect a friend once remarking to me as we stood on a mountain in Nagano Ken and looked far down at the clusters of houses in a cultivated valley below: "This would be a fine country for thirty million people, but for sixty million—," he shook his head. Yet he was ready to admit that the people in the districts he had grown up in were better off than they had been in his childhood.

than they had at a lower population density, and (2) that they might have secured a still higher level than they now have if the population had increased more slowly or not at all, brings us to what is called the optimum theory of population. There is "a point at which population is neither too great nor too small, but is just such as to secure a maximum return per head, under the given conditions of production."¹ When the population is below this point in a given area, there is underpopulation; when it is above, there is overpopulation.

It is doubtful whether any single "optimum" point of this kind exists, even in conditions in which the state of the arts is assumed to be constant. There may be several such points or there may be nothing at all that can be appropriately described as a "point." Possibly similar returns are obtainable, within a certain range, in populations of different magnitudes. With population as the independent variable and income or returns per head as the dependent variable it is conceivable that if the data were available a curve might be drawn which would show maximum income per head over a wide range of population magnitudes rather than at a single magnitude. In other words, the part of the curve in which the ordinates had their maximum values would give the appearance of a plateau rather than a peak. Some of the difficulties involved in the concept of an optimum of the type envisaged by Robbins and Dalton will come out incidentally in Part III of this study; others are reserved for a future study. However, it can hardly be doubted that, for example, in the earlier stages at least of the development of North America and Australia, increase of population helped to facilitate the growth of per capita

¹ Lionel Robbins, "The Optimum Theory of Population," *London Essays in Economics*, edited by T. E. Gregory and H. Dalton (London, Routledge, 1927), p. 114.

income. Again, especially in a closed system, conditions may easily be conceived in which an increase of population beyond a certain stage tends to reduce per capita income. It appears, therefore, that the concept of an income optimum has its uses as a conceptual device, though it should be handled with caution, and much more study needs to be given to it.

The precise criterion of the optimum has not yet been defined with adequate precision. There are, however, two aspects of this problem. First, what is the most desirable criterion for our purpose, apart from all questions of practicability of application? Secondly, what is the nearest approximation to this criterion which the ascertainable quantitative knowledge of the economic order is likely to enable us to reach? In accordance with the position I have taken up in the preceding discussion, we must above all seek to formulate a rational and logically valid theory, and this fundamental requirement must not be sacrificed even for the sake of practicability of application. However, existing quantitative knowledge of the economic order does not represent the limits attainable, and it is necessary to consider just what additional data we need to improve our population investigations; this can only be ascertained in the light of an adequate theory.

Robbins, in criticizing Mai thus, states that "the conception of returns per head, *including all the prerequisites of economic welfare*, as something worthy of theoretical discussion, seems to have been remote from his way of thinking."¹ Our concern here is with the concept expressed in the italicized portion of this passage. It is perhaps the weakest point in the discussions of population theory by Robbins and Cannan that they have not sufficiently analyzed the basic concept in their theories.[†]

Dalton, however, has elaborated the basis of his opti-

¹ Robbins, *op. cit.*, p. 105. The italics are mine.

imum theory in some detail. "Our numbers," he says, "should be such as to produce the maximum of economic welfare."¹ He then passes to maximum production of wealth per head, but only with carefully stated qualifications. An optimum based on maximum economic welfare per head and one based on maximum production of wealth per head ". . . are only equivalent on two assumptions: first that changes in numbers influence economic welfare only through changes in production per head, and second, that maximum economic welfare means maximum economic welfare per head, and not in the aggregate."² He accepts the second assumption with little demur, but the first only provisionally, admitting that ". . . it suggests certain difficulties and certain lines of inquiry which must be pursued before we can hope to construct a complete theory of population."³ He regards economic welfare as dependent ". . . not only on the production of wealth, but also on its distribution between persons, on the subjective costs of production and the distribution of these costs between persons, and on the degree of steadiness, through time, of economic life and, in particular, of personal incomes and employment."⁴ The optimum, therefore, ". . . may be changed by a change in the distribution of income, or by a change in tastes, and, as a special case of this, by a change in . . . the relative importance attached to lower subjective costs and increased income."⁵

Finally:

A further transition from maximum production per head to maximum real income per head, as an index of maximum economic welfare, raises no serious difficulties of principle, and we may best leave our definition provisionally in this last form, and

¹ Dalton, "The Optimum Theory of Population," *Economical* March 1928, VIII, 30.

²*Ibid.*, p. 31.

³

Ibid., p. 31.

⁴*Ibid.*, p. 31.

⁵

Ibid., pp. 31-32.

say shortly that the optimum population is that which gives the maximum income per head.¹

This is by far the best attempt yet made to give a clear meaning to the concept of an optimum population, and to elaborate a clearly defined criterion by which its position may theoretically be determined. "Real income per head," though not free of ambiguities, is preferable to the vaguer "returns per head."

POPULATION THEORIES AND THE CONCEPT OF INCOME

The term "income" is no more self-explanatory than the term "optimum." Some different uses of the term by economists have next to be considered. By the national or social income Marshall² meant the total goods and services produced in the country in a given period, plus those imported minus those exported, minus an amount covering depreciation. Wolfe says that the problem of attaining the optimum is

. . . . the problem of attaining and maintaining the most productive ratio between population and natural resources. Productivity is to be measured by the per capita income of ultimate consumers' goods. This ratio is called the optimum and a population of this most efficient size the optimum population the fully accurate index of prosperity would be an index of the inventory of consumers' goods produced each year. In the absence of an approximation to such an index, we shall have to rely on a price index of money income, less savings and investment.³

A third concept, not greatly different from the second, includes in the social income only those goods and services which are actually consumed in the given period.

¹ Dalton, "The Optimum Theory of Population," p. 32.

² *Principles of Economics* (London, Macmillan, 8th edition, 1920), pp. 523-24.

³ A. B. Wolfe, "The Optimum Size of Population," in *Population Problems in the United States and Canada*, edited by Louis I. Dublin (Boston, Houghton Mifflin, 1926), pp. 71-72.

According to these concepts, the social income consists in essence in the flow of goods and services themselves, or in the actual consumption of that flow, in a given period.¹ Regarded in this way, the three concepts may be summarized as follows: (1) total production of goods and services in a given period, plus imports minus exports minus estimated depreciation; (2) total production plus imports minus exports of consumers' goods; (3) total consumers' goods and services actually consumed.

Producers' goods are included in (1), except for a quantity to offset depreciation, but not in (2) nor in (3). Carryovers of consumers' goods from the preceding to the current year are, at least in part, included in (3) but not in (1) nor in (2). Carryovers from the current to the following period are included wholly in (i), wholly or partly in (2), but not at all in (3).

These concepts have been defined so far without reference to money values or to problems of measurement. Thus defined, they belong to a class of concepts best described by the term "real income." For example, Dalton says:

¹ This would not be a strictly correct description of Irving Fisher's concept of income, which in some respects differs from any of the three concepts summarized here. The following passage from some comments made by Professor J. H. Canning on the manuscript of this chapter appears to me to bring out this difference more succinctly than any passage I have found in Fisher's own works:

"It seems to me that the essential difference between Fisher's concept and those of Marshall and Wolfe is that Fisher rigorously excludes all material objects whatsoever from the category of income. Income, in the essence of his view, consists of experiences and perceptions made possible through events in which the participating objects are, (1) the person whose real income is in question, and, (2) other material objects. Experiences and perceptions cannot be 'carried over' nor saved. Command over (property in) material objects (wealth) can be reserved for future exercise; the objects themselves can be conserved for future services. According to Fisher, income occurs; according to Marshall and Wolfe, it is partly objects acquired and partly something that occurs—obviously not a homogeneous concept."

Of Fisher's works see especially *The Nature of Capital and Income* (New-York, Macmillan, 1905) ; "Are Savings Income?" in *Publications of the American Economic Association*, 1908, IX, 21-58; *The Theory of Interest* (New York, Macmillan, 1930), chapter i.

.... it is necessary to draw aside the veil, which the habitual use of money throws over most economic processes, and to consider not merely money but money's worth, not merely money income but real income, in the shape of those things which are bought with money income Any person's real income contains many heterogeneous elements, various sorts of food and clothes, house room personal services and so forth.¹

We turn now to the problem of measurement. As Bowley has said:

. In logic we can conceive an aggregate of commodities and services however we define them; but when we come to measurement we are driven to their value in exchange before we can obtain a common unit for addition. . . .²

An aggregate of diverse commodities and services is one thing; the exchange values of such an aggregate is another. Both are quantitative concepts, but while the second is measurable, at least within limits, the first is not, in any significant sense. True, the quantity produced of any one commodity composed of homogeneous parts can be measured in units of weight or volume, and fairly satisfactory units can be devised for the measurement of some services, such as the transportation of goods. But commodities and services cannot be added together, since the units in which one is expressed cannot be converted into the units in which the other is expressed. No common denominator can be found. The same considerations apply, in many cases at least, to attempts to add services. If accurate records were kept, total production of all commodities could be expressed in physical units of volume or weight. But such measurements would be devoid of significance. For example, there is no real point in lump-

¹ Hugh Dalton, *Some Aspects of the Inequality of Income in Modern Communities* (London, Routledge, 1920), pp. 103-64. Compare Marshall, *op. cit.*, p. 79: " . . . a certain net aggregate of commodities, material and immaterial, including services of all kinds. This is the true net annual income of the country."

² A. L. Bowley, "The Definition of National Income," *Economic Journal*, March 1922, XXXII, 3.

ing together tons of coal and tons of tomatoes. The individual consumes different commodities for different purposes, and the relative physical quantities of the different commodities which he consumes are determined by the different purposes which each commodity serves. Several kilograms of coal will be needed to keep a sedentary worker warm on a cold day, but eight ounces of tomato juice will satisfy his palate and provide him with an adequacy of vitamin C for one day. The total weight or volume of a diverse collection of commodities may be of interest to postmasters, but it is of no interest to students of economics.

Hence economists for purposes of measurement fall back on the money values of the collection of commodities and services which make up the social income. Thus, Dalton says:

.... to compare the size of two or more real incomes, it is necessary to express all these elements in terms of some one common measure. The most obvious common measure is money value, which can in practice be used with approximate accuracy, corrections being made for variations, as between different times, places, and social groups, in the purchasing power of money but money income, as commonly conceived, is not equivalent to the money value of real income, as it is here convenient to define the latter. For there are certain elements of money income, to which no elements of real income correspond.¹

The existence of the latter is sufficiently familiar not to require detailed citation here. In Dalton's concept, real income, then, comprises the goods and services bought with money plus those received which are not commonly paid for in money. As we have seen, the relative amounts of real income, thus defined, accruing to an individual or group, cannot be expressed in a single series in terms of physical units. Dalton, like others, turns to monetary

¹ Dalton, *Some Aspects of the Inequality of Income in Modern Communities*, pp. 163-64.

units for purposes of measurement. That part—the larger part—of real income which consists in goods and services bought with money will thus be measured by actual exchange values, the remainder by hypothetical exchange values. To a considerable extent the "elements of real income to which no elements of money income correspond" cannot be satisfactorily estimated in monetary terms.

The results of these measurements in monetary units should, I suggest, be described as "the money values of real income." In practice, there is a tendency to speak of the money value of real income simply as real income. This, however, is to be deprecated, for reasons that will be brought out later.

Actual estimates of the social incomes of different communities are usually based either on aggregations of individual incomes or on aggregations of the values of goods and services produced. As Bowley has put it:

The objective is to measure "social income," which equals consumption and saving in a year, and also equals the aggregate of individual and collective incomes, less incomes received by compulsory deductions from other incomes in return for no services or services not rendered in the year. The total also equals the value of goods produced and services rendered . . . in a year, plus the value of payments due from outside the country, minus those due from the country to outside, in the same year.¹

The first of these methods is based largely on income tax data, wage statistics, and estimates of small salaries and other items. In so far as income tax data are involved, it is appropriately described by Sir Josiah Stamp as "the accountancy method." The second method is based on census of production statistics, supplemented by estimates of elements not shown in such censuses. There are a number of differences between these two methods

¹ See "Discussion on the National Income,"* in *Journal of the Royal Statistical Society*, 1920, XCII, 165-66.

which will not be discussed here in detail. Broadly, Stamp brings out the distinction well, when he says:

.... the Census of Production method looks at the goods physically at the point of their final disposition, as though they were in the hands of the consumer, whereas the income tax method, which is ultimately based upon accounts and accountancy, really stops short of that point, and takes the goods in the hands of the final trader. In one case income is the physical production of goods during the year, as though they were equivalent to the amount consumed. In the other, it is the sale of goods in the year (that is, production plus initial stock, less final stock). One is a consumer income and the other a production income.¹

These estimates, however, include consumption and investment, and in principle approximate Marshall's concept of social income. It may be anticipated that measures of economic activities will gradually become more comprehensive and refined: hence it is important to consider just what concept of income would ideally be of greatest significance to students of population. This of course is a purely relative question—relative to the social objective that we choose to pursue. For one objective one concept of income is appropriate; for a different objective a different concept may be required. If we ask the question why the exponents of the optimum theory regard the optimum population as that population in which average per capita real income is at a higher level than it could reach if numbers were different, the answer is that Cannan, Dalton, Robbins, Wolfe, and others have laid down the maximization of economic welfare as the desirable social objective, and they believe that maximum

¹ See "Proceedings of the Meeting" following the presidential address of A. W. Flux on "The National Income," in *Journal of the Royal Statistical Society*, 1929, XCII (Part I), 29-30. This and the "Discussion on the National Income," cited in the preceding footnote, contain illuminating contributions to the whole subject. Other admirable studies are: Colin Clark, *The National Income, 1924-31* (London, Macmillan, 1932), and A. L. Bowley and J. C. Stamp, *The National Income 1924* (Oxford, Oxford University Press, 1925); A. L. Bowley, cited above in *Economic Journal*, March 1922, XXXII, 3, also his "The National Income in 1924" in *Economica*, May 1933, XIII, 138-42.

economic welfare is attained, or more nearly attained than it could be on the basis of any other criterion, by the maximization of real income.

As I have already indicated, the concept of an optimum or a series of optima is a useful conceptual device which it seems convenient to retain, but, as it is hardly conceivable that the location of the optimum will ever be possible in any given case, the practical aim to pursue is to examine the changes in per capita income and per capita welfare over a given period, and then endeavor to discover how far these changes have been influenced by population factors.

Hence, the question takes on this form: Which concept of income or real income is the most suitable for use in attempts at measuring relative degrees of economic welfare accruing to individuals under different conditions and at different times and places?

This, in turn, raises the further question: What is "economic welfare"? There is no doubt as to current usage of this term by economists. By economic welfare is understood the satisfaction of desires which require for their satisfaction the consumption of goods and services. The goal of economic action is conceived of as maximum satisfaction of desires. In population theory, maximum per capita economic welfare is taken to mean maximum satisfaction of desires.

In the next chapter I shall advance reasons for rejecting the conception of welfare as the maximum satisfaction of individual desires, and substituting for it a concept of welfare as a sum of desirabilities determined by a series of consensuses. The latter social objective differs from the former in certain respects. From the standpoint of my welfare concept the relative money values of real incomes at different times are a less reliable indication of relative degrees of welfare than they are from the

standpoint of the "orthodox" concept of economic welfare. When the latter Concept is adopted, real income is the sole criterion. In the case of the concept which I shall expound in the next chapter, it becomes a useful provisional criterion, which, however, in itself gives inconclusive indications, and must be checked and tested by a number of other criteria.

But further refinement of the measures of social income would be of value in population studies. First, it is desirable to have, as nearly as possible, a measure of the money values of the completed goods and services actually consumed, together with a weighted price index of those consumed goods and services. A study of actual consumption is of primary importance in assessing relative degrees of welfare, and this index would be of some value in such a study. But it would only be one step in the study, and further data of a non-monetary character would have to be studied in addition. The discussion of these refinements, however, will be left to the next chapter.

The social objective is to maximize welfare over the whole life span of the individual. And just as, in a productive process, there are at any time goods at every stage between commencement and completion, so in a society there are individuals at every age from birth onward. Maximum possible consumption today without regard to the future will not promote the social objective of maximizing welfare. The question whether or not a given level of consumption during a given period, say a year, can be kept up in the following years is therefore of great importance in population studies, and any attempt to answer it will involve consideration of the relationship, and changes in the relationship, between consumers' goods and producers' goods.

Now in the early steps taken in the formulation of a

theory of population it is useful to assume temporarily that an appropriate and constant relationship is maintained between consumers' goods and the different types of producers' goods. Such an assumption is merely a matter of convenience. As Marshall has well said:

. . . i . all suggestions as to economic rest, of which the hypothesis of a Stationary State is the chief, are merely provisional, used only to illustrate particular steps in the argument, and to be thrown aside when that is done.¹

The device of assuming a constant relationship between consumers' goods and the different types of producers' goods must be dropped as soon as it has served a temporary expository purpose, and the conceptual scheme must be refined to take account of variations in the relationship between consumers' and producers' goods. The objective is to bring our schemes as near as possible to the conditions existing in the real world, since only when that is done can we put them to the test of facts.

If the relative movements in question really took the form of a cycle of recognized and uniform duration, the student of population might find that, at least in the consideration of long-period problems, the money values of real income consumed, averaged over the exact period of the trade cycle, would serve his purpose without recourse to study of the movements of the output of producers' goods. In fact, however, business fluctuations do not take the form of regular cycles of uniform duration; consequently, when comparisons are made between the per capita money values of real income consumed at different times, some account should be taken of differences between the relationships existing at those times between consumers' goods and the different types of producers' goods. When, for example, a falling off occurs in the quantity of goods that is being started on the first stage

¹ Marshall, *op. cit.*, p. 366.

of the process of production, the available output of completed consumers' goods need not fall off at once, because the goods in process, started earlier and already beyond the first stage, will continue for a time to flow out in undiminished quantities, so long at least as demand is maintained. It would therefore be somewhat misleading to compare consumption in such a period, without taking account of the impending change, with consumption in another period when there was no falling off in the amount of goods being started on the first stage of production. On the other hand, if the data relating to the different types of producers' goods were available, it could be determined whether or not the figures of consumption in one of the periods, considered in relation to the figures of consumption in the other period, gave an unduly optimistic picture of the situation in the former period considered.

Hence, in addition to a consumption index, it would seem that an index showing the movements of producers' goods is required. Further refinements are desirable. Producers' goods may be subdivided. Keynes's classification comprises liquid capital, working capital, and fixed capital. Liquid capital consists of goods in stock,¹ working capital of goods in process, and fixed capital of goods in use which only render services gradually. Another useful classification is that between finished and unfinished goods, subdivided in turn into consumers' goods and instrumental goods used for producing other goods.²

The question whether or not it is probable that a given level of consumption in a given year can be maintained or increased in the following years may in some cases call

¹ But not of all stocks; only of stocks above those required for certain specified purposes. See *Treatise on Money* (New York, Harcourt, Brace, 1932), II, 134. Part of actual stocks in Keynes's sense belong to working capital.

² On the whole subject see Keynes, *op. cit.*, I, 128-32, and II, 95-147. I have changed the terminology in places and to a slight extent the classification.

for **other data** in addition to those showing the relative movements of the output of consumers' goods and of producers' goods, and the movements of the different types of producers' goods in relation to one another and to consumers' goods. At times the debtor-creditor relationship between a given community and the rest of the world has to be taken into account. For example, Germany, Australia, and certain South American countries were able from 1925 to 1929 (in Germany's case perhaps to 1928) to maintain a level of consumption which was partially dependent on a large net import of capital. The increase in the indebtedness of these countries created a dangerous situation, having regard, in the case of the agricultural countries, to the inelasticity of the demand of the creditor countries for the products of the debtor countries, and to rising tariff barriers against some agricultural products.¹ Such an increase of indebtedness could not continue indefinitely in face of other world policies of the time. With the cessation or reduction of lending the debtor countries were at once plunged into difficulties. Inelasticity of demand for their export products prevented them from compensating for their inability to obtain further credits abroad by increasing both the volume and the value of their exports. The alternative methods to which they had to resort in order to balance their payments necessitated a reduction in the level of consumption that had been maintained in the preceding years. Hence account must be taken of the movements of what Keynes designates as "Loan Capital," i.e., "the net balance of claims on money."²

I conclude that as an aid to judging the population

¹ See V. P. Timoshenko, *World Agriculture and the Depression* (Ann Arbor, University of Michigan Press, 1933). But compare Hawtrey, *Trade Depression and the Way Out* (London, Longmans, Green, 1933), pp. 108-10.

² Keynes, *op. cit.*, I, 130.

situation of a community the concept of income, in the sense in which it has been used by writers on population, is inadequate and oversimplified, and that the following measures, if and when they become available, are required: (1) as close as possible a measure of the money values of the average per capita consumption of goods and services actually consumed within the community over a stated period, corrected by an index of the prices of consumers' goods and services weighted according to the relative expenditure in the community on the various objects;¹ (2) measures of the changes in the output and prices of the different types of producers' goods, i.e., liquid capital, working capital, producers' and consumers' fixed capital,² finished and unfinished ultimate consumers' goods and instrumental goods; (3) a measure of the movements of the community's loan capital.

¹ Some aspects of the problems involved in the search for a criterion and an appropriate measure of changes in the size of the social income, which are not discussed here in detail, are ably treated by A. C. Pigou, *Economics of Welfare* (London, Macmillan, 4th edition, 1932), pp. 50-86. An excellent discussion which has a considerable bearing on the subject is contained in Keynes, *op. cit.*, I, 95-120. Headers of these works will observe that to Pigou and Keynes the relative degrees of "satisfaction" experienced by the individual consumer play a fundamental part in determining what constitutes a greater or smaller social income, and a higher or lower purchasing power of money. But the next chapter will show that the concept of welfare adopted in the present study makes some of the problems discussed in the works referred to above less significant for present purposes than they are for those who relate welfare to the satisfaction of individual desires.

³ Consumers' fixed capital is more commonly classified as durable consumers' goods. It might be more convenient to adhere to the latter term and confine the term "fixed capital" to the relevant class of producers' goods only.

CHAPTER III

THE WELFARE OPTIMUM POPULATION

THE CONCEPT OF WELFARE

As a first approximation the oversimplified conceptual schemes of exponents of the income optimum are useful. Such simplifications are often justifiable for purposes of clear exposition, provided the limitations of the conceptual schemes which embody them are realized. We owe a great debt to the originators of first approximations toward conceptual schemes that show promise of becoming fruitful when they undergo further refinement. If further progress is to be made, however, it is necessary that we should not rest content with these first approximations, but should, in a series of further approximations, make the conceptual schemes more and more inclusive, finding a place in them for as many as possible of the factors that make up the complex situation that occurs in real life.

In the preceding chapter I attempted to introduce a number of refinements into the concept of the income optimum. One of the results is to discredit the idea that any single index or series of relatives can supply an adequate criterion, either of the optimum position (in the hardly conceivable event that this could be ascertained), or, what is more to the point, of the relative positions of a community at stated intervals. The fact is that a number of different series of quantitative data are required, and that no logical means can be found for reducing these to a single series.

This limitation applies to the concept of an income optimum, and to the concept of a welfare optimum when welfare is so defined that the income optimum is the

welfare optimum. It is still more applicable, as will be shown later, when the welfare optimum is not so defined.

The view that the income optimum is the welfare optimum really depends on the assumption that maximum economic welfare is the maximum satisfaction of actual desires. This view, associated with the utilitarian philosophy of the nineteenth century, and bound up with most forms of the utility theory in economics, is still apparently acceptable to most economists.¹

The concepts of "desire" and "satisfaction" are philosophical rather than psychological,² and, particularly in the hands of economists, are vague, undefined terms, often used in an excessively individualistic sense which ignores the social character of the factors supposed to be subsumed under them. Provisionally, however, these difficulties may be set aside.

There can be no profitable discussion of the issue now to be faced until mere verbal differences are cleared away. It must be admitted at once that there is no inherent objection to the choice of such a word as "welfare" to denote the maximum satisfaction of desires. My own objection to such a choice is based merely on considerations of convenience. The term "welfare" has been so often used, implicitly or explicitly, to denote that which is socially desirable that I think it will be convenient to confine it to that use. The real issue is between those who identify the sum total of what individuals desire with what is socially desirable, and use the term welfare to cover both these things as if they were identical, and those who do not believe that they are identical. To the latter, this use of the term is ambiguous and confusing.

¹ R. G. Hawtrey is an exception. See his *Economic Problem* (London, Longmans, Green, 1926, chapters xvi-xviii).

² In general, American psychologists do not appear to employ the term "desire." Knight Dunlap uses it in a very specialized sense which would not suit the economist.

In the present chapter, discarding completely the utility concept, I shall reject the view that the income optimum and the welfare optimum are necessarily identical, and endeavor to show that, in the present state of consumers' knowledge, it is inconceivable that they can be identical. This, however, does not mean that the concept of income is to be discarded as useless. On the contrary, the conclusions reached in the last chapter have to be carried forward as useful instruments for further investigation, and the conceptual scheme there provisionally drawn up will be further developed and subjected to increased refinement in the present chapter, with a view to bringing it into line with a more adequate concept of welfare than that based on the utility theory.

Welfare may be defined as an aggregate of attained desirabilities. The attainment of desirabilities requires, in varying degrees, the consumption of certain kinds and amounts of goods and services, and it is with this aspect of the matter that the student of economics is primarily concerned. It is fundamental to my position that an aggregate of realized actual individual desires for goods and services is not necessarily nor even probably identical with an aggregate of desirable goods and services.

But what is the criterion of that which is desirable? It may be the inherent difficulties of determining any such criterion that have led so many economists to accept the satisfaction of actual desires as the *summum bonum* of economic activities. But if the end of our studies is to construct improved instruments of social control, we have to face the question squarely, whatever its difficulties, and however unsatisfactory our attempts at their solution.

In population studies we are faced with the necessity of comparing, to the best of our ability, the relative degrees of per capita welfare in a community at different

times, in so far as the consumption of goods and services is involved in welfare. Of course, changes in per capita welfare arising out of changes in the kinds and amounts of goods and services consumed are not due wholly to population factors. Even if such changes were measurable, the task would remain of devising techniques by which to separate the influence of population factors from that of other factors, if that is possible. But it remains true that the first step is to decide and define as clearly as possible just what it is on which the effect of population factors is to be traced.

My position is that the criterion of what constitutes desirable consumption of goods and services is to be found in the use of the consensus.¹ This, however, does not imply that a consensus among the whole community must be found in respect of every commodity consumed. What is required is a consensus among those who have special qualifications for judging the effect on welfare of the consumption of this or that commodity in this or that quantity. In the case of food we require a consensus among biochemists regarding the kinds and amounts of food needed for optimum physiological welfare.

A consensus of the latter kind affords the best guidance we can obtain, since it is a consensus based on scientific knowledge obtained by experimental methods. In the case of some commodities a consensus of this type is hardly available in the nature of things; in the case of others it is not yet available but may be made available with the advance of knowledge. In these last two cases we have provisionally to accept consensus among those who have made the closest study of the effects of the consumption of the kinds of commodities and services involved.

¹ See Horace M. Kallen, "Consensus/" in *Encyclopaedia of the Social Sciences*, IV, 225-26. This article is followed by a convenient bibliography on the subject.

In respect of each type of commodity and service, some approximation to a welfare optimum per capita consumption might, at least hypothetically, be reached by a consensus of the kind indicated. It would then be possible to determine, through statistics of production and consumption, whether changes in the consumption of this or that type of goods or services over a period of time had tended to increase or diminish welfare. But if the changes in the consumption of one type of commodity had, in the light of the consensus, increased welfare, while those in the consumption of another had decreased it, what would have been the net effect on welfare? Any satisfactory answer would presuppose that an order of urgency of needs could be laid down. To a limited extent this is possible. An exhaustive investigation recently made by the Medical Officer of Stockton-on-Tees in England shows the greater importance of diet as compared with housing, from the standpoint of health and longevity. People with a physiologically satisfactory diet living under bad housing conditions have lower sickness and mortality rates than people in good housing conditions with a diet deficient in vitamins, proteins, and mineral salts. There can be no question that the kinds and relative quantities of foods consumed in a community usually constitute the most important single economic factor in determining welfare.

Though an approximate order of urgency of wants can be established for the primary necessities that contribute to health and longevity, great difficulties arise when we pass beyond this class of products, and no satisfactory solution of these difficulties is yet in sight. For the present, therefore, we must do the best we can by first examining changes in per capita income statistics and then studying the changes in the production and consumption of different commodities in the light of the

standards established by the consensus based on scientific knowledge, so far as we have such standards.

In addition, the movements of vital statistics should be taken into consideration. Mukerjee¹ has recently suggested that the optimum should be what we may call—though he does not himself use the expression—a longevity optimum. However, while longevity should certainly be taken account of in any attempt to assess relative degrees of welfare at different times, there are decisive objections to reliance on an index of longevity alone. One of these is well brought out in the following statement by Sydenstricker:

.... the problems and aims of public health are still set forth almost entirely in lethal terms whenever statistics are used One effect of this prolonged dependence upon mortality statistics has been to foster a fallacious premise for public health work, namely, that a low death rate indicates the absence of ill-health. Obviously it does not an exceedingly unhealthful region may exhibit a mortality which is not extremely high, as, for example, a heavily infested hookworm locality, or a section abounding in malaria. Pellagra may be widely prevalent in a community without affecting materially its general death rate or even causing a large number of deaths from the disease itself. Instances of the same sort could be multiplied. Much ill-health that is manifested in symptoms, in discomfort, in lessened vigor and efficiency, even in illness and suffering, is not reflected in the death rate, except for certain diseases"

These considerations are specially applicable to eastern Asia and to the tropics. Statistics of sickness, where obtainable, are important as well as statistics of death. And even where clinical symptoms are not evident and a person would not therefore be classed as suffering from illness, nutritional and other causes may seriously reduce capacity and vigor. If account is taken of the make-up

¹ Radhnkamal Mukerjee, "The Criterion of Optimum Population," *American Journal of Sociology*, March 1933, XXXVIII, 688-98.

² E. Sydenstricker, *Public Health Report* (Washington, June 24, 1927), XLII, 1689.

of the foodstuffs and of certain other commodities consumed in a community, as well as of the statistics of mortality and disease, the results will be superior to those that would be reached by reliance on vital statistics alone.

To sum up: If, starting with an examination of the movements of per capita income, we find that the data for Japan indicate an increase over a period of time, a presumption is created in favor of the view that per capita welfare has also increased. If, then, turning to statistics of production and, where they exist, of consumption, we find that in the same period there has been a relatively greater increase in the consumption of animal foodstuffs than in that of cereal foodstuffs, the conclusion drawn tentatively from the income statistics will be strengthened. Next, if sufficient data were available, we should turn to an examination of changes in the housing situation, and in the consumption of other commodities of the relation of which to welfare we have some quantitative knowledge. In this way we should be able to make a more complete check, though of course many commodities would have to be left out because of the lack of criteria regarding their relation to welfare. Further, vital and medical statistics should be examined with a view to discovering whether or not their trends point in the same direction as those of other data studied.

It is along such lines as these that those who are concerned with the direction of population policies should proceed, in spite of all the difficulties in the way, with the object of discovering whether per capita welfare has increased or diminished or remained stationary. They will not find any single index which they can follow mechanically, and they will have to exercise judgment in assessing the relative importance of different data. Nevertheless, we can look with confidence to substantial progress along the lines indicated. Unfortunately, when

fair estimates are made of the direction in which per capita welfare is moving, the task remains of seeking to unravel the influence of population factors on these movements. This task may prove to be too difficult to accomplish.

In the next section some aspects of the general position taken up in the present section will be elaborated in more detail with the aid of illustrations, and certain consequences that follow from it will be brought out.

APPLICATION OF THE WELFARE CONCEPT

The concept of an optimum population based on maximum welfare must embrace the concept of an optimum production and consumption. Maximum per capita consumption of goods and services is only coincident with maximum welfare if the kinds and relative quantities of goods and services are those which contribute more than any others could contribute to welfare. Let us substitute the term "composite commodity" for the expression "kinds and relative quantities of goods and services." The actual composite commodity consumed differs from the optimum composite commodity. If the actual and optimum composite commodities were identical, the per capita income definition of the optimum would serve also as a welfare definition of the optimum.¹ The greater the divergence between the actual and the optimum composite commodities, the less indicative is the per capita income optimum, or any other optimum based on summation of money values, of the welfare optimum.

When an individual is in a position to exercise choice in distributing his purchases among a variety of goods, for example foodstuffs, and his desires lead him to choose a diet which fails to meet physiological needs and may

¹ It is conceivable that conditions might arise in the future in which this statement would be subject to qualification. The point is discussed below, pp. 86-87.

even lead to serious deficiency diseases, then, even though he may attain maximum satisfaction of his desires, he is not attaining maximum welfare.

The examination in chapter v of the qualitative side of Japanese food problems brings out clearly the shortcomings of a concept of welfare based on maximum satisfaction of desires. Even if we assume that the relative satisfactions derived from various desired goods and services are proportionate to the relative strengths of the desires for them, and that the relative expenditures on these objects measures the relative strengths of the desires, it is easy to show that maximum satisfaction in this sense is not necessarily identical with maximum welfare. Welfare, so far as it is dependent on food, is maximized by the production and consumption of a diet conforming, not to standards based on the fancies and customs of consumers, but to standards based on the results of investigations generally accepted as reliable by accredited scientists in the field of biochemistry.

In the last two decades, remarkable progress has been made toward the discovery of the kinds and relative quantities of various chemical substances which diets capable of producing optimum nutrition must include. The practical application of this knowledge, which to an increasing extent is becoming susceptible to quantitative treatment,¹ would bring a great increase of welfare to the peoples of eastern Asia and its adjacent islands.

Housing may also be considered from a much more quantitative standpoint than is customary, and there does

¹ But it must not be supposed that rigid rules will come to be laid down as to the exact kinds and amounts of food required for optimum nutrition. Rather, there are minimum requirements of calories, protein, vitamins, and mineral salts, which may be satisfied by a variety of different diets. It should be added that it seems hardly practicable to satisfy these requirements without animal foodstuffs, as noted earlier. Recent views emphasize the need of much more liberal supplies of vitamins than will suffice merely to stave off deficiency diseases.

not appear to be any insuperable obstacle in the way of setting up standards which can be given quantitative application.

Any measurements expressed in terms of exchange values are necessarily influenced in part by the preferences of individual consumers. This factor enters even into the production indexes, which are weighted according to the relative exchange values of the total production of the different commodities. The preferences of consumers are clearly one of the factors entering into the determination of prices. These preferences, or choices, are the outcome of a complex interaction of psychic, socio-psychological, sociological, and physiological factors. In some cases, they are the result of rational processes, in other cases of highly irrational processes. They are not shaped wholly by considerations of welfare.

If, then, we are to accept the view that welfare is the ultimate criterion, analysis of the Japanese situation, especially of the food problem,¹ shows that maximum per capita real income and maximum welfare are not necessarily coincident, and that the transition from welfare through wealth to income, made explicitly by the London economists and implicitly by most other writers, omits one of the fundamental requisites of welfare, even with the qualifications carefully stated by Dalton.

An increase in income, whether it be money income adjusted for changes in the general price level, or the money value of real income, is not necessarily accompanied by an increase in welfare. It may, for example, result in a shift to a diet more fashionable but less physiologically satisfactory than that formerly consumed.² Evidently, what is most significant for welfare is the nature

¹ See chapter v.

² For instances in Japan, see E. F. Penrose, *Food Supply and Raw Materials in Japan* (Chicago, University of Chicago Press, 1930), pp. 13-14.

as well as the amount of goods consumed; the use to which purchasing power is put, and not merely its possession.

The goods and services actually consumed in Japan differ from those that would be consumed if equal productive resources were employed to turn out those goods and services which would best promote welfare. Japanese agriculture is organized to supply an effective demand for foodstuffs which is shaped by custom and taste but which leads to widespread malnutrition. Productive resources would have to be reorganized and agriculture considerably changed in order to secure optimum nutrition. Clearly, however, the costs of producing a composite commodity that would promote optimum nutrition would be different from the actual costs of the composite commodity actually produced. The combination of the factors of production would almost certainly be different in the two cases. The total cost of producing the physiologically optimum food supply would be greater or less than the total cost of producing the actual present food supply; it is hardly conceivable that it could be the same.

It follows that the optimum population would differ in the two sets of conditions. The per capita income optimum population for the existing types of diet differs from the per capita income optimum population for the more physiologically desirable types of diet. It might well be that, having regard to the limited quantity of land available in Japan, the optimum population for a diet consisting of much more animal and less cereal products than the present diet would be smaller than the optimum for the present type of diet. This, however, cannot be precisely determined merely by reference to agriculture, in a country which is in economic contact with the rest of the world and which, therefore, can obtain foodstuffs from abroad in exchange for exported manufactures. More-

over, the position of Japanese rice as in effect virtually a separate commodity from other kinds of rice has resulted in its continued production at relatively high costs, exceeding the costs of non-Japanese rice and of other cereals; consequently, a shift from Japanese rice to animal foodstuffs would not increase costs as much as they would be increased by a shift from non-Japanese rice to animal foodstuffs.

This, however, does nothing to shake the general principle that the optimum populations, defined in terms of average per capita income, differ for different types of goods produced, and that welfare in the last resort depends, not on the total quantity of goods regardless of make-up, but on the quantities of various kinds of goods and services consumed. The acceptance of this principle would introduce considerable changes into an economics based on the assumption that welfare is promoted by the satisfaction, and retarded by the frustration, of actual individual desires.

The per capita income concept of the optimum can be made to coincide with the per capita welfare concept on the assumption that this income is spent in the consumption of the kinds and amounts of goods and services that make the maximum contribution to welfare. The more nearly rational the choices of consumers in a community, or, in other words, the more these choices are influenced by scientific knowledge, the more closely will the per capita income optimum approach the per capita welfare optimum. There are reasons for supposing that in many countries choices of consumers have become more rational in recent years.¹ Even in Japan, there has

¹ For instance, changes in American per capita consumption of various foods since the beginning of the present century point that way. However, some part of such changes may be in the nature of adaptation to changed environment. For instance, the growth of mechanical appliances reduces calorie requirements.

To speak of consumers' choices of foods as becoming more rational is not necessarily to imply that each consumer is consciously motivated by rational

been in the post-war years a sharp upward trend in per capita consumption of animal foodstuffs.¹ We are justified, then, in expecting that the gap between actual and optimum consumption will be progressively reduced in future, with the result that the per capita income optimum will come progressively nearer the per capita welfare optimum. Whether or not the distribution of income is becoming more favorable to the attainment of the per capita welfare optimum is more doubtful.

The per capita income concept of the optimum, if it is to coincide with the per capita welfare concept, will have to be redefined. I suggest the following definition:

The per capita welfare optimum population for any area is that population in which per capita income stands at a maximum when it is spent in the consumption of the composite commodity that, in the light of existing scientific knowledge, makes a greater contribution to welfare than, in the existing state of the arts, can be made by any alternative composite commodity.

At present, our knowledge of the relation between commodities and services, on the one hand, and welfare, on the other, is very limited. But we do know much about the relation of some commodities to welfare, and part of this knowledge can be expressed in quantitative terms. The sum of our knowledge of these relations, and also that part of it which is amenable to quantitative treatment, will be widely extended in the future, the rate of this extension depending on the progress made in the different branches of the physical and social sciences involved in studies of the relationship of commodities to welfare.

considerations in his choices. A comparatively small number of consumers may set the pace in accordance with rational considerations, and the rest follow to him in fashion. However, if this improved type of consumption is to be sustained, it is desirable by publicity and education to bring home to all individuals the rational grounds for such consumption.

¹ See Penrose, *op. cit.*, pp. 32-34.

At the opening of the present century, knowledge of the relations between foodstuffs and welfare was extremely meager; experimental diets constructed to satisfy physiological requirements, as these were at that time conceived by the best scientists, were inadequate to maintain health, because other essential factors were then unknown or only very faintly suspected. All this has been revolutionized in a few years.

There is, then, no prospect that any sort of finality will be reached concerning the relation between the consumption of goods and services on the one hand and welfare on the other. Consequently, the per capita welfare concept of the optimum is not absolute but relative to the knowledge of the times. In the last resort, the only criterion of what promotes and what does not promote welfare is a consensus. It is, of course, not necessary to require that the consensus shall extend to every member of the community, at least in the early stages. The kinds of diets that best promote welfare must be decided by the consensus among those who are qualified in the sciences concerned with nutrition. The best kinds of housing accommodation from the standpoint of welfare must be decided by the combined studies of those qualified in the appropriate branches of the medical sciences, those qualified in public hygiene, and those qualified in architecture, and so on.¹ By further study of standards of living, and by the application of scientific methods to as many as possible of the elements of which they are composed, fur-

¹ Interesting examples of the contrast between the individual's ideas of the requirements of his own welfare and the views of the requirements of his welfare determined objectively by scientists are to be found in the treatment of diseases. I have observed that this psychic resistance of the individual to the conclusions of scientists in matters of disease is much more powerful in Japan than in America and England. It is extraordinarily difficult to persuade a Japanese to adopt an appropriate treatment for tuberculosis, which causes over 120,000 deaths per annum in Japan; and even in the sanitariums the measures which the medical authorities can adopt are somewhat restricted by the prejudices of the **patients**.

ther progress will be made toward a more exact understanding of the economic means to welfare.

SOME PRACTICAL DIFFICULTIES

Some difficult problems of detail are raised by the definition of the per capita welfare optimum given above. It implies that increases in productive capacity can, by proper distribution among various goods and services, be used without limit to increase per capita welfare. This raises the question whether it is conceivable that a saturation point might ultimately be reached, in the sense that no further consumption by anyone of any goods or services could increase welfare. As far as the present time is concerned, the question is absurd, and particularly absurd as regards Japan. But even now it is doubtful whether the welfare of certain individuals who possess extremely large incomes could be increased by increased consumption up to the limits of their incomes. Of course, the fact that many such individuals do not consume more than they do is irrelevant. The consumer cannot be accepted as an adequate judge of the economic means of attaining maximum welfare for himself. These economic means must be judged as objectively as possible in the light of the best available scientific knowledge of the times. Unfortunately, however, insufficient study has been made as yet in the whole field of the relation between welfare and the consumption of goods and services to enable us to solve this problem, though we have substantial knowledge of this relation in limited parts of the field.

There does not appear, however, to be any adequate reason for rejecting the possibility that a time might come when, per capita income having reached or exceeded the level already attained by the richest members of contemporary communities, no further elaboration of goods and

services could add anything to welfare. Such a condition would necessitate some modification in my definition. Even so, it would probably be a temporary condition. Increased knowledge and new inventions would almost certainly bring to light additional ways in which economic resources could be utilized to increase welfare.

In the immediate future, however, we can safely neglect these remote possibilities, and it is not worth while to burden our definition with qualifications that will take account of them. There are, of course, at the present time, many cases of overconsumption¹ of particular goods by some individuals, in that sense that consumption of such goods is carried beyond the point that will make the maximum contribution to welfare. But these are in most cases instances of misdirection of consumption, since, though welfare will be increased by reduced consumption of the overconsumed goods and services, there is the possibility, amounting for the large majority of mankind to certainty, that it may be increased still more by a corresponding increase in the consumption of other goods and services hitherto not consumed at all or consumed in quantities less than those which would best promote welfare.

Next, the difficulties raised by the distribution of income have to be considered. Dalton holds that "the optimum may be changed by a change in the distribution of income." This statement seems to hold good only of the optimum defined in terms of per capita income without

¹ This may be of two kinds. First, there is consumption like that of drugs, such as cocaine, for non-medical purposes. This is inherently pernicious; any consumption at all of this kind decreases welfare. Second, there is consumption in undue quantities of goods which are beneficial when taken in smaller quantities. For example, when middle-aged or elderly persons consume a diet so high in calorific value as to produce overweight, they are decreasing welfare, since careful statistical analysis of data in the hands of insurance corporations indicates that overweight after the ages of about 35-40 reduces life expectancy. In general it is easy to obtain a consensus to the effect that increased length of life is desirable. There are, however, exceptional cases in which this will not apply.

reference to welfare. In those conditions, it can, I think, be best explained in terms which I have introduced earlier in this discussion in another connection. When a considerable share of the social income goes to a few people, the composite commodity produced and consumed necessarily differs from that produced and consumed when income is more equally distributed. It was shown above that the per capita income optimum for one composite commodity, corresponding to one set of consumers' choices, is different from that for another, corresponding to a different set of choices, since the production costs, and the combination of productive factors, differ in the two cases.

But it is otherwise with a definition of the optimum which takes account of welfare. The distribution of income affects welfare itself. A change in it will change the make-up of the goods and services consumed, and this will change average per capita welfare, since, by definition, the composite commodity produced when the population is at the per capita welfare optimum must be that which, "in the light of existing scientific knowledge, makes a greater contribution to welfare than, in the existing state of the arts, can be made by any alternative composite commodity." This implicitly covers the distribution of income, and obviously rules out any distribution of income which, for example, restricts the consumption of some persons to less than the minimum requirements for bodily nutrition, while enabling others to consume goods and services that add nothing to welfare. My definition of the welfare optimum necessarily implies an optimum distribution of income¹ from the standpoint of

¹ But the definition does not necessarily imply equal distribution of income. Even if we were considering only the most primary necessities, this would be true. Food requirements differ with different individuals, according to the output of energy involved in different occupations and according to differing body heights and weights. When other goods and services are considered beyond the mere necessities of physical existence, the case is still clearer. Different individ-

per capita welfare. In practice, it is a matter of extraordinary difficulty to discover what constitutes such an optimum distribution, since some kind of a scale of the relative degrees of welfare accruing to different individuals from the consumption of different kinds of goods would be required.

The difficulties in the way of practical utilization of the per capita welfare concept of the optimum population are, of course, very great, and are incapable of any solution for which finality can be claimed. On the other hand, to conclude that these difficulties destroy the usefulness and relevance of the concept would show misunderstanding of the nature of the problems involved. After all, in the study of practical problems, we are not primarily interested in the question as to what is, from the standpoint of welfare, a perfect distribution of productive effort and of demand among various possible composite commodities. Nor are we primarily interested in what constitutes a perfect distribution of income from the standpoint of welfare. What chiefly concerns us is whether or not the changes in the composite commodity consumed in a given community, and the changes in the distribution of income within that community, are leading to increased per capita welfare; and whether the conditions under which the new composite commodity are produced will raise or lower the size of the per capita income optimum population. In the case of Japan, the upward trend in the last two decades in the consumption

of different kinds of goods and services as means of welfare, even apart from mere lack of scientific knowledge. Without making any assumptions as to heredity, it can be agreed that different individuals develop different kinds of capacities and that the goods and services required to develop one capacity in one individual may be more costly than those required to develop another capacity in another individual, even though the development of both capacities may bring equal additions to welfare.

It should be added that these factors are not all, or will not necessarily all remain, "subjective."** Aptitude tests make possible some measurement of specific capacities, beyond the mere feelings and opinions of the individual as to his own capacities.

of animal foodstuffs, and the possibilities of effecting a still more rapid rise in that trend, are the kinds of factors which have most practical significance in our time, for we cannot doubt that increased consumption of animal foodstuffs and decreased consumption of cereal foodstuffs will add greatly to per capita welfare. These factors in turn raise the eminently practical question whether the optimum will be raised or lowered by such changes in the make-up of agricultural production.

To some, it appears an urgent matter to define overpopulation in such terms that the movements of a single index will serve as a practical test of its presence or absence. Many of those who wish to use the optimum concept in some form or other maintain a similar position.

In a sense, every student of population problems is at liberty to choose for himself what meanings he will attach to the terms which he employs, provided he adheres consistently to his definitions. It will, however, facilitate the progress of population studies if we endeavor to agree as closely as possible on definitions. I hold, as I have already indicated, that the ultimate objective of population studies is to determine the lines of rational population policies, and thus to serve as a guide to action. If this position be accepted, it follows that the concepts of over-, under-, and optimum population should be defined in ways likely to prove most serviceable in the pursuit of this object. Overpopulation and underpopulation will be conceived of as indicating, in the first place, greater, in the second place, smaller, numbers than are socially desirable; and optimum numbers will mean the numbers socially desirable. The definition given above of the welfare optimum population is formulated as a criterion of the socially desirable numbers.

From this standpoint, we cannot obtain a mechanical test of the relative degrees of welfare accruing at differ-

ent times. If we insist on a test of this type, we must abandon the welfare concept. If we abandon the welfare concept, our conceptual scheme ceases to be useful for purposes of social control. We have to choose between a fairly precise test of something that is not significant and a crude and imperfect test of something that is significant. I prefer the latter.

In studying the actual movements within a given area, such as Japan, with respect to the welfare optimum population, it is therefore misleading to rely wholly upon the movements of any one index. Study of the movements of per capita income and of the relations between consumers' and producers' goods needs to be supplemented by a close examination of the movements in the production and consumption of commodities and services taken singly, the conditions affecting the production of composite commodities of different make-up, and the movements of vital statistics and data relative to diseases. The relevant factors cannot all be given quantitative expression in any one index.¹ An element of judgment on the part of the student cannot be dispensed with in practice, nor replaced by a mechanically applicable numerical series.

¹ This is not so great a loss as it may appear at first sight. After all, the so-called "index of business activity" and the "combined index of the physical volume of production" mean very little in themselves. The meaning of the component parts of such indexes is generally clear enough, but doubts creep in when we consider what is the exact meaning of the combined indexes. A combined index of production shows the influence both of physical units of goods produced and of monetary units of values attached to goods, which are partly what they are because of psychic factors. There is thus a fundamental logical difference between the combined index and the uncombined series of relatives. (See A. F. Burns, "The Measurement of the Physical Volume of Production," *Quarterly Journal of Economics*, February 1930, XLIV, 212-02; and Penrose, *op. cit.*, pp. 13-14.) There are many indexes of "business activity," each different from all the others. Hence, whatever they are measuring, they cannot all be measuring the same thing. What, then, is "business activity"? In practice, inspection of separate series in both these types of indexes is apt to be more illuminating in regard to the actual course of physical production and of the trade cycle than are the combined or final indexes. Population theorists, then, are not much worse off, in this respect, than theorists in other important branches of economic study.

PART II. SOME ASPECTS OF THE JAPANESE POPULATION PROBLEM

CHAPTER IV

THE INCREASE OF POPULATION

A NEW CENTER OF INTEREST

Within the last few years, there has been a growth of interest in the population problems of the Orient, and the output of literature with a direct or indirect bearing on these problems has greatly increased. This perhaps is symptomatic of a shift in the center of interest in population studies, or in those population studies which are concerned with overpopulation, from Europe to eastern Asia. In the early nineteenth century, pessimistic writers feared that overpopulation was present or imminent in parts of western Europe. This fear revived after the World War, 1914-18, but it soon became evident from studies of fertility rates that, unless recent trends changed markedly, population of the leading countries of north-western Europe would not continue much longer to increase. A similar situation was revealed in the United States. Recently, then, population writers, scanning the world for signs of overpopulation, have hoisted most of their warning signals over Asia, and especially over Japan. Political events in eastern Asia since September 18, 1931, seem to many to have justified the predictions of those who forecast external aggression as an inevitable outcome of the pressure of numbers within Japan.

In the last few years, grave apprehension has been voiced by a number of writers regarding the population problem of Japan. It is contended that Japan is seriously overpopulated and has very nearly reached the limit of its resources, while the population continues to increase at a rate described variously as "extraordinary," "amaz-

ing," "astonishing/" and so on. Pessimistic views are expressed as to the possibility of extending the cultivable land area, of increasing the yield per unit of area, of developing industrialization rapidly enough, and finding export markets sufficiently extensive to enable food and raw materials to be imported on a scale adequate to supply the wants of the increased future population. Dennery wrote in 1930:

Le problème n'est pas près d'être résolu. Sa solution n'ira peut-être pas sans trouble. Le danger actuellement, loin de décroître, grandit plutôt et inquiète les voisins du Japon autant que le Japon lui-même. Danger intérieur immédiat; danger pour le gouvernement japonais lui-même. Un sourd mécontentement gronde dans les îles nippones ...¹

In the next year, Carr-Saunders wrote:

There are in fact several clear indications that Japan is somewhat overpopulated. Some figures for the last few years tend to show that the economic position of the people has not improved and that the pressure on the land is increasing. It is sometimes suggested that there is a way out for Japan in the direction of industrialization, but this is based on erroneous ideas as to the resources of the country in respect of all those materials which are essential to industry.²

Orchard expressed the view:

The attention and encouragement given to emigration by the present Japanese Government are strong evidence of the desperate circumstances of the country.³

Thompson went farther still:

The pressure of population is becoming greater each year. In a few years it may become so great that it will be easy to suggest to the mass of the people that it would be as well to die fighting as to sit home and starve.⁴

¹ Etienne Dennery, *Foules d'Asie* (Paris, Armand Colin, 1930), p. 80.

² A. M. Carr-Saunders, "Fallacies about Overpopulation," *Foreign Affairs*, July 1931, IX, 654-55.

³ J. E. Orchard, "The Pressure of Population in Japan," *Geographical Review*, July 1928, XVIII, 400.

⁴ V. S. Thompson, *Danger Spots in World Population* (New York, Knopf, 1929), p. 119.

Since the Japanese launched their campaign in Manchuria on September 18, 1931, current literature, both inside and outside Japan, has been full of references to Japan's alleged vital need of the economic resources of Manchuria in order to relieve the pressure of population within Japan proper.

Within Japan, it was both officially and unofficially declared for some time after September 18, 1931, that the military advance in Manchuria was carried out in self-defense. Much was made even then of the importance of preserving the hold Japan had previously secured on parts of Manchuria, but any intention of extending it permanently was for a time expressly denied. But an examination of more recent utterances in Japan shows that this position has been abandoned by some Japanese apologists, and the plea of economic necessity substituted for it. The accuracy of the following statement by Yoshino can be readily confirmed from other sources:

Among the honest of the nation, at any rate, there is an increasing number of people who no longer think of pleading self-defense but approve of and support the military action in Manchuria on the ground of necessity for national existence; that is, on the plea that so unfavored is Japan by nature that she cannot exist without relying on the natural resources of Manchuria and Mongolia.¹

An official echo of the same plea was heard in Geneva, when the correspondent of the *New York Times* wrote in February 1932:

Japan's delegate at Geneva had to drop even any pretense of juridic argument yesterday in the defense of his case. He could say nothing else than that the action of his country was necessary for the expansion of Japan.²

In the course of a pronouncement so bellicose that the Japanese censor excised portions of it, the late Mr. Kaku

¹ *Japan Chronicle*, translation of Yoshino's article in *Chuo Koran* (Central Review), December 1931.

² Geneva correspondent, *Sew York Times*, February 21, 1932.

Mori, secretary to the cabinet of the late Seiyukai government and generally supposed at that time to be slated for high office in the future, said:

Can ordinary means save Japan in the crisis of her history? I say positively, no. Japan's 70,000,000 people are penned in a group of narrow islands, not blessed with natural resources. The vital factor in the existence of a civilised nation is that its people should be able to turn their energies to the increase of national wealth and strength. The Japanese people individually are endowed with energy and administrative ability comparable to that of any other civilised people. Our future prosperity depends on whether we expand the sphere of our activities beyond our own narrow territory.¹

Illustrations of the attitudes typified in the foregoing quotations could easily be multiplied.² It is clear that to many and probably to most contemporary thinkers Japanese aggression on the Asiatic mainland is the outcome of economic factors arising from overpopulation within Japan proper.

THE GROWTH OF POPULATION IN JAPAN

With few exceptions, recent writers have asserted that the rate of increase of the Japanese population has been and is exceptionally high. A writer who speaks of Japan as *'la terre prolifique et pullulante par excellence'* is expressing a view which is widely held in Western countries. None the less, it is an illusion, and there is nothing in vital statistics to support it. Space will not be taken up here with a detailed statistical analysis of the figures for

¹ In an interview with the Japanese press described by Hugh Byas in the *New York Times*, August 27, 1932, p. 2. The rest of the interview shows clearly that Mr. Mori had in mind territorial expansion, and not merely trade expansion. He defends repudiation by Japan of all international obligations and advocates defiance to the rest of the world. His views represent the position of a group of extreme nationalist and imperialist politicians who favor collaboration of the political parties with the militarists to carry out the policies of the latter.

² I could easily fill a fair-sized book with similar quotations which I have collected.

Japan and those for Western countries, but anyone who will compare the recorded increases in the population of England in the nineteenth century with the recorded increases in the Japanese population since the opening up of the country will see that the rate of increase in Japan has been less rapid than that in England in the earlier stages of industrialization. For example, from 1801 to 1851, the population of England and Wales appears to have increased just 100 per cent. From 1851 to 1901, it increased 82 per cent. The population of Japan from 1872 to 1922, according to available statistics, increased by 78 per cent. Since no proper census was taken in the nineteenth century, it is unsafe to place much reliance on the earlier vital statistics for Japan. But the available estimates are very probably under rather than over the mark, and, therefore, when used in comparison with recent data tend to exaggerate the increase. This strengthens the conclusion that there is nothing whatever that is surprising or exceptional about the rate of increase of the Japanese population as compared with increases in Western populations.

An examination of birth-rate statistics gives no support to the view, widely expressed by Western writers, that the Japanese are an extraordinarily fecund people. The highest birth-rate shown for Japan is under 35 per 1,000. The English birth-rate was about 34 per 1,000 in 1880 and the German birth-rate showed this same figure as late as 1904. In 1931, the Japanese birth-rate was 32.16 per 1,000.

Crude birth-rates are not reliable measures of comparative fertility, of course, but if Japanese fertility were exceptional it may be supposed that crude birth-rates for Japan would be higher at some time than crude birth-rates of other countries have been in the past. There is no reason to suppose that the age distribution of the Jap-

anese population is such that the crude birth-rate underestimates fertility, or that the age distribution is one which has never been experienced in Western countries in the past. On the whole, it seems safe to conclude that there is no basis whatever for the view that the Japanese people are or ever have been abnormally fertile or fecund as compared with Western peoples.

Some writers have maintained in recent years that in Japan the increase of population has come about through a great increase in the birth-rate, the death-rate having risen at the same time, but less rapidly than the birth-rate. If these statements are accurate, Japanese vital statistics have displayed unique movements altogether different from those of other modern countries, in which increases in population have been effected primarily by substantial decreases in death-rates, birth-rates having risen relatively little, if at all.

"The introduction of Western hygiene and medical science has brought no decline in the death rate. It is higher now than it was in 1870," says one writer, and others share this view. This conclusion is drawn as a result of the acceptance of statistics of death-rates at their face value. To take one of the most extreme cases, the death-rate for 1872 is given as 12.2 and the birth-rate as 17.1. These are similar to the English rates at the present day. Yet in 1872, Japan was just beginning to emerge from feudalism and medievalism. By far the greater part of the population was illiterate. Except over a tiny area, railroads were nonexistent, and most roads were in wretched condition. Medical science and sanitation had hardly begun to be introduced. Ignorance of proper methods of rearing and feeding children prevailed among all classes. The country was torn with political dissension. The standard of living was extraordinarily low. Modern administrative machinery was in its infancy. It

is hardly reasonable to suppose that a country in this condition could have cut its death-rate to a point as low as that reached in the countries best organized, in 1930, for the control of disease and death. It would be no more reasonable to suppose that in the Japan of the 'seventies and 'eighties registration of births and deaths could have been efficient or anywhere near complete. The progressive improvement of registration, with the development of education, communication, and modern administrative machinery, naturally produced an apparent rise in the birth- and death-rates as recorded in official statistics. The same feature is to be seen in the vital statistics of British India.

It has been contended that cholera epidemics were promoted by the opening up of the country. But, in fact, they were by no means unknown in the Tokugawa era; for example, a terrible outbreak occurred in the eighteenth-century. From 1877, estimates of the number of deaths from cholera are available and show that, while large-scale epidemics occurred in the 'seventies and 'eighties, there has been an enormous reduction since 1895, and since 1920 the number of deaths from cholera has not reached five hundred in any year. Instead of supporting the view that the death-rate is higher today than it was in the early Meiji period, cholera statistics point in the opposite direction.¹

Nor is it possible to accept the recorded birth-rate statistics. Such a rate as 17.1 per 1,000 for 1872 would, when taken in conjunction with any reasonable estimate of the death-rate, imply that the population was rapidly declining. The sudden rise from 17.1 in 1872 to 24.1 in 1873 is obviously to be explained only by improved regis-

¹ See R. Takano, I. Ohtsubo, and Z. Inouye, *Studies of Cholera in Japan* (Geneva, League of Nations Health Organisation, 1926). Chapter x gives a history of cholera epidemics in Japan, and pp. 92-96 contain tables of the monthly distribution of cases and deaths from cholera in Japan, 1877-1925.

tration in 1873, but even 24.1 is unduly low when account is taken of conditions prevailing in 1873.

Crude death-rates for large urban areas, even for those associated most with overcrowding, are lower than those for many smaller towns and prefectures predominantly agricultural. A conclusive comparison would have to be based on death-rates computed with reference to age distribution, and this work has not yet been done. But those acquainted with large and with small towns and rural communities agree, so far as the present writer's experience goes, that, on the whole, the large cities have better sanitation, health regulations, and medical and hospital facilities than small cities and rural communities possess.¹ The less satisfactory showing of the west coast prefectures and the prefectures in the north of the main island are additional evidence in support of the view that the introduction of science and hygiene in the modern period has reduced the death-rate. On the whole, conditions in the areas where the health situation is unfavorable are less unlike the conditions which existed up to the 'sixties and 'seventies of the last century than are conditions in the areas which make a better showing. And all over the country, there has been a great advance in the modern period in the control of epidemics. It may safely be concluded that there are no sound reasons for believing that increases in Japan's population have been attained by different processes from those which have characterized increases in Western populations.

FALLING FERTILITY IN JAPAN

For more than a decade, probably for more than two decades, the fertility rate has been falling in Japan. This fact has been known for several years to a number of

¹ Respiratory diseases, however, are more serious in urban than in rural communities, though extensive in both.

Japanese students of population. Owing to the oral contribution of Dr. Shiroshi Nasu, it was, indeed, common knowledge to members of the round tables on food and population at the 1927 and 1929 conferences of the Institute of Pacific Relations; but outside of the proceedings of these conferences, it seems until very recently to have been neglected in discussions in the English language of the Japanese population problem. W. R. Crocker brought it out in a book published in 1931,^x and it has since been more thoroughly analyzed by Dr. Teijiyo Uyeda in an important study which will appear shortly in English.²

Former sensational estimates of the probable size of the Japanese population at the end of the present century, based on extrapolation of crude data, are without significance. As Dr. Uyeda shows, the total number of births was rising sharply between 1900 and 1910; hence between 1920 and 1930 the number of women in the child-bearing period was increasing sharply. If fertility had been maintained or increased, the total number of births would have increased rapidly between 1920 and 1930. Actually, however, they only rose very slightly. In other words, a large increase in the supply of mothers was accompanied by an extremely small increase in the supply of children. After a precautionary glance at the death-rate, we have to conclude that fertility was declining.

Dr. Uyeda uses the age composition of the censuses of 1925 and 1930 for calculating the number of persons born before 1930. He assumes the future death-rate to remain constant and the number of annual births to remain in the next twenty years at 2,100,000; it has approximated closely

¹ *The Japanese Population Problem* (London, Allen & Unwin, 1931).

² I am indebted to Dr. Uyeda for a copy of the manuscript of the chapter in which he deals with the subject.

Since the lines above were written, a portion of Uyeda's study has appeared as a data paper prepared for the Fifth Biennial Conference of the Institute of Pacific Relations, 1933, entitled *Future of the Japanese Population* (Japan Council, Institute of Pacific Relations, 1933).

to this figure in the last decade. The reproductive age group is likely to become stable by 1950: ". . . . annual births will decrease after 1955, and then the annual increase of the population will drop abruptly." In the next two decades there will be a considerable increase in the working population and employment will be required for an additional 200,000 to 250,000 persons every year. This will be an outcome of what Dublin and Lotka aptly describe as "the residual effects of past fertility."

Dr. Uyeda concludes: "The population of Japan can never reach 100,000,000, which is imagined as the possible future population, and it will stop probably at about 80,000,000." The Japanese population problem, considered as a problem arising out of a rapid annual increase in the population, will not always be with us.

To those who imagined that voluntary birth control was not practiced and was not likely to be practiced in Japan, owing to certain social and religious antipathies, the decline in fertility has come as a surprise, and has given rise to some far-fetched conjectures regarding its cause.

To the present writer the decline in fertility shown by statistics merely confirms the results of non-statistical observations and inquiries made between 1926 and 1929. These need not be repeated here in detail;¹ but I pointed out in July 1929 what I had known since 1926, that all the chief types of contraceptives, with one exception (which early in 1930 ceased to be an exception), were not only on sale but were also manufactured in Japan. That most of them were available much earlier than 1926 is clearly indicated by information given to the writer by Japanese and American friends long resident in Japan. Moreover, a number of the writer's Japanese friends had practiced

¹See Appendix B, "A Note on the Future of the Japanese Birth Rate," in Penrose, *Food Supply and Raw Materials in Japan*.

contraception for several years—some for more than a decade—with the same kinds of contraceptives as are commonly used in Western countries. Numerous conversations in the large cities convinced me that the problem of controlling the size of their families had been a major preoccupation for several years with a considerable number of Japanese, particularly those occupied in university work, teaching, and business positions. The extremely numerous and insistent inquiries received from all over the country by organizations and individuals in Tokyo known or thought to be in favor of the spread of information on birth control show that the subject has been of pressing concern also to many Japanese in other occupations.

Contrary to a widespread idea, there is no law in Japan concerning birth control and no restriction on the sale of contraceptives. It must not be inferred from these facts, however, that there has been no official interference with attempts to spread information on the subject. The Japanese police often act in a highly arbitrary manner, with little regard to legal processes. Even from a legal standpoint, the so-called Peace Preservation Act, though it nowhere mentions birth control, is open to such elastic interpretation that it can be utilized by a reactionary government to obstruct the spread of information on birth control. Similarly, the law might be invoked, and has occasionally been invoked, to suppress some forms of publicity regarding the details of contraceptive methods, on the pretext of obscenity. At least one book written in English describing a contraceptive method has been banned by the police.

Between 1925 and 1931, however, these restrictions, actual and potential, declined in importance. Dr. Majima published in the Japanese language a detailed description of an approved contraceptive method, and this publica-

tion was not interfered with by the authorities. He also instituted a birth-control clinic of his own which was not opposed by the Home Office. Discussion of birth control went on with intensified interest and with a visible decline in opposition. The Jinkō Shokuryō Mondai Chōsa Kai (Commission on the Food and Population Problem), which had been appointed by the Tanaka Ministry,¹ held a number of meetings, and divided itself into two sections, one to consider possibilities of augmenting the food supply and the other to consider the population side of the problem. The work of the latter committee only is relevant to the discussion in this section. Under the chairmanship of the late Dr. Tokuzo Fukuda,² one of Japan's leading economists, this committee issued a report in 1930 which contained a constructive program covering a large part of those aspects of population problems which are amenable to social policy. It was especially concerned with the means of reducing the wastage of human and particularly of infant life, under existing conditions in Japan, and advocated the establishment of centers of instruction and information, preferably under official auspices, in matters relating to pregnancy and child welfare. An incidental function of these centers would be to instruct married women in methods of contraception.

Early in 1931, Mr. Kenzo Adachi, then Home Minister in a Minseito cabinet, declared that birth control was a personal affair and that the government would neither encourage nor discourage it. This attitude fell short of what the Population Committee desired, but it was nevertheless

¹ This commission was appointed in spite of the fact that Baron Tanaka himself declared that there was no population problem in Japan and that the rapid increase in population was a healthy sign of national virility.

² Personal acquaintance with Dr. Fukuda gave me opportunities for discussions with him on the population questions of Japan. Dr. Fukuda was always insistent that the size and quality of the population should not be left to take care of themselves, and that there was no "automatic self-regulating factor" that would insure that existing numbers were the most desirable numbers.

significant as a virtual declaration of noninterference with private enterprise in birth-control instruction. Moreover, public support for birth control is not confined to the political left wing—always a negligible force in Japanese politics—but cuts across political lines. Mr. Ichiro Hatoyama, prominent Seiyukai politician, has, along with some other members of his party, spoken vigorously in support of birth control. The most widely circulated newspapers in the country, the Tokyo and Osaka issues of the *Asahi* and the *Mainichi*—in Tokyo, called the *Nichi Nichi*—each with over two million readers, conservative in domestic and at present reactionary in foreign affairs, have supported birth control in leading articles. Whether they be regarded as creators or as reflectors of public opinion, their attitude is significant.

Crocker was therefore mistaken when he wrote in 1931 :

As will be seen later there is no unmistakeable (*sic*) shrinking—and a shrinking that has been taking place for the last two decades—in the size of families in a certain Oriental country which we can be certain was not due to contraception.¹

The context shows that by "a certain Oriental country" he meant Japan, and that "no unmistakeable shrinking" was a slip for "an unmistakeable shrinking."

The evidence, on the contrary, shows that the decline in fertility could easily have been produced by contraception; the means were at hand for the practice. But even if this evidence were not available, it would have been unsafe to assume that the fall in fertility was not due to birth control; there is always the possibility of the practice of *congressiis interruptus* no matter what community is under consideration.³

¹ Crocker, *op. cit.*, pp. 77-78.

² Mrs. Florence, in her *Birth Control on Trial* (London, Allen & Unwin, 1927), p. 100, remarks that "it is so simple that it might well occur even to primitive minds."

³ The possibilities of increased abortion in large cities should be taken into consideration. This, of course, cannot be classified as contraception, but there

Consequently, it is fallacious to cite the experience of Japan in support of the doctrines advanced by Gini, Brownlee, and Yule to the effect that decline in fertility is an outcome of decline in fecundity;¹ that it is not due to conscious individual control, but to a decrease in the power to reproduce; that, in short, people do not have more children because they cannot have more children. There is no evidence of a decline in Japanese fecundity. On the other hand, there is evidence that the marriage age has advanced a little, and, what is more important, that the means have been available for voluntary limitation of births, while the emotional opposition to such limitation has greatly declined. There is nothing in the known facts inconsistent with the theory that what fall has already taken place in the fertility rate has been largely due to consciously practiced birth control. There is no ground for claiming that changes in fertility in Japan support any of the theories which endeavor to explain the fall of fertility in terms of factors outside human control.

IS ORIENTAL FERTILITY ABNORMAL?

The conclusions reached in the preceding section appear to be in conflict with widely accepted views. It is generally maintained, through almost the whole range of literature with any bearing on Oriental population problems, that both in Japan and China psychological influences connected with ancestor worship, the family system, and Confucianism are partly responsible for the

is considerable medical evidence for believing that the use of this method of voluntary restriction of births has increased in large cities of Europe and America in recent decades.

¹ By "decline in fertility," I mean decline in the actual number of births per woman of reproductive age. By "decline in fecundity," I mean decline in the capacity to reproduce. These seem the most rational definitions in the circumstances, since the term "fertility rate" is now well established in statistics. Confusion is likely to arise through loose usage of the terms* such as is to be found in Crocker's book.

rapid increase and present size of the population, and are likely to present insurmountable obstacles to the introduction of birth control.

It can hardly be said that the present study reveals any disposition to underestimate the importance in the study of population problems of taking into account factors of social heritage and social attitudes. Nor can it be doubted that social institutions affect the number of children who are born and the number who survive. All that I am questioning here are the contentions that fertility in the Orient is extraordinarily high and is primarily influenced by the religion of ancestor worship.

An impression of Japan as "*la terre prolifique et pullulante par excellence*" has already been referred to. Similar statements have been made in reference to China. W. H. Mallory, an exceptionally able investigator and writer, states: "Personal observation shows that the fecundity of the Chinese is without parallel."¹ Again, he says: "The Chinese birth rate is abnormally high."²

Enough evidence has already been adduced to show that the Japanese are not an extraordinarily fertile people. Data on China are more limited, but certain quantitative investigations based on samples do not indicate that there is anything exceptional in Chinese fertility. Professor Lossing Buck discovered, after investigating 2,640 farm families in sixteen localities in seven provinces in China, that

The farm family consists of 5.65, 5.67, or 5.46 persons, depending upon whether one uses the average expressed by the mean, the median, or the modal size They may be compared with 4.4 persons per farm family for 2886 farm families in the United States ³

¹ *China: Land of Famine* (New York, American Geographical Society, 1926), p. 87.

² *Ibid.*, p. 7.

³ J. Lossing Buck, *Chinese Farm Economy* (Chicago, University of Chicago Press, 1930). See especially chapter iv.

It would probably be unnecessary to go back very far in the history of the United States to find a farm family of about the same size as the present Chinese family. In an important study of the village of Ching Ho, made by members of Yenching University, it was discovered after a thorough check-up that the "biological" family in that community was only 4.8, and the "economic" family, 4.9.¹ This may be compared with an average family of 4.3 in the United States in 1920.

These carefully conducted quantitative studies, then, do not support the personal impressions which many travelers have carried away from China, as from Japan. No doubt, visual impressions suggest a larger proportion of children to adults in the Orient than in northwestern Europe, North America, and Australasia; but the Western traveler is apt to overlook the fact that birth-rates in the latter areas are low, not only in comparison with those in the Orient, but also in comparison with those of a very few decades previously in the same Western areas. An American or Englishman of 1932 would probably be greatly surprised at the number of children he would see relatively to the number of adults if he were suddenly dropped back into the America or England of the late nineteenth century.²

If we ask why and in what way does ancestor worship influence fertility in Japan and China, we find a number of statements by writers on both countries. Two writers on China will be selected for quotation here, because their statements are more definite than are those of writers on

¹ *Ching Ho: A Sociological Analysis* (Department of Sociology and Social Work, Yenching University, Peiping, 1930), pp. 38-52. The whole book is extremely valuable.

² Too much is sometimes made of individual instances of high fertility in the Orient. Such instances are found in all countries--see, for example, Adam Smith's references to startling fertility among women in the Highlands of Scotland in the eighteenth century. Mere anecdote gives no reliable indication of fertility conditions as a whole and on the average in an area.

Japan, and the principles involved are the same for both countries. Mallory says: ". . . it is very evident that there is some compelling force making for reproduction—a force superior to the dire effects of overpopulation and the pitiful economic poverty of the great masses."¹ In a fresh section, headed "Effect of Ancestor Worship on the Birth Rate," he goes on:

This force is the necessity of providing sufficient male children so that, in spite of the ravages of disease, accident, war, pestilence, or famine, at least one will survive to carry on the family name and perform the necessary duties required by ancestor worship—the universal religion of the country.²

Roxby, of Liverpool University, England, says:

The ultimate cause of overpopulation lies undoubtedly in the social philosophy of the Chinese people, which makes begetting of posterity, irrespective of economic conditions, the fundamental obligation.³

Unfortunately, it does not appear that any writer has indicated exactly by what means psychological influences arising from ancestor worship could affect the birth-rate. The conclusion seems to be reached as follows: (a) it is observed that ancestor worship prevails and (b) it is believed, apparently on the basis of visual impressions, that fertility is extraordinarily high. The inference is then made that high fertility is an outcome of ancestor worship. I have given reasons for doubting whether extraordinarily high fertility exists, but the validity or invalidity of the inference in question does not depend on whether or not fertility really is extraordinarily high. Quite apart from that, it should be clear that the inference is no more than a speculative hypothesis if the means by which ancestor worship causes extraordinarily high fertility cannot be

¹ Mallory, *op. cit.*, p. 88.

² *Ibid.*

³ P. M. Roxby, "The Distribution of Population in China: Economic and Political Significance," *Geographical Review*, January 1925, XV, 20.

shown, or, in other words, if a series of related events cannot be shown to exist between the social custom of ancestor worship, on the one hand, and extraordinarily high fertility, on the other. It is therefore necessary to consider through what *modus operandi* psychological influences, such as those arising from ancestor worship, could operate to produce a larger population than would exist in their absence.

Systematic analysis of the possibilities may conveniently start with the conception rate. Clearly, in a community in which methods of contraception are unknown and in which abstention is not practiced, the conception rate among married women is at a maximum, and psychological influences are powerless to increase it. Unless, therefore, knowledge of contraceptive methods, or the practice of abstention, in China are presupposed, it cannot be legitimately inferred that the conception rate is higher than it would have been in the absence of ancestor worship. But the writers who contend that ancestor worship stimulates the birth-rate are certainly not prepared to admit that any general knowledge of contraceptive methods prevails in China.

Not all conceptions result in live births. Involuntary abortion is hardly subject to any psychological influences. The contrary, of course, is true of induced abortion, which, however, is practiced to some degree in all countries. Precise data on the matter cannot be obtained in the nature of the case. But there is plenty of evidence that abortion is practiced in countries in which ancestor worship is strongly rooted. Professor Honjo cites indications of its existence in Japan in the Tokugawa era.¹ The present writer has heard evidence from individuals in Japan clearly pointing to its existence on a considerable scale;

¹ E. Honjo, *Tokugawa Hakufu no Reika Chosetsu* [Regulation of Rice Prices in the Tokugawa Era] (Kyoto, 1924), pp. 38-40.

in addition, instances of penal action against professional abortionists can be specified. It seems that the situation in Japan as regards abortion is much the same as the situation in Western countries where ancestor worship is not practiced.

We have next to consider infanticide. It has been practiced in some degree in most, if not all, parts of the world in historic times. The extent to which it prevails, and has prevailed, in China is a subject of dispute; but the very fact that there is a dispute indicates that it can hardly be nonexistent.¹ Honjo cites evidence showing that it prevailed in Japan in certain districts at least in the Tokugawa era, and the numerous laws against infanticide and abortion would obviously not have been enacted without some evidence of the widespread existence of these practices.

It does not appear, therefore, that ancestor worship is a safeguard against the practices of infanticide and abortion.

Next, sex discrimination in the upbringing of children has to be considered. It is held that more care is shown in the upbringing of male than of female children, and that this discrimination arises out of the desire for male successors to carry on the family line. But such discrimination in favor of males tends to cause an excess of males over females and to render the proportion of fertile women of child-bearing age to the total population less than it would otherwise have been, thus carrying us farther away than ever from the view that ancestor worship stimulates the growth of population.

Finally, the age of marriage has to be considered. Though, as Raymond Pearl puts it, "spermatozoa and ova

¹ Discussion of the matter with residents of long experience in China leaves no doubt in the mind of the present writer that infanticide is practiced in China to some extent.

will unite successfully without benefit of clergy/¹ early marriage tends to make on the whole for a larger population than late marriage for two reasons: first, because even in a community in which the taboo on premarital intercourse is weak the irregularity of such relations is unfavorable to the attainment of so high a conception rate as results in wedlock, and, secondly, because data available for various countries show that the survival rate of children born out of wedlock is substantially lower than that of children born in wedlock.

The widely accepted popular impression, supported even by some experienced travelers, that the marriage age in China is extremely low is not confirmed by quantitative investigations of limited groups or areas. The Yenching University investigators of Ching Ho state:

In the minds of both Chinese and foreigners the system of early marriages has long been considered as a great curse to China, and the general impression has been that most Chinese people are married at about the age of 16 years. A glance at the following table shows the fallacy of such generalizations. Although a number of persons have been married at 16 years, it will be seen that it is neither the usual nor the average age. As we can see from the table, ... the average for all persons studied was 20 years.²

Buck and his group of investigators found that

The actual average age of marriage of 2330 family heads is 19.7 years, while that of their living wives is 17.9 years. Averages for North and East Central China are nearly the same; the highest average age at marriage for the male family heads of any one locality is 21.7 years in Chinhai Hsien, Chekiang, and the average age of their wives is 20 years . . . The youngest ages of marriage for both husbands and wives occurred at Laian Hsien (1921), Anhwei, and are 18.1 and 16.1 years respectively.³

These results, while they indicate ages lower than the present averages for Western industrialized countries,

¹ *Studies in Human Biology* (Baltimore, Williams & Wilkins, 1924), p. 182.

² *Ching Ho: A Sociological Analysis*, p. 49. ³ Buck, *op. cit.*, pp. 323, 326.

dispose of the view that there is anything extraordinary about the marriage age in China.¹ Viewed historically or geographically, it is not necessary to look for a community given to ancestor worship in order to find average ages of marriage similar to those which sample investigations indicate for China.

Our inquiry fails, therefore, to reveal a *modus operandi* through which psychic factors arising out of ancestor worship operate to produce a larger population than would exist in their absence. "The begetting of posterity irrespective of economic conditions" is not peculiar to the Orient nor to communities professing any one religion or holding any one type of culture. It is probably in most cases not a direct product of a sense of "fundamental obligation," but rather a by-product of marital relations among those who lack knowledge of birth-control methods. Once this knowledge is obtained, the situation is apt to be reversed, as it has been in many countries, especially in northwestern Europe, where, just as formerly poverty could not restrain fertility, so in the last few decades relatively more favorable economic conditions cannot stimulate the begetting of a posterity sufficient to insure that a rapid decline will not take place in the population in the near future.

MODERN CHANGES IN FERTILITY AND MORTALITY

In concluding this chapter, an attempt will be made to sketch the broad outlines of a rational interpretation in purely social terms of modern movements in vital statistics. If this interpretation is valid and the position taken

¹ A. W. Gomme, in *The Population of Athens in the Fifth and Fourth Centuries B.C.* (Oxford, Basil Blackett, 1933), says (pp. 33-34): "On the strength of Xenophon's *Oeconomicus* it is commonly said that the usual age of marriage for girls was 15. The same, or something similar, is asserted of modern Greece, but in the latter case we have statistics, which tell us that the proportion of girls under 20 who are married is from 1.5 to 2.7% (varying in different districts), rather lower than in this country."

up in the foregoing discussion is accepted, then it can be anticipated that population movements in the Orient will probably follow the same sequence as has been followed by population movements in the rest of the world.

The imaginative background in which thinkers of the nineteenth and early years of the twentieth centuries were brought up was based on special population conditions. Large families seemed part of the natural order of things. When the idea and practice of family limitation first began to appear, it seemed to many that large families were being checked for the first time in human history, that the large family had always been normal up to then, and that the coming of the small family was unique in human history. We all know the sizes of our parents' families, and most of us have some idea of the sizes of our grandparents' families. Up to the last few decades, this knowledge has conveyed the idea to many that large families are normal. Few of us know anything of our great-grandparents and their families and of our still more distant ancestors.

This idea of the normalcy of large families has an element of truth in it. In all probability, a high birth-rate has fairly generally prevailed throughout human history. But a high birth-rate does not necessarily involve large families in the most significant sense of the term. Carr-Saunders wrote in 1925:

It has been calculated that the descendants of a single pair of human beings increasing at the rate of one per cent per annum would amount in a little more than 2000 years to 1700 millions, that is to say, to a total equal to that of the present population of the world.¹

The human race appeared on the earth at least one million and probably several million years ago. It follows, there-

¹ A. M. Carr-Saunders, *Population* (Oxford, Oxford University Press, 1925), p. 3.

fore, that rapid and long-continued increases in population have been abnormal in human history. This involves the corollary that the large family has also been abnormal. There have been very large numbers of conceptions and large numbers of births, but not all those conceived have been born, and a large proportion of those born have failed to survive to maturity to become parents of another generation. And by far the greater proportion of those who did not survive to maturity perished in infancy.

The large family in the sense of a large number of children surviving to maturity seems in the main to be a product of the modern age. It has been created chiefly, perhaps almost entirely, by the fall in the death-rate, due to extraordinary advances in general education, in hygiene, and in medical science, and perhaps to a lesser extent and more indirectly by the increased income resulting from greater productivity in agriculture and industry. There is evidence of a considerable fall in the English death-rate in the late eighteenth and early nineteenth centuries.¹ Similar improvements took place in other parts of the Western world during the nineteenth century, and in Japan in the late nineteenth and early twentieth centuries. If we designate as large families only those in which a large number of children survive to maturity, it may be said that in the leading countries of the Western world the nineteenth century was, and seems likely to remain, pre-eminently in the world's history the period of the large family. The same may be said of Japan, if, for the nineteenth century, we substitute the late nineteenth and early twentieth centuries.

Death control produced the large family as above de-

¹ See C. Talbot Griffiths, *Population Problems of the Age of Afalthus* (Cambridge, The University Press, 1926), pp. 35-44; Clapham, *An Economic History of Modern Britain*, I, 55; T. H. Marshall, "The Population Problem during the Industrial Revolution," *Economic Journal* (supplement), January 1929, *Economic History Series No. h*, pp. 429-30.

financed, and the result was to subject parents to greatly increased demands on their financial¹ and physical resources. Not only had they more surviving children to provide for, but in the home the amount of domestic labor was greatly increased, and the financial and physical pressure of large families was felt as never before. It was natural, therefore, that the possibilities of family limitation should become a subject of engrossing interest, as it was in England from the 'eighties of the last century, as it has been in the last decade and is today in Japan. In a sense, the rise of birth control is to be regarded as an inevitable consequence of the establishment of death control. Then, in its turn, birth control leads to further reductions in infant mortality, because it increases the proportion of adults to children, enabling more resources and care to be given on an average to each child, and tends to reduce chances of infections, since housing accommodation is not contracted proportionately to the contraction in the size of families.

The fall in the death-rate having occurred largely among infants and young people, there is in the earlier stages of the processes, before the birth-rate has been reduced materially, a change in the age distribution of the population which raises the proportion of women² in the child-bearing ages to the total population. When the fall in the birth-rate is accelerated, a reverse movement in the age distribution comes into play. But the crude birth- and death-rates are misleading criteria of future movements of population, and for a time what Dublin and Lotka call

¹ Some exceptions occurred in the case of those families which stood to gain by exploiting child labor.

² Male fecundity does not appear to vary significantly with age, at least until a fairly advanced age is reached. Contrary to widely accepted ideas, it does not appear that diminishing, female fertility in the second half of the child-bearing period can yet be safely regarded as a reflection of diminishing fecundity. See Lancelot Hogben, "Biological Aspects of Population Problems," *Biological Reviews and Biological Proceedings of the Cambridge Philosophical Society*, April 1931, VI, 163.

"the residual effects of past fertility" conceal the position from the modes of investigation customary before 1924.¹ Under such circumstances apprehension of overpopulation is felt on all hands.

Then the crude birth-rate continues for some time to fall after the death-rate has become nearly stationary, or it falls more rapidly than the death-rate. The changes in age distribution begin to make themselves obvious even to the general public. Fertility rates are found to be either inadequate to replace existing numbers or adequate only to maintain a stationary or very slightly increasing population. Apprehension of overpopulation subsides. Alarmists arise in the opposite camp² and offer lurid forecasts of a depopulated country falling an easy prey to another race or nation of an allegedly inferior type, or a depopulated world inhabited only by bacteria. The alarmist is always with us; the field of population is one of his favorite hunting grounds.

To sum up: In a general way, it would seem that when a community has gained the knowledge and acquired the habits necessary to reduce the death-rate it will sooner or later gain the knowledge and acquire the habits necessary

³ In this year was published A. L. Bowley's article, "Births and Population in Great Britain," in the *Economic Journal*, June 1924, XXXIV, 189. In 1925, L. I. Dublin and A. J. Lotka's article, "On the True Rate of Natural Increase," appeared in the *Journal of the American Statistical Association*, September 1925, XX, 306. Dublin expounded the significance of this mode of investigation for contemporary conditions in his presidential address to the American Statistical Association, "The Statistician and the Population Problem," *Journal of the American Statistical Association*, March 1925, XX, 1, and in *Population Problems in the United States and Canada* (Boston, Houghton Mifflin, 1926), p. 1. In 1928 and 1931 R. R. Kuczynski, in *The Balance of Births and Deaths* (Vol. I, New York, Macmillan, 1928; Vol. II, Washington, The Brookings Institution, 1931), analyzed on an extensive scale fertility conditions in Europe.

This approach was largely anticipated, though in cruder form, by Edwin Cannan, in his remarkable article, "The Probability of a Cessation of the Growth of Population in England and Wales in the Next Century," *Economic Journal*, December 1895, V, 505.

³ There are cases in which the same individuals have been alarmists in one camp at one time and in the opposite camp in a later period.

to reduce the birth-rate. There may be a time lag between the two processes, but both of them in a large sense are the outcome of education. The two interact. The fall of the death-rate alone creates larger families by allowing more children to survive, and this turns the minds of actual and potential parents to the possibilities of limiting births. The reduction of the birth-rate relieves overcrowding and enables parents in the community to devote more care and resources to the rearing of each child, the total number of children now forming a smaller proportion of the total population than formerly.

The indications are that these processes will probably work out in Japan in approximately the same way as they have worked out or are working out in Western countries.

In the next chapter it will become evident that considerable occupational overpopulation exists in Japanese agriculture. It is therefore desirable, in view of the difficulties of occupational transference, that the government should take measures to make information on birth-control methods more widely available in all agricultural areas, instead of waiting for such information to percolate through very gradually from urban areas.

CHAPTER V

POPULATION, FOOD, AND AGRICULTURE

INCREASING POPULATION AND PER CAPITA INCOME

The data on national income in Japan are meager and unsatisfactory. An estimate was made by the Cabinet Bureau of Statistics for 1925, but it is far from reliable. Much better, but at the same time much more limited, are the calculations made by Dr. Shiomi, of Kyoto Imperial University, covering income-tax-paying classes only for a number of years.¹ Statistics of national wealth have been compiled by the Bank of Japan and by the Bureau of Statistics, for certain years between 1905 and 1924. All these data on income and wealth show rising per capita income and wealth over the periods covered.²

Better data exist on production, and indexes are available of the physical volume of production of foodstuffs, agricultural crops, minerals, and fishing yields.³ These reveal several broad tendencies. From the later years of the nineteenth century up to about 1920, food, agricultural, fishery, and mineral production on the whole more than kept pace with population. Since about 1920, however, the rate of increase of domestic production of some kinds of foodstuffs has declined.⁴ The rate of increase in the pro-

¹ K. Shiomi, *Shogyo Keizai Kenkyu* [Economic and Commercial Studies] (Kyoto, 1924).

² For a summary in English, see H. G. Moulton and J. Ko, *Japan: An Economic and Financial Appraisal* (Washington, D.C., The Brookings Institution, 1931), chapter xv. See also K. Mori, "The Estimate of the National Wealth and Income of Japan Proper," *Bulletin de l'Institut International de Statistique* (Tokyo, 1931), XXV, 179-210; K. Shiomi, *op. cit.*, and especially "On Japan's National Wealth and Income," *Kyoto Imperial University Review*, July 1929, IV, 28-46. The last is notable for its justly critical attitude toward the estimates of the Cabinet Bureau of Statistics; great caution, is needed in dealing with any of these estimates.

³ See Penrose, *Food Supply and Raw Materials in Japan*.

⁴ For details, see *ibid.*, pp. 61-62, and tables and charts cited therein.

duction of certain minerals has been prevented from declining only by increases in tariffs. On the other hand, coal production has been kept down by artificial restrictive measures. Imports of food show a substantial increase on the whole in post-war years, coinciding in a general way up to 1927 with the slackening in the production of cereals, potatoes, and beans.

Unfortunately, it has not yet been possible to construct consumption indexes; difficulties arise in regard to the tracing of re-exports, carryovers, and, in the case of food-stuffs, the separation of that portion of food production and of retained food imports which are consumed in non-food uses. However, I feel confident that those who examine the available data, limited though they are, will be obliged to conclude that, on balance, the evidence points to increased per capita consumption of food, agricultural, fishery, and mineral products.

When we turn to manufacturing production, the evidence, though resting on less complete data, is still more decisive. A statistical study commenced by Mr. Y. Yamada, of Nagoya Commercial College, in conjunction with the present writer, and carried to completion by Mr. Yamada, has brought together all the available data for the production of leading groups of manufactures. Unfortunately, no census of manufacturing production had been carried out in Japan, and in the absence of a satisfactory basis for weighting, no combined index of manufacturing production as a whole could be constructed. But mere inspection of the separate series for the different industries leaves no room for doubt that the production of manufactures has on the whole increased much more rapidly than population.

Taking this conclusion in conjunction with the tentative conclusions reached above in respect of food, agricultural, fishery, and mineral production, it can hardly be

doubted that, if we could construct an index of production for agriculture, fishing, mining, and manufacture combined, the results would show that production has increased considerably faster than population. The same is probably true of consumption, and of national income. Making allowance for the fluctuations of the trade cycle, unconnected with population problems, there is little doubt that the Japanese people on the whole have become increasingly better off during the period in which population has rapidly increased, and that today they are immensely better off than they were when the population was only half its present size. With the population at 65 millions, there seems little doubt that there is more and better food for each person in the country than there was when the population was only 30 millions.¹

If, therefore, the criterion recommended by Beveridge, Carr-Saunders, the late Allyn Young (more cautiously), and others is accepted as valid, and rising per capita income is taken as evidence that overpopulation does not exist, then it may be said that as far as available information goes Japan is not overpopulated. Reasons have already been given, however, for rejecting this criterion.

FOOD AND WELFARE

Malthus wrote:

In an endeavor to raise the proportion of quantity of provisions to the number of consumers in any country our attention would naturally be first directed to the increasing of the absolute quantity of provisions; but finding that, as fast as we did this, the number of consumers more than kept pace with it, and that with all our exertions we were still as far as ever behind, we should be convinced that our efforts directed only in this way would never succeed Finding, therefore, that from the laws of nature, we could not proportion the food to the population, our

¹ Y. Yamada, *Hompo Seizogyō no Seisan Sudyo Shisu* [Amount of Production of Manufactures in Japan Proper] (Nagoya Commercial College, 1931).

next attempt would naturally be to proportion the population to the food.¹

Malthus did not suggest what exact quantitative tests could be used to determine how far the principles which he enunciated were working out in any particular area, but it seems inescapable that, if "the number of consumers more than kept pace" with "the absolute quantity of provisions," decline in per capita consumption of foodstuffs must follow. As we have seen, however, it does not appear that in Japan per capita consumption of foodstuffs has declined, either quantitatively or qualitatively; rather the reverse. The evidence already outlined indicates that the population has not kept pace with and certainly has not overtaken the food supply. Thus, contrary to popular ideas, there is no sign that this doctrine of Malthus has been confirmed in the experience of modern Japan.

It might be argued that the recent fall in fertility² shows that there has been an attempt "to proportion the population to the food." So far as can be ascertained, however, this fall in fertility has been most marked among the classes least faced with difficulties in maintaining their per capita consumption; sociological factors would have to be invoked in order to explain it, and any theory that it was merely a response to shortage of food or of the means of subsistence fails to square with the facts.

Too often the food problem of Japan is conceived of as a problem of how to increase the supply of rice, without increasing the per unit costs of production, to keep pace with an increasing population. Pessimistic views regarding the future are commonly based on the anticipated difficulties in the way of effecting any such increase. Such views are widely held among Japanese as well as foreign

¹ Malthus, *An Essay on the principle of Population* (reprint of 1890), p. 460.

² Discussed in chapter iv.

students of the problem. Government policies regarding the food problem have been concentrated almost entirely on regulating the quantity and price of rice. An extensive campaign was undertaken with success to increase the production in Korea and Formosa of rice acceptable to the tastes of the Japanese people. Government measures aimed at regulating rice prices in Japan proper have been in practice directed more often to maintaining than to reducing prices, and in so far as they have met with any success¹ have, it may be supposed, contributed toward maintaining a larger area under rice cultivation than would otherwise have been maintained.

Here it should be noted that, so far as Japanese consumers are concerned, Japanese varieties of rice for economic purposes virtually form a different commodity from other kinds of rice. This arises from the extraordinarily high esteem value placed on them by Japanese people. Foreign types of rice, except California rice, do not appear in any real sense to be competitive with Japanese varieties of rice. Nishizawa has shown that there is scarcely any evidence that changes in customs duties, and the imposition or removal of embargoes, on foreign rice affect the prices of Japanese rice.²

The food problem, then, is most commonly envisaged as a problem of maintaining present per capita consumption of particular varieties of rice at present produced in Japan proper, Korea, and to some extent in Formosa and California." It is sometimes supposed that if per capita consumption of this type of rice falls the "standard of living" falls, and overpopulation is evident.

¹ The effectiveness of the operations under the Rice Act of 1921, subsequently amended several times, especially in 1925, is doubtful. The effect of the success in stimulating the production in Korea and Formosa of Japanese rices on the present situation in Japan proper is touched on below.

² K. Nishizawa, *ieiikoku Ho Jisseki Chosa* [An Investigation into the Working of the Rice Law] (Osaka University of Commerce, 1931), pp. 191-206.

³ The larger part of Korean rice and the *Horai mai* rice of Formosa come within this category, but not all the varieties of rice produced in the colonies.

This I believe to be an erroneous view, though it may be admitted that it is consistent with much current economic thought which has not yet emancipated itself from older philosophical concepts. There is no doubt that the diet of the Japanese people contains an excess of carbohydrates and is deficient in proteins of the most desirable amino-acid make-up, in some of the vitamins, particularly in vitamin B₁ and vitamin A, and probably in some of the mineral salts. These dietetic deficiencies contribute largely toward raising the sickness- and death-rates. In its most direct form, this may be seen in the figures of deaths from beriberi.¹ Even as regards deficiency in vitamin B₁₉ however, these figures tell only part of the story. The number of cases of beriberi, especially in youths and adults, is enormously in excess of the number of deaths directly due to it, and it leads to widespread sickness and incapacitation. At times, it is undoubtedly a factor in the causation of heart disease.

Even if sickness-rates as well as death-rates from beriberi were available, the ravages of avitaminosis in Japan would still be underestimated. For every definite case of deficiency disease, it may be confidently assumed that there are a substantial number of border-line cases in which avitaminosis, while not producing clinically recognizable symptoms of deficiency disease, contributes to poor physique, impaired vigor, and low resistance to bacterial infections.² In view of the comparatively small supply of

¹ The most detailed source of information on the causes of death in Japan is the official Japanese annual publication, *Nihon Teikoku Shiin Tokei* [*The Causes of Death in Japan*]. All my references to causes of death are based on study of this source.

² There is an extensive literature dealing with experimental work on this subject. To economize space, the following citations will suffice here: E. V. McCallum and N. Simmonds, *The Newer Knowledge of Nutrition* (New York, Macmillan, 3d edition, 1925, especially pp. 529-39; *Vitamins, A Survey of Present Knowledge*, Special Report Series No. 167 of the British Medical Research Council (London, H.M. Stationery Office, 1932), especially pp. 226-68; the series of articles on vitamins in the *Journal of the American Medical Association*, from June 4 to August 6, 1932; H. C. Sherman, *Chemistry of Food and Nutrition* (New York, Macmillan, 1932), pp. 354-55, 532-35.

vitamin A in the Japanese diet, and of the part which recent investigations appear to indicate that the vitamins play in building up general resistance to bacterial infections, it is probable that there is some connection between avitaminosis and the extremely high incidence of many diseases in Japan, as well as the low resistance commonly shown after infection has been acquired.

These shortcomings of the Japanese diet are the outcome, roughly speaking, of an excess of cereal foodstuffs and a deficiency of animal and green-leaf foodstuffs. It is true that the deficiency of vegetables is less serious than that of animal foodstuffs, but the amount of green-leaf foodstuffs taken is entirely inadequate, on an average, to compensate for the deficiency of animal foodstuffs. In fact, my own observations do not bear out the more favorable estimates of some observers regarding the extent to which the diets of Asiatic people are safeguarded by green-leaf foodstuffs.

The view that diets in Japan and India are generally deficient in the quantity of protein has long been held. It is doubtful, however, whether the effects of protein deficiency and the effects of vitamin deficiency have in all cases been clearly differentiated. Foods rich in carbohydrates are at best not rich in vitamins; on the other hand, foods rich in good-quality proteins, e.g., milk, eggs, and viscera, are generally rich in vitamins. Many of the conclusions on the effects of protein deficiency among some of the Asiatic peoples were arrived at before the discovery of some of the accessory food factors and of their relations to health and physical development. Consequently, while it is safe to conclude that both protein deficiency and avitaminosis are widespread among Japanese people, there is a distinct possibility that the effects of the latter have been underestimated.

The point is of considerable importance when we turn

to remedies for the present situation. The soundest course is to promote the consumption of those predominantly protein foodstuffs which are also rich in vitamins. From this viewpoint, milk, eggs, cheese, and viscera¹ should have precedence over soy beans and muscle meats. There is already a consumption of eggs large in the aggregate but still inadequate from the per capita standpoint, having regard to the nature of the rest of the diet. The per capita consumption of milk is infinitesimal, and from the standpoint of welfare it should be greatly increased. In the life of the Japanese child, there is an unfortunate transition from human milk² to an overwhelmingly cereal diet, cow's or goat's milk playing no part whatever at any stage in the diet of the majority of Japanese children.

Students of population have been prone to interpret malnutrition as an outcome of overpopulation. Thus Wright says:

If people refrained from having children because they had insufficient means to support a family, or if children died in infancy from diseases caused by malnutrition, the population was being kept down by want of food, though no one might die of starvation.³

Realistic study of the Japanese situation, however, as indeed of the situation in other countries, shows that malnutrition is an outcome of a much more complex set of factors than conventional theories of population take account of. The customary diet of the Japanese people is not a diet rigidly dictated by the relations between numbers and resources. It is interwoven with their social

¹ Commonly despised in Japan, even among those who occasionally eat meat, and sold at relatively low prices.

² The quality of this is clearly affected in many cases by the inadequacy in the vitamin content of the diet of the nursing mother. The statistics of age distribution of deaths from beriberi given in *Nihon Teikoku Shiin Tokci* are strong evidence of this. Some Japanese medical practitioners are now giving special attention to the diets of pregnant women and nursing mothers with a view to remedying this situation.

³ Wright, *Population*, p. 33.

heritage. The consumption of a particular foodstuff is a symbol indicating that the consumer belongs to a particular social class in a community in which for centuries class lines have been sharply demarcated. Consumers of rice enjoy greater social prestige than consumers of barley. Taste and palatability play some part in the choice of foods, but they are determined mainly by social heritage. Every child is born into a community in which a given diet is customary; its tastes are thus formed early and considerable resistance to change is set up.

Dr. Saiki and his associates in the Eiyō Kenkyū Jō (Institute for Research in Nutrition) have, with the consent of employers, in a number of cases rearranged the diets of factory workers in such a way as to eliminate malnutrition without increasing costs. From personal observation over several years I should judge that a large proportion of Japanese students—probably over 50 per cent—suffer from beriberi at some time in their school and college careers. The disease appears to be due to ignorance as well as poverty. I have noted a number of cases occurring in well-to-do families, sometimes arising out of diets consumed habitually at home, sometimes out of diets consumed in *shōkudo* (dining-rooms) attached to colleges and run on a contract system which leaves loopholes for graft. Social attitudes are partly responsible for neglect of obvious remedies. Among a large number of Japanese it is regarded as a sign of effeminacy to pay any attention to diet; I have found this attitude quite common among Japanese students. Neither in Japan nor in China is learning yet commonly linked up with the ordinary affairs of everyday life. There is a tendency to regard such affairs as beneath the notice of the "scholar," who is inclined to assume an attitude of being "above the battle." It is true that what are commonly regarded as "practical" subjects are readily introduced into the curriculum of the

commercial educational institutions in Japan. But even these subjects are in some cases apt to be treated in a purely academic fashion. For example, institutions can be found where "scientific management" is taught, but where at the same time many students suffer from beriberi during their academic careers, and the educational authorities, who have the power to remedy the situation, neglect to examine the diets provided for students in the dining-rooms on school and college premises, and fail to provide instruction to students on how to prevent deficiency diseases.

A fundamental prerequisite of remedies for the situation described is a change not only in the attitude of the Japanese consumer *qua* consumer, but also in the group attitude toward the social significance of the consumption of different kinds of foodstuffs. The objective should be to lead the consumer to a knowledge of diets that are physiologically beneficial to him, and induce him to shift his demand away from the channels into which custom and inherited culture traits have drawn it and in which group pressure retains it; then to redirect it into channels that lead to maximum nutritional welfare. It is paradoxical that general ignorance of and indifference to nutrition should prevail in a country which has produced such able biochemists as Japan possesses, and it should not be beyond the power of consciously exercised measures of social control to remedy this situation. The Japanese educational system has been used effectively to foster the growth of nationalism, and there is no reason to suppose that it could not be used effectively to spread an understanding of the requisites of safe nutrition. An induced change in the social attitude might produce the desired change in consumption habits without the necessity of persuading every individual to adopt consciously a physiologically safe diet. Thus if certain groups within the

community that enjoy special prestige make desirable consumption habits fashionable, large numbers of people in other groups will adopt these habits, not from a conscious recognition of their physiological desirability, but merely because they have become fashionable.¹ Admittedly, if desirable habits of consumption are rooted in a rational understanding on the part of the individual of the scientific factors involved, they are most likely to remain stable. There should be no relaxation of efforts to spread such an understanding among those who have adopted desirable habits as a result of irrational influences.

The trend of the production of animal foodstuffs in recent years has shown a much more rapid increase than that of plant foodstuffs.² Unfortunately, the rapid rate of increase in the case of animal foodstuffs started from such a very low absolute level that the absolute amount now produced and consumed is still extremely small in relation to what it should be. What is required is a great acceleration of an already existing tendency.

It has been mentioned above³ that the diets of certain factory workers have been greatly improved without additional cost, and much more can be done along these lines. But, clearly, an adequate increase in the consumption of animal foodstuffs, and diminution in that of cereals, would to a considerable extent transform Japanese agriculture.

The usual objection to this is that more land is required to produce a given number of calories from animal than from plant foodstuffs. The fact is undeniable;⁴ but

¹ Most young Japanese people, so far as my experience goes, readily take to a Western diet when associating with foreign friends.

² For a detailed statistical treatment, see Penrose, *op. cit.*, pp. 21-41.

³ See p. 129.

⁴ See the discussion by Alonzo K. Taylor on primary and secondary foodstuffs, "Agricultural Capacity and Population Increase," in *Population Prob-*

its significance is apt to be misinterpreted, owing to the survival of older concepts of nutrition among those whose work lies outside the field of nutrition. Modern research has shown that man does not live by calories alone, but by vitamins and amino acids and mineral salts as well. With increased use of capital instruments in place of man power, the requisite number of calories per head is on an average somewhat declining. The significant factors requiring comparison are not simply the relative supplies of calories produced by equal areas of land devoted respectively to food plants and animals, but the relative supplies of all the requisites of human nutrition. The comparison between the uses of equal land areas for plant and animal foodstuffs on this basis obviously yields results much more favorable to animal foodstuffs than does *i*: comparison based solely on calories, though it should be added that as yet quantitative knowledge of the amounts of these requisites of nutrition other than proteins and carbohydrates, contained in various foodstuffs, is hardly complete enough to enable precise comparisons to be made.¹

It seems probable that an increased demand for animal foodstuffs and a decreased demand for cereals would make Japan less self-sufficient than it is now, but the potentialities of domestic production of animal foodstuffs in Japan may easily be underestimated. First, the supply of fish is capable of expansion, and costs could be lowered by rationalization of the fishing industry, involving an increase in the size of the unit of management, and re-

lems in the United States and Canada, edited by L. I. Dublin | Boston, Houghton Mifflin, 1920), pp. 97-110.

¹ On the other side, quantitative knowledge regarding the optimum requirements of the different vitamins and mineral salts is very incomplete. For our present problem, it is important to note, however, that the consensus in recent years is strongly in favor of liberal supplies of vitamins, very far in excess of what is required merely to stave off clinical signs of deficiency diseases. Liberal supplies of animal proteins and calcium are also desirable.

placement of a large number of small vessels by a smaller number of large vessels using more power and mechanical appliances. Secondly, it is a popular error to suppose that every inch of available land in Japan is utilized to its utmost capacity. For one thing, there are fairly extensive mountain and hillside slopes which might be adapted to grazing lands for animals. Japanese agriculturalists take an unfavorable view of these possibilities, but it is possible that their understanding of animal husbandry and grazing lands may not, on account of restricted experience in these lines, be equal to their undoubtedly expert knowledge of more typical forms of Japanese agriculture, and that, therefore, the views of the New Zealand agriculturalists, who believe that these slopes in Japan contain great possibilities, may be sound. The Japanese government would be well advised to institute a careful inquiry into this question with the aid of both Japanese and foreign experts. Thirdly, there are possibilities of expansion of the raising of small animals, particularly poultry, even within the framework of the existing system. Fourthly, tariffs and embargoes against food imports should be removed, and the consumption of imported canned milk,¹ butter, and cheese in particular should be encouraged.

¹ In some countries much prejudice against canned milk still survives. The comparative values of raw, pasteurized, and canned milk have been made the subject of a number of investigations, and the available evidence supports the view that those who rely wholly on canned milk suffer from no significant disadvantage. For a survey and bibliography of the literature on the subject see I'Yank K. Rice, "Proteins, Minerals and Vitamins of Evaporated Milk," in *American Journal of Public Health*, May 1931, XXIV, 191-202. The vitamin C content of pasteurized and canned milk is less than that of raw milk, but milk is in no case a major source of vitamin C, and all diets should be safeguarded from other sources in respect of this accessory factor.

In Japan and England the incidence of tuberculosis among cattle is so high that the consumption of raw milk should be banned in all cases. Inspection is so inadequate and public interest in food hygiene so limited in some countries that it is not always certain that pasteurization is properly performed: in these circumstances canned and powdered milks are to be preferred to milk in any other form. In any country the advantages of consuming raw milk are so negligible as not to be worth the risks. Tariffs on canned and powdered milks are necessarily detrimental to public welfare.

It is sometimes said that the removal of tariffs on food imports would cause serious dislocation in Japanese agriculture. But the domestic production of certain high-protein foodstuffs which are imported is not large, and foreign rice is not significantly competitive with domestic rice. Apart from what goes into certain manufactured foodstuffs, foreign rice is consumed only by those who cannot afford domestic rice in any event, and who therefore cease to be rice consumers at all when restrictionist measures prevent them from obtaining foreign rice. Among these consumers there may be a certain amount of competition between foreign rice and domestic barley.

Important competition from outside sources of food supply comes not from foreign countries but from Korea and Formosa. Anticipations in the pre-war years of a future shortage of food in Japan proper led the Japanese government to take measures to promote the cultivation in Korea and Formosa of the varieties of rice that alone are acceptable to the great majority of Japanese consumers. These measures were so successful that today imports of colonial rice are one of the chief sources of embarrassment to the Japanese farmer, and there has been a growing agitation in agricultural quarters for the imposition of restrictions on these imports. It will be difficult for any government to yield to this agitation; for restrictions on imports of Korean and Formosan products into Japan would strengthen the independence movements and add to the widespread dissatisfaction with the politically repressive Japanese rule in those colonies. The supply of labor in relation to the supply of capital, and the supply of land in relation to the supplies of the other factors, are greater in the colonies than in Japan proper, and costs of production of rice are lower.

The attempts of the Ministry of Agriculture in Japan to reduce the fluctuations in the price of rice by buying,

storing, and selling operations, under the powers given by the Rice Act of 1921 and those of subsequent years, do not appear to have been markedly effective. The chief reason is that the Ministry has no power to control domestic rice acreage and rice imports from the colonies. Agricultural interests, especially those represented in the Teikoku Nokwai (Imperial Agricultural Society), oppose control of the former but advocate control of the latter. I hold that the officials of the Ministry of Agriculture are justified in their request for powers to control domestic acreage. Since costs of production of rice are lower in the colonies than in considerable areas of Japan proper, there is no sound case for restricting imports from the colonies. What is required is the elimination of that part of the acreage under rice in Japan proper on which the production costs are relatively high. The large sums spent to little purpose on operations under the Rice Act merely tend, so far as they produce any effects, to retain this acreage under rice.

Fundamentally, agricultural policy should be framed with the object of making the maximum possible contribution to the welfare of consumers. This requires planning; it will not be attained by *laissez faire* methods. The primary need today all over Asia, except perhaps in Siberia and among pastoral and nomadic peoples, is to promote the consumption of foodstuffs rich in high-quality protein, in vitamins and in mineral salts, at the expense of foodstuffs that contain little but carbohydrates. This applies also to large parts of Europe, including the British Isles, and even to some classes and areas in the United States. No single measure would be likely to make so large a contribution toward removing the widespread conditions of poor health and undernourishment that prevail in Japan¹ as would a policy that aimed at deliberately

¹ For evidence of the superior physical development of the American-born Japanese, see P. M. Suski, "The Body Build of American-Born Japanese Chil-

stimulating change in dietary habits. This leads to the conclusion that no measures should be adopted that are likely to prevent the acreage under rice from diminishing. Special favors given to rice producers should be discontinued,¹ and relief measures to rice farmers, on account of low rice prices, should be made conditional on reduction of acreage or lowering of costs through rationalization. On the other hand, the consumption of animal foodstuffs and fruits should be stimulated. Government subsidies might well be given to provide for free distribution of milk to school children; this would stimulate producers to make the changes in the direction of production that are required. In addition, an intensive educational campaign should be carried on with the aid of schools, radio, newspapers, magazines and pamphlets, with the object of influencing consumers' attitudes in the same direction.

Two important sanitary reforms are desirable as prerequisites to this campaign. Spasmodic raids by police

dren," in *Biometrika*, Vol. XXV, Parts III and IV, December 1933, pp. 323-52; and K. Kanzaki, in *Annals of the American Academy of Political and Social Science*, 1921, XCIII, 88. The evidence is convincing, and McNallum is wholly justified in ascribing it to diet rather than climate (*op. cit.*, pp. 561-04). Ellsworth Huntingdon's hypothesis regarding the alleged importance of storminess and changeableness of weather is directly contraindicated by this and other facts.

¹ An analogous case of an agricultural policy aimed at subsidizing or assisting by other artificial aids the production of just those foodstuffs of which increased consumption is undesirable from a welfare standpoint is to be found in Great Britain in recent years. In ten years some 40 million pounds sterling have been spent on a subsidy to the production of sugar, a food which contains nothing of value but carbohydrates, and which can always be produced much more cheaply in tropical regions where the supply of labor in relation to the supply of the other factors is very large, and where the sugar cane flourishes, than in a country in Great Britain's position. Attempts are also being made to bolster up wheat production in the face of a widespread tendency toward a decline in the consumption of cereals in relation to the consumption of other foodstuffs—a tendency which should be encouraged in the interests of welfare. The main use of sugar and bread is to provide calories. From a welfare standpoint it is desirable that an increased proportion of the total calories required should be drawn from milk, fruits, vegetables, and eggs, particularly milk, and a decreased proportion from sugar and cereals.

authorities have from time to time disclosed insanitary conditions in dairies. Regular inspection and rigid enforcement of sanitary requirements in dairies and among distributors are needed. Secondly, owing to traditional methods of fertilizing the land, intestinal parasites are continually conveyed to human beings through raw vegetable and salad products. This greatly impairs the energy and efficiency of large numbers of Japanese. As it is desirable that the consumption of green-leaf plants should be encouraged, the adoption of the known remedy of subjecting the fertilizer consisting of human feces to certain processes before spreading it on the land is needed.

AGRICULTURAL OVERPOPULATION

In some respects, a description of agricultural organization in Japan would bring to mind English agriculture before the Agricultural Revolution. In many cases, a "farm" is divided into little sections scattered about among sections belonging to or worked by other farmers. Much time is wasted by farmers in walking from one section to another, or from their homes to some of their sections. Therefore, small though the unit of operation is, it is still in many cases unconsolidated.

On the other hand, any comparison between Japanese agriculture of today and European agriculture in medieval times would reveal immense differences in efficiency and technique. It would be hard to imagine a greater contrast than that between the badly cultivated land in medieval Europe and the thorough cultivation of Japanese land today.

There has been a revolution in modern Japanese agriculture, but its scope has been limited. It has taken the form largely of a great increase in yields of crops per unit of area, to a large extent due to improvements in the fertilization of land, in the selection of seed, and in the de-

velopment of new varieties. It has been a chemical and botanical revolution, arising out of developments in transport and communication which have led to the passing of local self-sufficiency and changed a part of Japanese agriculture from subsistence to cash-crop farming.

But the chemical and botanical and the commercial revolutions have been superimposed on a medieval and feudal social structure, and there has been no parallel revolution in the land system and in the size of the productive units in agriculture. In England, the Agricultural Revolution introduced a new technique of production and at the same time enlarged the productive unit to a size more appropriate to the new technique than was the older unit. In Japan, however, only those improved kinds of technique have been adopted which could be applied within the framework of old forms of organization of the land and of the agricultural population—forms that may have been suited to the technique available in an earlier stage of development of the arts, but are today a hindrance to the thorough application of modern technique. The size of the productive unit, however appropriate it may have been to an earlier technique, now limits the scope of the practicable measures of improvement. There is no room for doubt that a very large number of Japanese farms are far smaller than is economically desirable. Space will not be taken up here with repetition of what I and other writers have said elsewhere on the evidence for agricultural overpopulation in Japan.¹ Agreement on this subject now seems unanimous among students of Japanese agriculture, both Japanese and foreign.

Many writers on population and allied problems have

¹ For a discussion in English, see S. Nasu, *Land Utilization in Japan* (Tokyo, prepared for the Third Session of the Institute of Pacific Relations, 1929), pp. 29-32, 80-84, 260; and Penrose, *op. cit.*, pp. 64-65. I enlarged further on this subject in an address in Tokyo to the Economic Section of the League of Nations Association of Japan on **March 25, 1930.**

concentrated undue attention on the physical circumstances affecting one cereal product or a few products only. Sir William Crookes overestimated the importance of wheat. This tendency runs through most of the literature on population which aims at realistic treatment based on Malthusian principles. Numerous writers on Japan, both Japanese and Western, tend to assume that the population problem of Japan centers largely on rice supplies. Thus, Crocker appears to envisage the Japanese population problem as follows: "We need to know whether the rice is costing more to grow—whether the basic class in the community is working longer and harder to raise the staple food; in brief, whether Diminishing Returns are in operation." On the next page he asks: "Has the Agriculture of Japan reached the point where a given yield from the soil is demanding more effort to extract it?" After some further discussion he concludes that ". . . it is taking more labor and more fertiliser to produce a bushel of rice now than it took twenty years earlier: in order to extract a bushel from the soil more has now to be put into it. It is true that at the moment it is not much more."¹

Crocker's treatment even of this limited question appears to be unsound,² but the point of importance here is that only a very limited significance can be attached to the position of a single commodity, even if it is a "staple"

¹ Crocker, *The Japanese Population Problem*, pp. 03, C4, 67.

² His use of the concept of diminishing returns is not very clear. Moreover, the details of his calculations are somewhat strangely omitted from the book. Hence it is not clear what is meant by the last statement quoted above. Are two single years, separated by a period of two decades, compared with one another? This seems hardly conceivable. Has a trend been calculated over twenty years, and, if so, by what method? The form in which his conclusion is stated hardly suggests a trend. From what description is given of his procedure it seems as if the inputs of fertilizer and labor per unit of area have reference to the cultivation of all kinds of crops, while the output of rice only is considered. Moreover, "rather less than half the total fertilisers consumed" are taken account of. The treatment of the whole subject hardly appears satisfactory, even though Crocker appears to regard his conclusions as proof of the existence of overpopulation in Japan.

commodity. Much more satisfactory is J. Lossing Buck's method of approach—in his studies of Chinese agriculture—which treats farming as a business, and seeks the optimum size of the business unit.¹ Buck concludes that ". . . farm earnings without exception increase significantly with each succeeding size-group of farms." On an average, they are four times as much in the large size-group as in the small size-group. "From a strictly business standpoint, where all charges are made, even including interest on investment, it is still evident that farms in the large size-group are the most profitable." Farm labor earnings average three times as much and family earnings more than three times as much in the large size-groups as in the small. A study of family earnings per adult-male unit leads to the conclusion that "it is quite evident that a person living on a large farm is economically much better off than one on a small farm." Labor returns per farm "are higher in the large size-group in all localities." Labor returns per man equivalent for most localities are higher on large than on small farms.²

Of course there are a number of factors involved in the determination of the optimum size of the business unit, one of which is managerial ability. Moreover, in agriculture the optimum differs according to locality and the nature of the crops. These facts, however, do not appear to affect the unanimous verdict of observers that farms are uneconomically small over large parts of Japan and China.

But it would be erroneous to suppose that the size of the productive unit is the only agricultural problem in Japan, and that an enlargement of the productive unit is the only conceivable remedy for present difficulties. There

¹ Ruck, *Chinese Farm Economy*, especially chapter iv, "The Best Size of Farm Business."

² *ibid.*, pp. 107, 108.

is a tendency in some of the literature on Japan and China to attribute economic difficulties, and the social discontents associated with them, somewhat indiscriminately to population factors. The present study is concerned primarily with population factors, and has, therefore, not treated systematically other economic maladjustments which are clearly due to factors other than population, though some of the maladjustments of this type have been referred to from time to time. But it should be understood that the relative share of attention given here to population factors as compared with non-population factors is no measure of their relative importance in producing economic difficulties and maladjustments.

These difficulties and maladjustments, and the discontents to which they contribute and which in turn affect the course of social and political history, are the outcome of a complex variety of factors, of which agricultural overpopulation is only one. The tendency to ascribe economic troubles in a loose, general way to population factors is strongly to be deprecated. The fact and the importance of agricultural overpopulation have been stressed throughout this study, but in no sense is it intended to convey the idea that the sum total of agricultural difficulties and discontent is the outcome of occupational overpopulation. On the contrary, the population factor is only one, and non-population factors also contribute to present difficulties. We have insufficient knowledge at present to estimate quantitatively the relative importance of the different factors.

The class lines on which Japanese agriculture is organized and the survival of elements belonging to a feudal economy; the high rate of interest; the effects of inflated land values during the war period; the effects on the agricultural structure of the deflationist policy of the late Mr. Inouye; defective marketing systems; lack of co-operation

among producers; and other factors which are not primarily the outcome even of occupational overpopulation—all these have contributed to the present difficulties and discontent in Japanese agriculture.

Y. Yagi raises an important problem when he says:

The present impoverishment of the farming population is due to the fact that in times of general depression, the prices of agricultural products to be marketed and those of the various factors of production constituting the cost of production do not fall at the same rate.¹

Moreover, agricultural distribution in Japan is wasteful in certain respects. There is very large scope for the development of co-operative marketing. There are important possibilities of the further development of rural subsidiary industries. The land system is in need of reform, and there is much to be said for Dr. Kawada's advocacy of land nationalization.² The widespread adoption of a form of so-called "collective farming" would permit specialization of work among cultivators and elimination of some of the wastes due to lack of consolidation of holdings, even if the numbers of workers were not reduced. All these and other improvements could be made without reducing the agricultural population.

The possibilities of seed selection, the development of new varieties, improvements in soil fertilization, and other technical advances are by no means exhausted in Japan. The whole rice situation may be transformed by botanical advances. Our attitude toward these possibilities should be one of complete open-mindedness.

¹ Y. Yagi, "A Study of the Cost of Rice Production," *Kyoto University Economic Review*, July 1932, VII, 112. Yagi also specifies, as one contributory factor, monopolistic control over the handling of imported fertilizer.

² For an exposition of his scheme in English, see S. Kawada, "Agricultural Problems and Their Solution in Japan," *Kyoto University Economic Review*, December 1925, I, 164-69. This plan must be distinguished from the numerous plans for land nationalization advocated by a section of Japanese landowners with a view to unloading unprofitable investments at the expense of the taxpayer.

There is no desire here to underestimate the extent to which such remedies would improve the agricultural situation without any reduction in the agricultural population. But it is probable that a more drastic transformation will be required if a very substantial rise in the per capita income of the agricultural population is to be attained. Briefly, such a transformation would necessitate not only consolidation of holdings but also an increase in the size of a large number of farms, reduction in the total agricultural population, and greater use of capital instruments in cultivation. Collective farming would, of course, satisfy these requirements if, when collective farms were established, a part of the cultivators engaged on the separate farms to be converted into collectives were transferred to other occupations outside agriculture.

In the next two decades there will be a net increase of several millions in the population of Japan. It seems doubtful whether employment can be found in agriculture for additional millions without causing deterioration in the already unsatisfactory economic condition of the countryside.

Thus the Japanese population problem is, on the one side, a problem of how to increase the size of the unit of operation in agriculture and, on the other, a problem of how to transfer labor from existing agricultural occupations to other occupations. Existing units of operation in Japanese agriculture are, of course, much smaller than existing units in the leading Western countries. This is due in part to the high yield per unit of area of rice as compared with yields of other cereals. While, however, the existing unit is smaller in Japan than in Western countries, so also, probably, is the optimum unit for existing types of agriculture in Japan. In general, the Japanese agricultural problem differs in degree rather than in kind from the agricultural problems of some at least of the lead-

ing Western countries, including the United States. The problem of readjusting the unit of operation and the labor supply per unit of area so as to utilize advancing technique to the best advantage is a world-wide problem at this time, facing Western as well as Eastern countries, and industry as well as agriculture.

Those who, on the basis of the agricultural situation in Japan, confidently declare Japan to be overpopulated, appear to assume that an inability to find alternative employment is the cause of the excessive numbers in agricultural occupations. In reality, however, the density of the agricultural population cannot be explained by so simple a formula. The Japanese agriculturalist, so far as my experience goes, will not fit into the pattern of the economic man. Nor will it avail to make the qualification that he only acts as an economic man in his purely economic relationships. He is a unity, and the culture of the group to which he belongs is a unity. When he is faced with a choice between staying on the land and venturing into some form of urban employment, his choice will be determined by the interaction of a complex set of factors that will include far more than the relative pecuniary advantages of the alternative courses open to him.¹ His social heritage may prove to be a dominating factor, but the impact of cultural changes may operate in a different direction. Attachment to the farm, absorption in rural culture, compelling family ties, are always of great, and, as far as the older generation is concerned, are usually of decisive, importance. But in many of the younger generation new desires are aroused by the influence of urban contacts, of education, and of cheap travel. Hence, even in face of the economic situation described in this study, we frequently hear in Japan complaints that the young

¹See Nasu, *op. cit.*, pp. 81-83: "Tho workers have no particular desire for profit and are willing to serve as members of their respective families"

people are forsaking the land for the lure of the city. Now in the frequent cases where such migration leads to higher income it must not be assumed that the possibilities of pecuniary advantage were necessarily the dominating influence behind it. There is much more in it than that. The dissatisfaction of the younger agriculturalist with his status in a rural group, the desire for a more independent status and a setting that will make him the center of a greater variety of stimuli, comprise much more than a mere calculation of potential pecuniary advantage.

THE CONSEQUENCES OF OCCUPATIONAL OVERPOPULATION

We have seen that the chief population problem of Japan is one of occupational overpopulation, mainly in agriculture. For an effective remedy there must be a transference of surplus workers in agriculture to other occupations, mainly of an industrial and commercial nature. As the domestic supply of some kinds of raw materials is inadequate, this means that foreign trade must be developed. In some areas the possibilities of the development of industrialization and foreign trade may be so extremely limited that this situation would be indicative not merely of occupational but also of general overpopulation, and the only remedy would be to reduce the population. But in the case of areas like Japan and England the outlook is not so unfavorable. Considerable domestic sources of power exist, and the industrial regions are well placed with reference to transport facilities and, apart from artificial obstacles, to markets. Raw materials and partly manufactured goods can be imported and worked up into finished goods, and part of the latter can be exported to offset the increased import requirements. This may be regarded as an alternative to reducing the population. It would appear that the income optimum

may be raised or prevented from falling by development along these lines.¹

When, in these conditions, some domestic natural resources other than power resources as a whole become depleted, it does not always follow that the population need necessarily be reduced. A partial shift can be made from the "heavy" industries to the manufacture of more highly fabricated products which use raw materials whose bulk is not unduly great in proportion to their value. This kind of shift has been taking place to some extent in Great Britain, though the depression in the heavy industries of that country is due to far more complex causes than the depletion of domestic natural resources. In fact, similar types of readjustment to those required in the face of diminishing domestic natural resources are necessitated by entirely different causes, such as changes taking place in the rest of the world, over which the country in question has no control. These changes may be due to inventions and technological progress.

From whatever factors they arise, such displacements, shifts, and readjustments produce serious frictions in modern economic society. One of the most important of these frictions takes the form of occupational overpopulation, leading usually to unemployment which bears heavily on particular groups of industries and particular localities. Lack of mobility of the agents of production, particularly of labor of relatively specialized types, hinders displaced workers from being absorbed into other occupations. The supply of entrepreneurial capacity may, under private enterprise, prove at least temporarily inadequate to undertake the production of new products which will increase opportunities for employment. This is particularly true in the trough of the trade cycle.

Occupational overpopulation has frequently been made

¹ For further development of this point see below, pp. 291-93.

the basis for assertions that general overpopulation exists in this or that area. But with society organized as it is at present, it seems clear that, even if population were maintained at the income optimum, inventions would cause temporary occupational overpopulation from time to time, even while they were raising per capita income. Secondly, errors of judgment on the part of entrepreneurs, causing production of certain kinds of goods, particularly construction goods, to be carried too far, are likely to continue whatever the size of the population. Thirdly, the discontinuity of industrial development, leading to "... a condition of temporary saturation with some important kind of equipment....",¹ will persist whatever the size of the population.

Owing to the imperfect mobility of the factors of production, all of these phenomena in some measure help to create occupational overpopulation for a time. Such frictions seem to be an inevitable concomitant of technological advance, though of course much might be done to minimize their effects by improved social organization, leading to the adoption of such measures as the training and retraining of workers under public auspices, better occupational guidance of young persons, and, in some communities, the raising of the school age.

Besides these factors there are influences arising out of the mechanism of money and credit which tend to produce alternate booms and depressions, characterized by wide fluctuations in the volume of employment. In fact some schools of thought hold that disturbing factors other than those associated with monetary factors do not in themselves constitute a problem. The price system, they hold, would restore equilibrium after such disturbances, and there would be no maladjustments of a cumu-

¹ D. H. Robertson, *Money* (Cambridge, The University Press, 2d edition, 1929), p. 189.

lative nature leading up to a crisis and to an inevitable recession all along the line. For example, Hayek maintains :

The simple fact that economic development does not go on quite uniformly does not in itself constitute a problem. It is sufficiently explained by the adjustment of the economic system to the irregular changes in the data The real problem presented to economic theory is: Why does not this adjustment come about smoothly and continuously, just as a new equilibrium is formed after every change in the data? Why is there this temporary possibility of developments leading away from equilibrium and finally, without any changes in data, necessitating a change in the data?¹

Owing to the elasticity in the supply of money permitted by the banking system, the banks tend to carry lending to a point in excess of the volume of voluntary savings.² The market rate of interest falls below the "natural" or equilibrium rate. Prices either rise or fail to decline in correspondence with increasing productivity. Voluntary saving is supplemented by "forced" saving. For reasons that need not be detailed here, it is held that this process cannot be maintained indefinitely, and that when it comes to an end it will be impossible, generally, for entrepreneurs to maintain capital intact.³

This is not the only theory which attributes business fluctuations, with the unemployment which accompanies them at some stages, to monetary factors, though it happens to be the theory most discussed at the moment. Of course it is not the object of the present study to discuss theories of the business cycle, but these brief and inadequate references to such theories will serve to show that there is no necessary connection whatever between unemployment and overpopulation.

¹ F. A. Hayek, *Monetary Theory and the Trade Cycle* (London, Jonathan Cape, 1933), p. 55.

² See especially *ibid.*, pp. 139-92.

³ See Hayek, *Prices and Production* (London, Routledge, 1932), and "Capital and Industrial Fluctuations," *Econometrica*, April 1934, 11, 152-68.

Unemployment is essentially a maladjustment, and the difficulty of removing it by merely manipulating the size of the population may be brought out by considering what would happen if the millions of unemployed in this country at the present time could be suddenly shipped to Mars without cost. Taxation would be lightened and less charity would need to be dispensed. But the millions of unemployed are in the aggregate, notwithstanding their poverty, consuming large quantities of goods, obtained on credit or out of charity, by using up past savings, and by borrowing from relatives and friends. Their sudden banishment would remove this demand for goods. At the same time, it would increase the purchasing power of the persons in work who were contributing, through taxation and charity, to the maintenance of the unemployed. It would be fallacious to suppose that the economic situation would be left unchanged apart from the elimination of the banished unemployed. First, the persons whose purchasing power would be enhanced by the change would not use it to demand precisely the same kinds of goods as those demanded previously by the unemployed; their increased demand would be less for the bare necessities of subsistence and more for the kinds of goods commonly demanded after those necessities have been met. Secondly, some of those with increased purchasing power, particularly rich men who had contributed to charity, would devote part of it to increased savings. If increased investment by entrepreneurs in real capital failed to keep pace with increased money savings, among other consequences, unemployment would follow.

Thus the shift in the nature of part of the total demand for goods and services, together with a possible reduction in total demand, that would be caused by deportation of the unemployed to Mars would create new maladjustments, involving more unemployment due to occupational

overpopulation and to the difficulties of transferring workers from one occupation to another. It does not follow that in any case the industries producing commodities the demand for which would increase would necessarily require the same number of additional laborers as were displaced from the industries the demand for whose products was contracted.

Consequently, large-scale emigration carried out suddenly even in an overpopulated country would create new disharmonies while removing old ones, and the effects of these disharmonies might persist for a long time. There does not appear to be any chance of eliminating unemployment by merely changing numbers.

Of all forms of occupational overpopulation, agricultural overpopulation is the most significant for the majority of Asiatic countries today. In this respect, however, the problem of these countries differs only in degree from that of Western countries. Throughout most of the world it is desirable that the amount of direct labor applied in agriculture shall be decreased, and the surplus agricultural labor applied to other occupations. This is largely the result of technological developments which have reduced the occupational optimum for many classes of agricultural work, creating a surplus equal to the difference between the optimum numbers for the occupation and the actual numbers clinging to it.

Agricultural overpopulation, like other forms of occupational overpopulation, may show itself in relatively very low per capita income, in underemployment, and in unemployment. In agriculture the first two are apt to be more prominent than the last. In an earlier and more backward state of the arts very low per capita income was inevitable whatever the size of the population. With general technological progress the income optimum numbers for agriculture have in many cases become smaller. In

some countries, especially "young" countries, the new machine methods have been introduced on a wide scale, and the effect has been to lower costs but to create depression among the sections which have been unable to adopt the new technique but have clung to the occupation as long as possible. In older countries, the resistances in the social structure and land systems have been greater in many cases, and the adoption of the improved technique has been hindered. These resistances have been stronger in agriculture than in industry and commerce, with the result that the proportion which the per capita income of those engaged in agriculture bears to that of those engaged in industry and commerce seems to have declined. This relative decline has greatly stimulated social discontent among agriculturalists, which has with insufficient justification been interpreted by some as evidence of an absolute decline.

The rapidity with which the readjustments necessary to remedy occupational overpopulation can be effected will depend largely on the amount of entrepreneurial capacity, taken in its widest sense, that is forthcoming. As we have seen, in a country with a very limited supply of raw materials, the readjustment is almost certain to require an extension of international trade, and will be retarded by obstacles to the flow of commodities and services among different countries.

CHAPTER VI

PROSPECTS FOR INDUSTRIALIZATION

During the Tokugawa era¹ external trade was limited by the slowness of transport and communication and by drastic artificial restrictions arising out of deliberately framed government policies. Revolutionary advances in transport and communication, together with political changes, have destroyed this comparative self-sufficiency and the group of islands known as Japan have been brought into a world economy. The per capita income optimum population for Japan is therefore no longer conditioned by agricultural or mineral self-sufficiency, and under present conditions the problem of determining whether or not overpopulation exists or is imminent is extremely complicated. The food supply and raw materials in Japan can be supplemented by imports, so long as such imports can be paid for by exports. The prospects of existing and potential export trades in Japan are therefore of vital importance to any consideration of population problems.

INDUSTRIALIZATION AND RAW MATERIALS

The view has been frequently reiterated that modern industrialization is based on coal and iron. Undoubtedly there is an important element of truth in this view, but, like many such epigrammatic statements, it presents a very partial and unduly simplified picture. There are other products and other factors not less essential to modern industrialization than are coal and iron. However, what here primarily concerns us is not the view in question in its baldest form so much as a corollary often drawn

¹ Lasting from the beginning of the seventeenth century to 1868.

from it. The industrial countries, it is said, are those which have large supplies of coal and iron within their borders, and there is consequently no prospect of any considerable industrial development in areas deficient in coal and iron. Much of the prevalent pessimism regarding the population problems of certain Asiatic areas is based on this view.¹

Now, it is obvious that the existence of large coal supplies in a country may, as in the case of England, lead to the growth of an important export trade in coal; that the existence of large iron-ore supplies may lead to iron-ore exports or, if other circumstances are favorable, to exports of pig iron or steel or steel manufactures; and that these exports will help to pay for imports of food and other commodities which cannot be produced in adequate supplies within the country without raising domestic unit prices above world prices. In this sense, large coal and iron supplies are particularly useful to densely populated countries.

But it is quite another question whether or not industrialization in general can develop in the absence of extensive domestic supplies of coal and iron. Clearly, as regards coal, much depends on the quantity of alternative sources of power within the country and the proximity of fuel supplies in other countries. However, in discussing Japan's position it is not necessary that we should consider what would be the prospects of a country devoid of domestic coal supplies. Japan has a substantial domestic output of coal and very large water supplies only part of which are as yet utilized to form the basis of a large output of electrical energy. Additional supplies of coal can be imported from China—both from Manchuria and from other parts—

¹ So eminent an economic historian as Edwin F. Lay seems to give some countenance to this view in his preface to "Foster Bunn's *Ores and Industry in the Far East* (New York, Council on Foreign Relations, 1927).

at relatively low cost. As with foodstuffs, so with fuel, there has been in the recent past more concern about oversupply than about undersupply. A restriction scheme has been in operation for some years among domestic coal producers, and imports of coal even from Japanese-operated mines in Manchuria have been drastically curtailed.¹

The price of coal in Japan is high, but it is not yet possible to say how far this is due to "natural" difficulties and how far it is due to the notoriously inefficient organization of the industry in Kyushu.² The lack of organized pressure³ for higher wages and better working conditions and the restriction on domestic output and on imports have combined to weaken incentives to reorganization of the industry. Our knowledge of the Japanese coal industry is extremely limited, and an exhaustive investigation by an impartial commission is urgently needed. In the meantime it is clear that high prices are themselves, to a considerable extent, due to restrictive measures arranged partly by government officials and partly by producers' associations.

No shortage of power is in sight in Japan. On the other hand, the domestic supply of coal fit for coking seems hardly adequate for all the requirements of the iron and steel industry. Foster Bain writes:

In quality the coal in Japan varies from anthracite to lignite, but the great bulk of the reserve consists of bituminous coal,

¹ This was discussed by the present writer in an address to the Nagoya Shoko Kaigi Sho [Chamber of Commerce and Industry] on May 8, 1927, subsequently published in English by the Japan Federation of Liberty of Trading Associations, Tokyo, 1927, under the title "Japan at the Cross Roads." There has been increased controversy in Japan on this subject since the Japanese occupation of Manchuria.

² See Penrose, *Food Supply and Raw Materials in Japan*, p. 67.

³ On the importance of pressure from trade unions for higher wages in stimulating employers to raise technical efficiency, see a careful realistic study by J. W. F. Rowe, *Wages in Theory and Practice* (London, Routledge, 1929).

mainly of high to medium volatile type. Both coking and free burning coals are found, but the amount of coking coal is, as usual, limited and the smallness of the reserve has given some concern. In practice coking coal is imported from China to supplement the local supply, though the country is by no means entirely dependent upon such imports.¹

Supplementary supplies may be obtained from China, and not all nor even the greater part of these supplies are located in Manchuria.

.... it is only in [China] that any considerable supply of coking coal is known in the Far East. Even so, the known fields of good coking coal are not numerous. In Manchuria the Pen-sihü field stands out. In Northern Chihli, the Liuhokou coal especially has a good reputation for coking. In Shantung, the Yihsien and other coals coke and in Honan, Kiangsi, Hunan, Yunan and other provinces, coking coal is found. It is true here, however, as elsewhere that coking coal is exceptional. Anthracite, of which there are large quantities available, can be used as a metallurgical fuel, though with less efficiency, and in general any large metallurgical industry in the Far East will necessarily depend upon Chinese reserves of coking coal if it is to persist.²

In short, then, Japan is not likely to become entirely self-sufficient as regards coking coal, and some imports will continue to be needed from China, which possesses supplies greater outside than inside Manchuria.

Turning to iron ore, we find that from 1925 to 1929 on an average less than 10 per cent of the ores used in the Japanese iron industry were produced in Japan proper; and in 1929 about 50 per cent of the Japanese supplies came from regions over which Japan exercised no political control. Of the imported ores, 42 per cent came from the Straits Settlement.³ The proportion of total imports which is supplied by the Straits Settlements increased very rapidly after 1926; these supplies are cheaper and of

¹ Bain, *op. cit.*, p. 59.

² *Ibid.*, p. 54.

* The mines are located in Johore, where a Japanese company secured a concession in 1920.

higher quality than any that can be produced in areas under Japanese political control. Crocker says:

Already about half the ores consumed in the Japanese Empire come from the foreigner. Yet Japan is at the present losing nothing by this dependence. It is the opinion of the United States Commercial Attaché that the imported ores are costing no more than what is paid in Pittsburg; and there seems no reason for these costs to mount higher in the near future. Nor will a steel industry based on heavy imports of iron ore be singular.¹

As regards pig iron, the proportion of net requirements produced in Japan fell from 64 per cent in 1925 to 57 per cent in 1929.² On the other hand, imports of pig iron from India rose to just over 50 per cent of total imports in 1929.

Altogether it is illusory to suppose that Manchuria supplies the bulk of the imports of raw materials required by the Japanese iron and steel industry, or that the virtual annexation of Manchuria can enable Japan to set up an iron and steel industry self-sufficient from an Empire point of view. From the facts as outlined above, it becomes obvious that much popular writing on this subject is misleading.

There remains to be considered the common assumption that a large domestic iron and steel industry is necessary to the development of industrialization in Japan. Though a number of writers have accepted this view, I am unable to discover any convincing evidence in support of it. The Japanese iron and steel industry has been heavily subsidized and protected, and yet seems little nearer to a self-supporting position than it has ever been. Evidently, the existence of a heavily subsidized and protected iron

¹ Crocker, *The Japanese Population Problem*, p. 154.

² In 1930, the proportion of home-produced to total ore consumed increased, but this was due to the effect of the world industrial depression on trade. I have concluded it would be risky to introduce any figures for the years when the full blast of the world depression was making itself felt.

and steel industry in Japan can hardly be regarded as beneficial to the textile and other industries which have been most successful in domestic and export markets. It is rather a handicap, since it increases taxation and raises the prices of iron and steel manufactures required to equip the textile and other industries. To a certain degree, these industries have developed in spite of rather than because of the domestic iron and steel industry.

This is not to deny that considerable success has been attained by Japanese manufacturers of textile machinery and also of certain steel products. In the cotton industry, most of the machinery is now made in Japan and remarkable inventive capacity has been shown.¹ The costs of these manufactures, however, would have been lower if there had been no import taxes on pig iron and steel. It is not, of course, maintained here that no branch of the iron and steel industry should exist in Japan. But those branches which can only exist by virtue of subsidies and protective tariffs are, apart from a few branches to which the infant-industry argument might apply, parasitic on the industries which consume their products, and hinder instead of aiding industrialization as a whole. I have been in technically efficient and commercially successful Japanese textile factories that were wholly equipped with imported machinery. It is hard to see how the exponents of the assumption here criticized would explain the existence of these factories. The mere fact that there has been much industrial development and successful penetration of export markets in spite of the handicap of a partially parasitic iron and steel industry is evidence of the inva-

¹ "Even today with the exception of the mule (and that is no more considered an essential machine) one can buy all other machines of Japanese make; it is true the ring frame is not yet perfect. Japan has made such progress in engineering that within a few years very little textile machinery will be imported from Europe."—Arno S. Pearce, *Cotton Industry of Japan and China* (Manchester, International Federation of Master Cotton Spinners' and Manufacturers' Associations, 1929), p. 87.

lidity of the contention that a substantial domestic iron and steel industry is essential to industrialization.

A procedure that has frequently been followed has been to calculate how long the estimated reserves of ores in the Far East would last if the per capita consumption of iron and steel were as large as it is in the United States. The results of these estimates have then been used to justify the view that no substantial industrialization can take place in the Orient. Such a method of approach is unconvincing, since it presupposes that no large general industrial development can take place without an iron and steel industry of the dimensions of that existing in America.

I conclude that the existence of the Japanese iron and steel industry, in so far as it is dependent on subsidies and tariffs, is a hindrance rather than an aid to industrialization, tending to increase costs in domestic and export industries; that there is no adequate evidence that further expansion of pig-iron and steel production is necessary to a further large expansion in other industries; and that some shrinkage of the iron and steel industry, more particularly of the part engaged in pig-iron production, would benefit other industries.

THE IMPORTANCE OF INDUSTRIALIZATION

We shall now consider briefly some other aspects of the problems involved in the industrialization of Japan. It is beyond the scope of the present study to attempt a detailed description and analysis of Japanese industries. A considerable amount of material is now available in the English language in the British Department of Overseas Trade reports, in the publications of the United States Department of Commerce, and in the writings of the Orchards, Moulton, Uyehara, G. C. Allen, Freda Utley, Harada, W. R. Crocker, Arno S. Pearse, and Trevor Johnes. These works

deal, of course, with what is now past history; and estimates of the future based on past trends, though not valueless, must be treated with great caution.

There is hardly general agreement as to the significance of what is past. The Committee on Industry and Trade, appointed by the British government, considered that "Japan's rise as an industrial power is without precedent in the annals of modern industry."¹ But the Orchards, in a recent and important work, took the view that

The limitations of the Japanese industrial system and the unsatisfactory rate of its growth, if admitted, are usually accounted for by the short span of years during which the country has been in contact with the West and has had industrial ambitions. Time is undoubtedly an important factor in explaining present conditions, but industrialization has now been in progress for 75 years, not a brief period in modern history if the phenomenal growth that has occurred in the United States since the Civil War or in Germany since 1871 is considered.²

I doubt whether either of these opposing views should be accepted in its entirety. Some light is thrown on the matter by Yamada's purely statistical study, which contains a collection of practically all available statistics of Japanese industrial production, and a series of index numbers of production in different industries.³ Without enumerating details here, it may be said that these data show that the amount of industrialization in the earlier years of the period indicated by the Orchards was very small as compared with that which has developed in the last twenty-five years. Japan's industrial revolution belongs to the twentieth and not to the nineteenth century.

On the other hand, it is clear that circumstances arising out of the World War stimulated Japanese industrial activity. Competition in export markets was reduced and

¹ *Survey of Overseas Markets* (London, H.M. Stationery Office, 1925), p. 410.

² John E. and Dorothy Orchard, *Japan's Economic Position* (New York, McGraw-Hill, 1930), p. 242.

³ Ya ma da, *Hontō Seizōgyō no Seisan Sūyō Shisu*.

in some cases entirely suspended for a time, and a keen war demand for certain products came from the Allied Powers. There is, however, a danger of overestimating the "prosperity" of the war years in contrast to the depressed conditions in some of the post-war years. After all, the Rice Riots occurred in the war years, and it does not appear that the so-called prosperity was general.

Dr. Moulton, in criticizing "those who contend that the population problem is not particularly serious in Japan," speaks of "the adventitious character of much of the economic expansion of the period from 1915 to 1926."¹ It will not be disputed that there was an "adventitious" element in the industrial expansion of the war years. But, of course, that is not the whole story, and a few years from now, when it is possible to view those war years in better perspective, we may find that the effects of the war merely hastened processes which were under way and would have shown themselves in any case. This seems to be the view now generally held by economists regarding the rise of Oriental competition in export markets. It will be worth while, too, to consider the possibility that the "adventitious" element, while apparently making for prosperity at the time, may have delayed rather than accelerated these processes, when they are viewed over a longer period of time, by leading to misdirection of investment and overcapitalization in certain lines.

However, generalizations on these matters can only be tentative in the present state of knowledge. There is, indeed, a considerable volume of statistics of values of output and also of quantities in the case of some commodities. Unfortunately, these data are of an uncertain degree of accuracy; they are not derived from censuses of production, and no census of manufacturing production has been taken in the whole period under consideration. Several

¹ Moulton and Ko, *Japan: An Economic and Financial Appraisal*, pp. 397-98.

ters appear to have based on the existing statistical data on Japanese industries conclusions which these data scarcely adequate to support. Such able writers as Hard and Moulton have attempted to estimate from existing data the relative importance of different Japanese industries. Importance is, of course, always a relative term. As in the case of the term "optimum," further specification is necessary. Importance for what or in what respect? When Dr. Moulton says, "In terms of the number of workers employed, the relative importance of the different groups of industries is similar,"¹ his statement is unexceptionable in logic. But in practice, for most of the purposes we have in mind, we do not rate the relative importance of industries by their relative employment-giving capacities. If we did, we should have to conclude that the adoption of labor-saving inventions in industry would in many cases at least cause that industry to decline in importance in relation to other industries that clung to old methods through inertia. Yamada and the present writer considered a group of industries in the Kōgyō regions with the express purpose of estimating as far as possible the relative numbers of workers in the different industries could be used as the basis for weighting index numbers of production. Our conclusion was very definitely that it would be particularly unsound to apply this criterion to Japan, where some industries are in a state of changing technique and others are overstaffed owing to local influences, while technical efficiency differs considerably in different industries. Moreover, it is not easy to find a sound theoretical basis for using this method for any country,² even under stable conditions, since optimum

Ibid., p. 102.

It is true that for purposes of weighting an index number of manufacturing production Harvard statisticians found that relative numbers of work* gave results very similar to those given by relative net products. (See E. E. and W. M. Persons, "An Index of the Physical Volume of Production,"

combinations of the productive factors are likely to differ in different industries, and the ratios of labor to other factors will consequently differ in different industries without reference to their relative importance as defined below.

For most economic purposes, relative contributions to the national income should be taken as the criterion of relative importance.¹ The closest approximation to this is given by the relative values of the net products of different industries. Net products are "the excess of the value of the products over the value of the materials used up in their manufacture."²

Unfortunately, data on net products are unobtainable for Japanese industries. Even when data on a census of

Harvard Review of Economic Statistics, November 26, 1920, Preliminary Vol. II, p. 323.) It was this fact that led Yamada and the present writer to examine the possibilities of using relative numbers of workers in Japanese industries for a similar purpose. But conditions in Japanese industries appeared different from conditions in American industries. Moreover, I should hesitate to infer any causal relationship from the correlation found by the Harvard statisticians.

¹ For qualifications, see reference to Flux in the following footnote! It should be noted that relative importance in this sense is not the same thing as relative indispensability.

² A. V. Flux, "Indices of Industrial Productive Activity," *Journal of the Royal Statistical Society*, 1927, Vol. XC, Part 2, p. 22(i). "When we talk of the output of any industry, our attention is generally directed to the products of that industry, as prepared for sale to others than the producers. The value of such products includes both the value of the materials of various kinds used in carrying on the industry and the value of the work of adaptation which is the special function of the industry under consideration. Only the latter represents the productive contribution of this industry, the value represented by the materials worked up being the contribution of some other industry or industries, whether at home or abroad."

I have stated in the text that relative net products give the relative contributions of the industries to the national income. But this statement is, I think, only correct as it stands on the assumption that amounts given in subsidies, etc., are subtracted, along with the value of materials used up, from the gross value of the final product. This is not done in practice, and it is hard to see how an exact quantitative statement of the effects of tariffs could be arrived at. However, the point may be important in the case of some industries.

Moreover, it should be noted that relative importance as defined in the text is not necessarily indicative of relative contributions to welfare. Net products are partially determined, on the side of demand, by individual consumers' tastes, which, as we have seen, are not always related to considerations of welfare.

manufacturing production are made available, it will be unsafe to use net products there shown to indicate the relative importance of different industries in earlier years. Consequently, the precise significance of much Japanese industrial activity in the past is likely to remain a closed book. It may be, of course, that, when data on net products are made available for a year in the present decade, they will show relative magnitudes for the different industries similar to those shown by total products in the same year. But if so, such a correlation might, I think, be spurious, and it would not be legitimate to infer from it that relative total products for past years, which can to some extent be estimated, were indicative of relative net products which can never be obtained directly for those years.

Available statistics on Japanese industrial development, then, though valuable for many purposes, do not in themselves supply a satisfactory basis for evaluating Japanese industrial development in relation to the national income and for estimating industrial potentialities. The matter is further complicated by the fact that government subsidies are granted to a number of industries. Orchard, in the course of a somewhat unfavorable estimate of the prospects of industrialization in Japan, has stated that "there are few industries that are able to continue without government assistance."¹ It is not primarily the number of separate industries that concerns us in this connection. We are again handicapped by the absence of information on the relative importance of the different industries. What the relative contributions to the national income of subsidized and unsubsidized industries, even if subsidies are not deducted in arriving at net products of subsidized industries? If this question could be answered, it might be found that those industries able to stand with-

¹J. E. Orchard, "Can Japan Develop Industrially?" *Geographical Review*, January 1929, XIX, 178.

out government assistance were in the aggregate much more important than the subsidized industries. The cotton industry is and has for long been unsubsidized; yet exports of cotton goods make up by far the greater part of total exports of manufactured goods. Hence, in the present state of knowledge, it is necessary to proceed cautiously; we are not yet in a position to generalize on the extent to which existing industrialization is a spurious development.

Tariffs are a form of government assistance as well as subsidies. But they are a form of assistance that is virtually universal in the world today, and the question as to what industries could continue without tariffs would be an awkward one to answer in any of the leading industrial countries of the world. However, tariffs are due for discussion later in this study.

INVENTION AND INDUSTRIALIZATION

Invention is the next factor to be considered in connection with the prospects of industrialization in Japan. There has been a fairly widespread notion abroad that Japanese people are, in industry as well as in other spheres, primarily imitators. An able recent observer states categorically that ". . . the Japanese are not originators or inventors in things mechanical."¹ This is an expression of a view widely held even by industrialists in Western countries whose products enter into competition in export markets with Japanese products.

It was inevitable that a community which had been secluded from the rest of the world for a long period should, when rather suddenly it opened itself to outside contacts, import a large number of economic, political, legal, and other techniques, which were essential to an

¹ *Japan's Economic Portion*, p. 92.

adjustment to the changed situation created by the abandonment of an isolationist policy. During this period, it is reasonable to suppose that some part, at least, of the energies that would otherwise have been turned to what is regarded in the industrialized countries as invention was used to acquire knowledge and technique already available elsewhere but hitherto excluded from Japan. The Tokugawa rulers had erected artificial barriers against the diffusion of culture, knowledge, and technique. When these barriers were let down, the energies of the people were absorbed in assimilating the fruits of the advances that had been made in the rest of the world in the period during which the barriers had been maintained. Such processes of assimilation use up much ability and energy, and perhaps involve, from the standpoint of the assimilator, some of the elements that compose inventiveness. It was hardly to be expected that the assimilators would, during the process of assimilation, add to the materials assimilated improvements on what had been produced by those familiar with the materials for a longer period of time, though, as we shall see, even this has happened to some extent in very recent times.

In fact, it is hardly correct to suppose that no important mechanical invention has been made in Japan. The Toyoda automatic loom (a non-stop, shuttle-changing loom) is an outstanding Japanese invention.¹ In addition to this, though less important, there are the Nogami automatic (a cop-changing loom working sideways), the Enshu automatic, the Kimoto, the Kanai, the Osaka Kaia, and the Kosakusho shuttle-changer attachment, all of which are Japanese inventions.² Arno S. Pearse, secretary of the

¹For a description see Pearse, *op. cit.*, pp. 80-82. See also Pearse, "The Cotton Industry of Japan, China and India, and Its Effect on Lancashire," *International Affairs*, September 1932, XI, 655-57, for some discussion of the merits of this loom by British textile experts.

² Pearse, *Cotton Industry of Japan and China*, pp. 80, 82.

International Federation of Master Cotton Spinners' and Manufacturers' Associations, has pointed out that

The use of the warp-stop motion, of the bobbin magazine attachment, and particularly the various inventions or adaptations of automatic looms must teach us that the Japanese are not mere imitators, and further that they recognize the necessity to apply mass production methods . . .^{1*}

The term "invention" need not necessarily be confined to mechanical devices. Something of the same mental processes that go to the production of a new machine may be applied to the commercial organization of the industry using the machines. The Japanese cotton industry shows evidence that original minds have shaped and executed part, at least, of its production and commercial organization. To quote Pearce further:

It is too late for some of the Western nations to imagine complacently their superiority over the Japanese in the cotton industry. Perhaps the present report will contribute towards removing such a misconception. In the past many of us regarded the Japanese as mere imitators; of course any learner must copy, but today that dictum cannot be justly applied to Japan. Nowhere in the world do we find in our industry such an excellent system of buying cotton from the same firms which sell the manufactured goods abroad the system of specialization of working only very few qualities in each mill is nowhere in Europe as well established as in Japan; the future exchange for dealing in cotton yarn is also unique. ²

Japanese competition has rapidly spread to markets very distant from Japan. A survey of British trade period-

¹ Pearce, *Cotton Industry of Japan and China*, p. 83.

² *Ibid.*, p. 12. I have cited Mr. Pearce at some length because of his intimate technical knowledge. His work contains a wealth of information on technical matters and in this respect is the most important source available in the English language, though a good deal has happened since he wrote early in 1929. But his comments on labor questions in Japan seem to reveal capitalist bias; he appears to have accepted too readily oral statements of employers obtained in interviews. Professor and Mrs. Orchard have a much better account of labor questions in *Japan's Economic Position*, chapters xxi and xxii, which are written with a real understanding of labor viewpoints and at the same time are fair to employers.

icals in recent years that give detailed attention to textiles, and of reports of industrial commissions of inquiry sent out from Great Britain, gives abundant evidence of the organizing capacity of Japanese industrial and commercial leaders in the textile industries. The evidence is too voluminous to permit detailed documentation to be given here. W. F. Machin,¹ referring to the existence of planning in Japanese export industries, speaks of his personal experience of Japanese competition "in many countries, particularly in Turkey, Syria, Palestine, Egypt, Sudan, Kenya and Uganda, Tanganyika Territory, the Rhodesias, and South Africa." Rejecting the view that the success of Japanese competition is due solely to the cheapness of the products, Machin goes on:

I am convinced that there is much more in it than just the price factor, that a definite, carefully planned campaign has been put into successful operation by the whole of the Japanese textile industry over a number of years.

Space will not be taken up here with a detailed summary of the methods used in this "definite, carefully planned campaign." The evidence from Lancashire journals, and from the reports of British Commercial Attachés in the areas mentioned,² is accessible to all readers interested in the details.

Of course, it is not intended to suggest here that the Japanese textile industries are organized flawlessly. But we can conclude that their history disposes of the view that Japanese are incapable of producing mechanical inventions of high order, and of developing industrial and commercial organizations that compare well with those found in the rest of the world. In textiles, Japanese marketing methods and organization are probably superior to those of other countries.

¹ *Manchester Guardian Commercial*, January 7, 1933, p. 3.

² Published for the British Department of Overseas Trade by H.M. Stationery Office, London.

There is certainly apparent to every observer much outward evidence of clumsiness and roughness in the handling of machinery in Japan. But this condition is not incompatible with the development of inventive genius in individuals. It can hardly be supposed that in the late eighteenth and early nineteenth centuries the mass of people in England were apt in the handling of machinery; yet notable inventions were made. The lack of experience among Japanese workers will not persist long.

In any case, it is not obvious that lack of domestic mechanical inventions need necessarily be fatal to industrialization. There are other factors besides leadership in mechanical invention which aid competitive power in world markets. In certain cases, it may even be doubted whether a given invention in a given area will necessarily in the long run favor the industrial progress of that area in relation to other areas.

SOME NOTES ON SILK, RAYON, AND WOOL

Unfavorable predictions regarding the future of the Japanese export trade in raw silk and manufactured silk goods are found in much of the literature on Japanese population problems. These predictions are based largely on the rise of the rayon industry in the United States.

While it is true that in quality rayon fabrics are becoming more competitive with certain classes of silk fabrics, there is no satisfactory evidence that the displacement of the latter, if it comes, will be sudden and catastrophic, nor are there adequate grounds yet for believing that silk fabrics will ever be completely displaced.¹ In

¹ See Joseph Schober, *Silk and the Silk Industry* (New York, R. R. Smith, 1930). Moulton has a well-balanced discussion of this question, *op. cit.*, pp. 457-61. He concludes: ". . . the effects of the rayon industry upon the silk industry have thus far not been very serious and . . . it is altogether unlikely that rayon will spell the ruin of silk. It will, nevertheless, tend to restrict the growth of the silk Industry."

fact, up to the time of the present world depression, exports of raw silk were markedly increasing. In so far as rayon displaces silk, the stimulus thereby given to the rayon industry will be shared by the Japanese rayon industry. While at present exports of Japanese rayon goods are small in comparison with exports of raw silk, they are increasing at an extraordinary rate. Even if raw silk exports do decline in the future, there is some ground for supposing that the decline will be offset by an increase in rayon exports. Moreover, the export markets for rayon goods are widely distributed, while most of the raw silk goes to one market.

It is unfortunate that some recent pessimistic analysis of tendencies, while making a great deal of the possibilities of the displacement of Japanese silk in American markets by the American rayon industry, has neglected the rise of the Japanese rayon industry. Not only has this industry been increasing in importance, but its development gives additional proof of what the cotton industry has already demonstrated, the capacity of Japanese industrialists to rival Western industrialists in Western technique. Sansom and Macrae stated in 1930:

It may be mentioned as evidence of the technical efficiency of the Japanese artificial silk industry that the Asahi Company has succeeded in producing viscose filaments to 2 denier and 1.5 denier.¹

Already almost self-sufficient in yarn supplies, the Japanese rayon industry has made striking inroads into the markets of China, India, the Philippines, the Netherlands East Indies, and Malaya. Sansom and Macrae, well-informed and cautious writers, have gone so far as to describe the progress of the industry as "phenomenal."

Exports of woolen goods have not reached large di-

¹ G. B. Sansom and H. Macrae, *Economic Conditions in Japan to June, 1930* (London, H.M. Stationery Office, 1930).

mensions, but Japanese products are already (though with some aid from tariffs) capturing the home market. Imports of tops have decreased; imports of raw wool have increased; and previous to September 1931 the way was being prepared with good prospects of success for an advance into the markets of China and India.

A word of caution should be added on the danger of overlooking the collective importance of a number of smaller industries when considering the prospects of future development of industries and exports of manufactures in Japan. The descriptive writer on Japanese industries will do well to note the progress made, for example, in the flour, paper, cement, toy, jewelry, vehicle, and lamp industries.

The Japan of today is a curious conglomeration of old and new. Small-scale domestic manufacture is mingled with up-to-date and well-equipped factories. Little hand-drawn wagons crowd the roads in sight of automobiles, motor trucks, and modern railways. The hustle of Osaka contrasts strangely with the more leisurely pace of life in small towns and rural districts. The short-period visitor is likely to be more arrested by the relics of the old, which are strange to him, than by the evidences of the new, with which he is already familiar in his own country. When to this is added the barrier created by a difficult language, and by the individual, though not national, self-depreciation which is part of customary Japanese etiquette, it is not surprising that he is often apt to underestimate the capacity of the Japanese for industrial competition with leading Western countries.

PART III. THE DISTRIBUTION OF POPULATION
AND THE DISTRIBUTION OF NATURAL
RESOURCES

CHAPTER VII

POPULATION AND MIGRATION

POPULATION AND NATURAL RESOURCES

The population of the world is unevenly distributed with respect to natural resources. With changes in technique the relative importance of different resources changes.¹ Indeed it may be said that changes in technique change the meanings of the terms "natural resources" and "raw materials." A substance little used or valued in one age becomes indispensable in the next. Let us assume that at some particular time population were so distributed over the globe that each group had the same advantages as all the others in respect of the possession of domestic natural resources. It is clear that this equilibrium would be disturbed by inventions and changes in technique. Even within regions population is not evenly distributed with respect to resources.² However, the obstacles to readjustment within regions can usually be overcome at less cost than is involved in overcoming the obstacles to readjustment between regions. The unequal distribution of natural resources among different com-

¹ Not only have some substances been left wholly unused for thousands of years prior to given inventions and improvements in the arts, but the amount of a given substance available for economic purposes varies with varying technique. For example, E. W. Zimmennann points out that "in 1900 no copper bearing deposit poorer than Ave per cent was counted among the reserves of copper ore; today much of the copper ore worked in this country contains less than one per cent copper. Estimates of mineral reserves generally include those deposits which may reasonably be expected to yield their usable content under the prevailing conditions of price and technology."—*World Resources and Industries* (New York, Harper, 1933), p. 438.

² In this study, I use the word "migration" to signify movements of human beings either within or between political states, except traveling for business or pleasure. This usage must be distinguished from the definition laid down by Walter F. Wilcox in *International Migrations* (New York, National Bureau of Economic Research, 1931), II, 85-86.

munities gives rise, in the absence of corrective measures, to inequality of economic opportunity and to wide divergences of per capita income.

The lack of correspondence between the distribution of population and the distribution of resources leads to great differences between the relative amounts of the different factors of production located in different regions. In consequence, differences emerge between the unit prices of the same or similar factors in different regions. When these differences exceed the cost of overcoming the obstacles to mobility, they often lead to movements, either of the factors of production or of goods, or of both, between regions. Such movements tend to correct the maldistribution of population with reference to resources. In chapters vii and viii I shall discuss mainly the movements of productive factors that tend to correct such maldistribution, reserving for chapter ix the greater part of my discussion of the movements of goods as a corrective factor.

In earlier times, the obstacles to mobility between many regions and the costs of overcoming them were very great, and in some cases insurmountable. After the gradual disintegration of the Roman Empire, facilities for land transport in Europe deteriorated during many centuries. In the medieval feudal societies, restriction on internal migration of labor was a characteristic feature of existing social organization. Many hindrances to internal mobility continued up to the time of the Industrial Revolution. The geographical discoveries beginning with the end of the fifteenth century opened the way to overseas migration, which, after the improvements in the technique of transportation in the nineteenth century, changed the economic structure of the world. The lower relative costs and the speeding up of transportation, combined with the development of new and rapid means of communication

and of capital markets international in scope, greatly increased the mobility of the factors of production.

Obstacles to mobility may be divided, for some purposes of analysis, into natural and artificial obstacles. The importance of the natural obstacles—distance is one of them—changes with changes in the state of the arts. Improved technique tends to reduce the costs of overcoming the natural obstacles, but the trend of costs of overcoming artificial obstacles may, in a given period, move in a different direction from the trend of costs of overcoming natural obstacles. In modern times, there have been periods in which over certain areas the increase in mobility resulting from improved technique has been partially or wholly offset by political influences tending to work in the opposite direction by increasing the artificial obstacles to mobility. The changes in the artificial obstacles, and in the costs incurred in overcoming them, have varied greatly according to the type of area under consideration. The intensification of nationalism hastened the abolition of many of the older restrictions on mobility within national areas, which have sometimes corresponded approximately to geographical regions, and thus increased mobility over areas many of which were very extensive. The increase of per capita wealth in modern times would have been impracticable without this reduction of artificial hindrances to mobility. But the intensification of nationalism has had very different effects on the artificial obstacles to mobility between countries. Of course, these obstacles long antedated the rise of nationalism, and there have been periods during the rise of nationalism in which they have been reduced. But in other periods they have been increased, and, notably since 1923, artificial restrictions on the international mobility of the factors of production have been progressively intensified.

The fact that in modern times the history of artificial

hindrances to mobility within countries has followed a different course from the history of artificial hindrances to mobility between countries is attributable to fundamental differences between the political organization of domestic and that of international affairs. We live in a world divided into nationalities each of which claims to exercise sovereignty not only in domestic matters but also in such of its dealings as affect the citizens of other countries. In their international dealings governments are, however, limited in certain directions by the provisions of agreements, embodied in treaties and the like, reached in some cases voluntarily, in some cases under duress, which form what may be called in an expanded sense a body of international law. Some part of this body of law is made up of customs and usages adopted by the civilized nations which gain practically universal acceptance in peace time, and this part is generally more enduring than the part which consists in the provisions of political treaties. In so far as this body of international law is adhered to, it is incorrect to say that a complete state of anarchy exists in international relationships. But agreements, conventions, and usages at best cover only a very small part of the field. Over the remainder, it is literally correct to state that a condition of anarchy prevails between nations, just as a condition of anarchy prevailed within some countries in medieval times, when each feudal lord was sovereign within his own domains, and in his relations with other feudal lords was unrestrained or inadequately restrained by the nominal central powers of the king.

The government of each country erects at will barriers to the international mobility of the factors of production and goods, and changes at will the height of those barriers, regardless of the effect of such changes on the welfare of "foreign" peoples. That is not all. The world is

not divided uniformly into nationalities each of which occupies territory all parts of which are contiguous. Some governments exert political sovereignty over areas widely separated from each other, and are thus able to erect at will artificial obstacles to the mobility of factors and of goods between these separate areas, on the one hand, and, on the other, all areas not subject to their sovereignty. Thus the possibilities of emigration, and of the export of capital and goods, from one given region to another are dependent either wholly or in part on the possession by the government of the country of which the potential emigrants, and the owners of the capital or exportable goods in question, are nationals of political control over the regions to which the emigrants desire to go, to which exporters desire to send goods, and in which owners of capital desire to invest.

These facts must be kept in view and fully taken into account in the study of the existing distribution of population with reference to resources, of the population problems of specified areas, and of remedies for existing difficulties. No scheme which ignores them or fails to give them their due place can yield fruitful results. The older term "political economy" seems a more appropriate designation than the newer term "economics" for the type of data with which this chapter and the next are concerned.

MIGRATION AND NATURAL RESOURCES

Turning to a consideration of the influences affecting the mobility of the factors of production taken separately, it will be convenient to begin with human migration. Hypothetically, maldistribution of population with reference to resources might be remedied by migration. In practice migration has never taken place on a scale adequate to bring the distribution of population into anything approaching a close correspondence with the distribution

of resources. Yet migration has taken place on an extensive scale and has had fundamental effects on world history and on world economic organization. It has been estimated that from 1800 to 1924 about 60 million people migrated between continents alone. From 1800 to 1930, while the population of Europe is supposed to have risen from 180 millions to 480 millions, the number of persons of European stock in other continents is estimated to have risen to 160 millions.¹

Much of this migration is broadly explicable in terms of the analysis given in the preceding chapter: the movement has been from areas of relatively smaller to areas of relatively larger per capita supplies of land or other natural resources, and has therefore tended to improve the relationship between population and resources throughout the world. This can be clearly seen in two aspects of the migration. Agricultural laborers and sons of farmers, unable to obtain farms of their own, migrated to the New World where they could obtain land either free or at low cost. Secondly, other European agricultural workers migrated to the New World and there obtained employment in industry and commerce. In the first case, remaining within the same general occupation, labor was moving from regions where land was relatively scarce to regions where land was relatively abundant. In the second case, there was occupational as well as geographical migration: labor moved from regions where it was abundant in relation to land and to other natural resources used in industry and commerce to regions where it was relatively scarce.

The scheme outlined in general terms in the preceding chapter, however, though it serves as a first approximation, needs to be modified and refined in respect of some

¹ See Imre Ferenczi, "Migrations," in *Encyclopaedia of the Social Sciences*, X, 440.

of its details to take account of all the facts. The statement in terms of the money costs of overcoming the obstacles to migration, even when account is taken of fluctuations in the purchasing power of money, ignores other factors such as the dangers and discomforts of long-distance travel in the earlier periods of the modern migration movements. Next, in attempting to compare costs of human migration at two different periods, account must be taken of the fact that the services whose costs are to be compared are not of the same character in different periods. The emigrant who crosses the ocean today pays for a very different set of services from those which the emigrant of a century ago paid for. Even in short periods the changes have often been appreciable. Finally, opportunities for migration that would be clearly beneficial from an economic viewpoint are not always taken advantage of; cultural ties have often been strong enough to offset economic incentives. This applies to migration within as well as between countries and has been illustrated above.¹

MIGRATION OF TECHNICAL WORKERS

The immediate effect of migration is to reduce the supply of labor in relation to the supplies of the other productive factors in the regions of emigration, and to increase the relative supply of labor in the countries of immigration. If the populations in the regions of emigration have passed the income optimum and the welfare optimum while those of the countries of immigration have not yet reached those points, per capita income and welfare in both immigrant and emigrant countries and in the world as a whole are raised. This general statement, however, though it is an important first approximation, does not carry us far toward an elucidation of the facts of real life, partly because we know so little about the

¹ See chapter v.

positions of the optima in question and partly because migration itself reacts on those positions.¹ There are differences between the state of the arts in different areas. The state of the arts in any given area is influenced, among other things, by the supplies of certain types of skilled workers, including professional and intellectual workers and those skilled in organization. Certain countries have been greatly benefited by the immigration of workers of these types. In some cases such workers have been forced to migrate, as in the religious persecutions of medieval times and the much more severe political persecutions of the twentieth century. The state of the arts has undoubtedly been improved in many cases in the countries in which such immigrants have settled. It should not be overlooked that this often applies to the social arts as well as to the industrial arts. For example, the superiority of the social legislation and of local government in Wisconsin as compared with other states is sometimes said to be in part the outcome of the traditions established by the progressive Germans who were driven from their own country in the middle of the nineteenth century. A much more wholesale persecution today is driving some of the world's best scientists out of Germany.

In a region where natural resources are abundant but certain types of skilled, technical, and intellectual workers are lacking, the state of the arts and with it per capita income and welfare can be improved with a minimum of delay by large-scale immigration of such workers. The best conditions exist for attracting such immigrants when, owing to the possession of relatively abundant natural resources, real wages in the region in question are higher all around, or at least in most occupations, than in the regions where the required types of workers are to be

¹ It may in time react on the supply of the productive factors.

found in considerable numbers. In these conditions migration is likely to take place without the adoption of special methods designed to stimulate it, and the emigrants generally become citizens of the new country.

But it is not easy to attract skilled, technical, and intellectual workers to a region in which natural resources are relatively scarce and wages relatively low, and special methods have to be resorted to in such cases when it is desired by the introduction of technical processes to improve the state of the arts. Such methods always involve migration, but the nature of the migration differs markedly from that which takes place in the case previously considered. The migration is often of a temporary character, those who migrate generally returning to their former homes after a few years. The volume of migration is much less, and the effects of it on the state of the arts show themselves more slowly, than in the previous case.

Migration of this type has been of fundamental importance in assisting the economic transition of Japan since the Restoration, and in promoting industrial and agricultural changes in contemporary Russia. It has involved movements in opposite directions.¹ Thus Japanese have been sent in considerable numbers to Western countries to learn certain kinds of industrial, agricultural, and business techniques. After periods varying in length they have

¹ It follows that in the present study my viewpoint is different from that expressed by Walter F. Willcox (*op. cit.*, p. 85) in the following passage: "What is often called temporary immigration, for example, involving a change of place for a period of weeks, months, or years, but with the intent to retain or return to the former abode, is not real immigration." Of course I do not consider business travel and sight-seeing as migration, but I do include as one form of migration (emigration and immigration) those movements of technical, professional, and intellectual workers which are specifically undertaken in order to introduce into a region arts acquired elsewhere or in order to acquire certain arts in a given region with a view to returning to and introducing or carrying them on in another region. These movements involve some permanent migration, but often the immigrant leaves after a few years. Of course my viewpoint does not involve any criticism of Willcox's: definitions are always relative to specific purposes.

returned to Japan and instructed their countrymen in these techniques. Conversely, technical and intellectual workers from Western countries have been brought to Japan to introduce technical processes with which Japanese were unfamiliar. Their functions have been in some cases, particularly in the earlier part of the modern period, to put these processes directly into operation. For example, English engineers and navigators laid the foundations of Japanese railways and shipping. Generally the technical workers from abroad have in addition instructed Japanese in their techniques, and eventually Japanese have taken over the whole operation in most fields. However, temporary migration of this kind has not ceased: new technical processes are continuously arising, and the employment of outside technical labor is frequently the quickest way of bringing new technical processes into use.

The employment of outside technical and intellectual workers in a country where wages are low is costly, because the rate of remuneration necessary to attract such workers is high in comparison with the rate paid in other occupations in the country. Similarly, high costs are incurred in sending selected workers from the country where wages are low to reside for considerable periods in countries where wages and living costs are high, in order that they may acquire certain kinds of technical and intellectual skill. But if the costs are high, so also are the returns resulting from the technical advances that are in these ways introduced into the country, and Japanese have shown great wisdom in promoting short-period migration since the Restoration, with the object of improving the state of the arts. This migration involves relatively small numbers and is not commonly discussed in connection with migration problems. None the less it is a form of migration the importance of which is out of

all proportion to the numbers of people involved, and without it Japanese economic development would have been greatly behind the stage which it has actually reached. The whole subject seems to have been somewhat neglected in the economic literature on Japan.

The effect of the type of migration just considered is, in the case of Japan, to increase the supply of certain types of technical and intellectual labor within a country already densely populated. This involves a decrease in the supply of less skilled and specialized types of labor, since the Japanese who acquire skill abroad, and the outside specialized workers who are brought into the country for a time, train other Japanese in the specialized techniques concerned. But the numbers thus affected are small as compared with the total working population, and the significance of the change lies mainly in the increase in the supply of certain specialized workers. The whole case is instructive as an illustration of the importance, for many purposes and in relation to given periods of time, of treating different types of labor between which mobility is slight, at least in short periods, as different factors of production. When this is done, it becomes clear that in some very densely populated regions, which are commonly considered to be overpopulated, there is an actual shortage of certain specialized types of labor. In the early stages of industrial development these types of labor play a somewhat analogous part in an economic structure to that played in the steel industry by such raw materials as manganese, chromium, molybdenum, tungsten, and vanadium—substances of which the required quantities are small in physical volume and in total values in comparison with the supplies of the other raw materials and the finished products, but without which steel manufactures would be of greatly inferior quality. I have elsewhere indicated that the relative physical

quantities and the relative money values of such substances are no measure of their relative indispensability.

Thus the concept of optimum total numbers from an income or welfare standpoint is in itself inadequate. The question as to how the total numbers are constituted has further to be considered. Whether or not overpopulation exists in a community will depend not simply on the size of the population but also on its make-up. Total numbers will be excessive if made up in one way but not if made up in another way. This fact does not appear to have been taken into account as yet by exponents of the optimum theory of population, but it is of great practical significance, and an important corollary can be deduced from it. One remedy for certain kinds of population maladjustment is to change the make-up of the population. The first type of migration considered above is the way to effect such a change in a community where the wage level is high; this migration may increase total numbers appreciably and yet remove certain population difficulties. The second type of migration considered above is the way to effect such a change in a community already densely populated which has a low wage level. It will not alter total numbers appreciably but will change the make-up of the existing population from the standpoint of productive activities. Migration is at the root of the change, even though its volume is very small.

This type of migration improves the state of the arts. Now the income and welfare optima are in some degree relative to the state of the arts and may change with changes in the arts. Could technical migration in some circumstances change the arts in such a way as to lower the income or the welfare optimum? This is conceivable, but seems unlikely to take place in densely populated regions like Japan proper (apart from Hokkaido) where the agricultural population is so large that the units of

operation are below the optima. The newer techniques in the main assist industry and commerce and strengthen the export trades; thus they tend to relieve agricultural overpopulation. In any case it seems likely that technical migration would, by improving the arts, raise the per capita income of the existing population, even if it lowered the position of the income optimum. For it is important to note that per capita income may be higher at one time and at a particular stage of the arts than at another time and at a different stage of the arts, even though in the former case the population is further in excess of the income optimum than in the latter case.

In late medieval and early modern times the emigration of technical labor was sometimes prohibited in certain countries. It was not until 1825 that these restrictions were formally removed in England. Throughout the nineteenth century immigration of technical labor was free from restriction over large areas of the earth's surface. In the twentieth century it was checked by war and post-war measures in many areas, but these measures were general in scope and will also come in for discussion later. In these restrictive acts of general scope, some exceptions have been made in favor of technical and professional labor; for example, certain classes of such workers can enter the United States as non-quota immigrants. It is likely that special facilities for such immigration will always be granted in some degree even in countries which otherwise close their doors to immigration. In the case of countries with relatively low wage levels, the outside technical workers required are engaged by governments, by business firms, and by educational institutions; in this case not only is there no restriction, there is definite promotion of such immigration. But even in these conditions there are interests which tend to work against the full exploitation of the possibilities of the immigration of

technical labor. As a rule, the specialist immigrants do not become citizens of the country and often come from a markedly different type of culture. The citizens of the country who set out to acquire the particular techniques involved, either by learning them at home under the directions of the immigrant specialists or by going abroad, are anxious as soon as possible to displace the immigrants, and are willing to do so at considerably lower remuneration than that which has to be paid to attract the immigrants. When this motive is reinforced by the intensification of nationalism which has accompanied the rapid development of the modern state in such countries as Japan and Turkey, outside technical workers are apt to be dispensed with prematurely in some cases, as for example in the case of the Turkish medical profession at the present time. I have observed similar instances in Japan in certain occupations. However, in the countries that were modernized relatively early, there is a tendency to neglect the possibilities of the profitable employment of outside technical labor. The relative industrial supremacy of Great Britain during part of the nineteenth century seems to have created an unfortunate tradition in England that underrates the capacity of other peoples and the advances made abroad, and largely prevents the utilization of outside technical labor. Altogether, the migration of technical labor could with advantage be extended in all parts of the world. The social as well as the industrial arts could be improved everywhere if each community made the fullest use of the experience of communities in other regions.

The spectacular transition from medievalism to the modern state in certain Asiatic communities is in no small measure due to their readiness to promote technical migration. Despite occasional haste in dispensing with outside technical help in certain lines, on the whole the Japa-

nese have carried out the Emperor Meiji's directions and drawn freely on the knowledge accumulated in the rest of the world. Japan, however, stands in an intermediate position. Though its wage level and per capita income are below those of most Western countries, they are above those of most if not all other Asiatic countries. Just as Japan draws on the technical labor of Western industrial countries, so there are other Asiatic countries which draw on the technical labor of Japan. The fact that, in such countries, the general wage level is lower than in Japan does not prevent migration of technical labor. Rather, the relatively low wage level is, at least in part, due to a relatively less advanced stage of the arts, and this in itself supplies a motive for technical immigration. Only if the relatively low wage level were due entirely to overpopulation would this motive be absent, and there is no reason for believing that such a situation exists.

Let us use the term "remuneration" to include not only money payments but all the services made available to the worker, some of which may in certain cases be made available directly without any currency passing. This concept of remuneration is not free from difficulties, but it may be made to serve present purposes.

Emigrants do not necessarily move from densely to sparsely populated regions. On the contrary, some migration, especially migration within regions, takes place from sparsely to densely populated regions. Considerable numbers of Koreans have moved from their country to the most densely populated regions of Japan—the Osaka district, the Nobi Plain, and the Tokyo district. In general terms it may be said that migration usually takes the form of a movement from places where remuneration (as defined above) for the class of labor concerned is relatively low to places where it is high.

But the movement that actually takes place in these

circumstances is very much less than the movement that might *prima facie* be expected, from the differences in remuneration, to take place. First, costs of movement have to be taken into account. The costs of overcoming the natural obstacle of distance are considerable, and greatly reduce migration. It is of little use for a worker to know that the kind of labor in which he is engaged is more highly paid in a region thousands of miles away, if, having regard to his income, the costs of removing with his family to that area are beyond his capacity to meet. Neale notes that

.... the very much lower fares prevailing forty years ago than today between Great Britain and New Zealand by steamer account for the absence in the present depression of the "exodus" feature to the degree that characterized the depression of the late eighties and early nineties. Specially reduced fares from Great Britain always had their effect in increasing the emigration figures.¹

Besides the costs of transport there are, particularly in cases where families migrate, costs incurred in setting up new homes. Governments have sometimes contributed toward meeting the costs of migration, either by loans or outright grants. The Japanese government has given some financial assistance to migration to Brazil and to internal migration from Honshū, Kyūshū, and Shikoku to Hokkaido. But in such cases the volume of migration has not been large; and the cost of promoting a large-scale movement would be very great. Apart from the costs of overcoming obstacles other than distance, the costs of movement alone are enough to prevent migration from reaching a scale sufficient to equalize wages throughout the world.

Another natural obstacle to migration is to be found in reluctance to leave familiar surroundings and associates, even when it is financially advantageous to move.

¹E. P. Neale, "Migration and Depression," *International Labor Review*, December 1932, XXVI, 816.

This is here included as a natural obstacle, because, though it arises out of socio-psychological factors, there is no reason to suppose that it will ever be completely removed. But this obstacle, like that of distance, can be partially overcome, though only by incurring costs. To promote migration to Brazil and Hokkaido, the Japanese government introduced publicity campaigns which laid emphasis on certain similarities between the cultural features of life in the new surroundings and those in the old.

However, the history and present position of migration cannot be satisfactorily interpreted in the light of natural obstacles. Political influences on the movements of the factors of production have already been briefly discussed in general terms in this chapter. They are of particular importance in the study of emigration and immigration. Territorial political divisions greatly affect the volume and course of migration. This is true not only of the migration of laborers and agriculturalists but also of technical migration, including immigration of technical workers and temporary emigration of native persons to acquire skill abroad and return to apply it at home. Large areas are related to other areas politically as colonies or dependencies. Migration of technical and professional workers generally takes place between these areas, often on a considerable scale. If the colonies or dependencies were politically independent areas, or if they were linked with different politically dominant countries from those with which they are actually linked, migration would take place in different directions from those which it follows under existing conditions. Thus the employment of Japanese technical workers in Korea, Formosa, and Manchuria; of English technical workers in India, the West Indies, and parts of the Middle East; of American technical workers in the Philippines, are examples of technical migration the direction of which is largely determined by

political factors. If the peoples of these areas were politically independent, it is probable that they would select what outside technical workers they needed in each case less exclusively from a single source than they do now.

The most striking attempt of one country to use its political power to force technical labor on another country is to be seen in Articles 15 to 18 of the Twenty-one Demands presented to China by Japan in 1915. Article 15 reads: "The Chinese Government shall employ influential Japanese as advisors in political, financial, and military affairs." Article 16 reads in part: ". . . the police departments of these places shall employ numerous Japanese" Article 18, dealing with munitions, says in part: ". . . Japanese technical experts are to be employed and Japanese material to be purchased."¹ Since the occupation of Manchuria and Jehol by the Japanese army a number of former Chinese enterprises, as well as Chinese administrative departments, have been obliged to accept Japanese technical workers. In such cases, however, it appears that the managerial functions have also been taken over by Japanese.

Numerous examples could be added of the use of political power to direct technical migration along somewhat different channels from those which it would follow in a world state, or in a world in which each of the areas between which migration takes place were self-governing and autonomous in fact as well as in name. The economic effects of this use of political power are not always easy to determine; often the long-run effects are wholly unforeseen by those who promote the migration. Those effects which show themselves in the form of changes in international trade, which in turn produce changes in the internal economy of the country from which the technical

¹ *A History of the Peace Conference at Paris*, edited by H. W. V. Temperley (London, Henry Frowde & Hodder & Stoughton, 1924), Appendix IV, p. 633.

emigrants originally came, will be considered in the next chapter. In the case of Japan they are of fundamental importance to an understanding of present economic problems. As regards the more direct effects, it appears likely that there is a net loss of efficiency in the world as a whole resulting from the exercise of political pressure by dominant states with the object of shaping the direction of technical migration in accordance with the supposed advantage of their own nationals. Since there is considerable specialization among different communities, the economic development of a "young" country, or of a country where the state of the arts is backward, can be promoted better by drawing technical immigrants from various sources regardless of nationality than by drawing them exclusively from one source.

However, it must not be assumed that if the peoples of the areas which have become political dependencies had remained independent they would necessarily have taken measures to improve the state of the arts, by technical migration and in other ways, as effective as the measures actually taken by the politically dominant country with respect to the dependency. Technical migration may be forced on a dependency on a scale greater than that which would have been fostered if the dependent community had been wholly self-governing. Loss of political independence may in some cases have promoted economic development. It is difficult, and perhaps impossible, to reach definite conclusions on these matters, since we have to try to compare what is with what might have been. However, a few words of caution may be useful. In popular discussions in England it is too readily assumed that India would be less developed economically if it had not come under British rule. In India it is too readily assumed that British administration is incompetent. Both British and Indians frequently overlook the

fact that one of the most important obstacles to the economic development on modern lines of most Asiatic countries consists in certain customs and sentiments—integral parts of the culture of the communities concerned—which are tenaciously maintained by the masses. Now a ruling class whose culture traits and some of whose physical characters—such as skin pigmentation—differ markedly from those of the indigenous peoples cannot afford to endanger its position by using drastic measures to override the cultural obstacles to economic progress. It is difficult to see how ruling classes of this type could have initiated some of the changes which have been made in Japan since the Restoration and in Turkey in recent years. Again, it is often hastily assumed that little or no economic advance would have taken place in Korea without Japanese rule, and the fact is generally overlooked that Western missionary organizations, in the years before the annexation, were introducing educational facilities into Korea with promising results which might have led in time to the emergence of a capable Korean governing class.

In short, when modern communication and transportation made all communities accessible to one another, there were two ways in which the areas of retarded development might have been brought into the main stream of modern economic progress. One way was by the establishment of political control by the more advanced over the more retarded areas, followed by migration of technical and professional labor and movements of capital, directed in each case along narrow channels by the politically dominant community with a view to its own advantage. The other was by immigration into the retarded areas of technical and professional workers, directed along wide channels by independent governments in the retarded areas. In cases that come within the second cate-

gory the initial impulse came in several different ways: the arrival of traders or of missionaries, and visits abroad by natives of the retarded areas. The way of annexation accompanied by migration of technicians along exclusive lines has in practice been followed more often than the way of self-government accompanied by migration of technicians on broad lines. But the more frequent adoption of the former than of the latter is not necessarily a proof of its superiority as a way of promoting economic advance; it is rather an outcome of the facts of international relationships discussed earlier in this chapter.

MIGRATION OF AGRICULTURAL AND UNSKILLED WORKERS

In general, only technical and professional workers emigrate from politically dominant to dependent areas, since the remuneration of other workers in the latter is almost always lower than in the former. Consequently there cannot be any appreciable outlet for Japanese agricultural and unskilled and semi-skilled industrial labor in Korea, Formosa, and Manchuria. The same conditions prevent emigration of these kinds of workers to other parts of eastern and southeastern Asia. This is obvious, but it has been made to appear more complex than it is by the use of such phrases as "standards of living," "competition of cheap labor," etc. The fact is simply that even in an area where agricultural incomes and wages are low there is no incentive to emigrate to areas where they are still lower. In areas where the supply of a given type of labor is more abundant in relation to the supply of the other factors than it is, for example, in the United States, there is no incentive to migrate to areas where it is relatively still more abundant. The relative scarcity or abundance of labor is not adequately indicated by relative densities of population. There are many natural resources other than land conceived of as extension in

space; and capital, entrepreneurial capacity, the state of the arts, and certain facts of social organization must be taken into account.

There are other directions in which, however, emigration from Japan other than that of technical and professional workers would take place but for artificial obstacles arising out of the facts of present international relationships discussed above. This is true of Chinese as well as of Japanese workers. Thus practically all classes of labor are more highly remunerated in Canada, the United States, and Australia than in China and Japan, but immigration of Chinese and Japanese into the lands occupied by English-speaking peoples is prohibited, except for a small amount of temporary immigration for trade and professional purposes. Artificial barriers have stopped movements of population from regions with relatively low wage levels to regions with relatively high wage levels.

The imposition of these restrictions is to be explained in terms of a somewhat complex interaction of cultural, political, and economic factors. It is often said that the objections to immigration are based on purely economic grounds. I recollect an American labor leader, on a visit to Japan in 1929, assuring an audience of Japanese workers that the exclusion of Japanese immigrants from the United States was due entirely to a desire to protect the American standard of living; he added that if in the future the Japanese standard of living rose to the level of the American he personally would no longer entertain these objections.

Whether or not immigration policy "*should be*¹ based primarily upon economic or business considerations," as the Immigration Commission recommended, is a question to which careful consideration ought to be given, and on

¹ My italics.

which much difference of opinion **would** be found. **But** if we turn from a consideration of what should be to a consideration of what is, we cannot escape the conclusion that other than economic factors have entered into the making of existing immigration policies. The economic arguments advanced by restrictionists in some cases appear to have been motivated by a desire to justify policies based ultimately on sentiments that have little to do with economics. Thus it can hardly be maintained that a limited amount of immigration of Chinese or Japanese into North and Central Australia would lower the per capita income of the existing population of Australia. Nor can the refusal of the United States Congress to permit the entry of quotas from China and Japan be justified by any kind of economic reasoning. This refusal has irritated many Japanese, and the feeling of irritation, like the act which gave rise to it, has no economic basis; the numbers involved are far too small to be of any economic significance. The exclusion of Asiatic countries from the application of the quota system does not injure the economic interests of the Asiatic peoples, nor does it protect the economic interests of the American people from any external menace. The sole achievement of Congress in effecting this exclusion was to annoy many Asiatic people. Machiavelli, whose teaching is so often misunderstood by those who do not read his works and consider the background from which they emerged, would never have committed a political blunder of this kind.

Economic arguments of doubtful validity are often used in support of almost complete exclusion of immigration into English-speaking lands from certain densely populated areas. What is commonly overlooked is that an argument which may be valid against a very large-scale immigration is not necessarily valid against all immigration whatsoever. For instance, an Australian

writer, whose main objective is to make a case against any immigration into Australia from Asia or Africa, says:

People with a low standard of living require few things other than food and a few necessities: it is therefore very questionable whether Australia is not contributing more to the world's well-being by maintaining its high standard of living with large imports of manufactured commodities, and exporting food to pay for them, than it would be if it absorbed large numbers of low-wage immigrants, used in the country more of the food produced, and had a lower standard of living that called for smaller imports of made-up goods.¹

This passage raises a number of rather complex problems. There is first, however, one fairly straightforward issue to be disposed of. If immigration into a given region took place very rapidly on an enormous scale, not only would there be the frictions and maladjustments incident to rapid transition, but the time would come when further additions to the supplies of various kinds of labor would reduce the per capita income of the population, unless the state of the arts were to improve at an equally extraordinary rate—a condition that would not necessarily be fulfilled. Here is the basis of a genuinely economic objection to large and rapid immigration. It may also be the basis of a valid case against any immigration at all into a region where already the relative supplies of productive factors are such that any addition to the supply of labor, even if accompanied by an appropriate import of capital, would lead to a diminution in per capita income. But it does not appear that anybody maintains that this stage has been reached in all parts of Australia. On the contrary, the writers who advocate the White Australia policy often express a desire for a higher birth-rate among Australians or for more immigration of English or of other Europeans in order to insure permanent

¹H. L. Wilkinson, *The World's Population Problems and a White Australia* (London, P. S. King, 1930), p. 300.

and complete occupations of the continent by "white" people. This implies that numbers may be increased without danger of reducing per capita income and welfare. If that is so, it follows that there is room for some immigration that would not reduce per capita income and would increase total income. The greater national income would bring increased ability to buy international as well as domestic goods.

What economic objection can there be, then, to a limited amount of immigration of Asiatics into certain parts of Australia? Numerous Australian and American writers and speakers have contended that emigrants from countries where the standard of living is low tend to reduce the standard of living, or prevent it from increasing as much as it otherwise would, in countries where it is high. Asiatics and Africans have perhaps the lowest standards of living, and immigrants from those continents would, according to this argument, inflict the maximum damage on the Australian and North American standards of living.¹

This argument is never, in the case of Australia, and not usually, in the case of North America, accompanied by an attempt to demonstrate that an increase in the domestic supply of labor will reduce per capita income. Yet without such a demonstration it is invalid. If the relative supplies of the different productive factors are such that, having regard to the conditions of domestic and international demand for Australian and American products, a given increase in the supply of labor would bring an increase in per capita income in certain regions of Australia and America, immigration on an appropriate scale, far from lowering per capita income, would actually

¹ In what follows I shall in general use the concept of per capita income rather than that of the standard of living, since detailed analysis of the latter concept would require a more extensive discussion than I can afford to give to it in the present study.

raise it. This would take place irrespective of whether the immigrants came from Asia or from Europe, from northwestern or from southeastern Europe. The entry of immigrants who were accustomed to receive lower incomes in the countries from which they came will not necessarily lead to a reduction, and may lead to an increase, in average income; and there is no doubt that it has frequently done so in the past in North America and in Australasia. If, as seems almost certain, in some regions of Australia the present population is short of the income optimum, an influx of a certain number of Japanese would raise the total income of the country in greater proportion than it would raise total population. On the other hand, if the population of these regions were greater than the income optimum, one of two results would follow immigration: if the state of the arts remained fairly constant, numbers would increase more rapidly than total income; while if the state of the arts continued to improve at an adequate rate, the effects of overpopulation on per capita income would be offset and perhaps more than offset.¹ In the second case immigration would not reduce per capita income, but it would either prevent it from increasing or make the rate of increase less than it would have been in the absence of immigration. The same sequence of events would occur no matter whether the immigrants were Japanese or English. Of course if the quality² of a given type of labor differed markedly

¹ The possibility that changes in the arts may change the income optimum must not be lost sight of.

² The term "quality" is purely relative to particular kinds of labor. A variety of operations are included under the general term agriculture, and a group of immigrants from one source may be superior in quality from the standpoint of one agricultural operation to another group from a different source but of relatively inferior quality from the standpoint of another agricultural operation. Differences in qualities are sometimes related to conditions in the countries from which the Immigrants come. For instance, Chinese and Japanese agriculturalists are said to be well adapted for "stoop work," which American workers commonly dislike. This statement is readily acceptable and

according to its place of origin, the increase of income in an underpopulated country, and its decrease or retarded rate of increase in an overpopulated country, would vary somewhat in degree according to the sources of immigration. But those who argue that the standard of living would be depressed by immigrants from regions where wages are low take the position that the capacity of such immigrants for work is not markedly different from that of the native worker of the country where wages are high: in so far as there may be any difference, it is more than offset by the difference in wages. The cheap laborer is thus regarded as a source of cheap labor, and Marshall's doctrine of the economy of high wages is not regarded as applicable.

Thus there is no rational basis for the idea that average income will be reduced by the mere fact that immigrants come from areas where wages are low.¹

MIGRATION AND ORGANIZED LABOR

In a world of states in which private capitalism and private enterprise prevail, is it not conceivable that even in an underpopulated area immigration, though it leads in a given period to a greater rate of increase of income than of population, may yet change the relative shares of the total income which go to the different factors of production, and change them to the disadvantage of labor?

explicable to those who have watched Chinese and Japanese workers in their own countries.

For some interesting data giving a scale of preferences of farm operators in California for different groups of laborers from various sources, see *Mexicans in California, Report of Governor C. C. Young's Mexican Fact Finding Committee* (San Francisco, 1930), pp. 159-67. For data on differences of wage rates, paid to different groups, and on employers' ideas of their relative outputs, see pp. 170-71 of the same study.

¹ This idea, if carried to an extreme, would lead to the dogma that any immigration anywhere at any time would lower average income, for virtually all migration takes place from regions of lower to regions of higher wages.

In such circumstances the total income and the average income of the whole community would increase, the total income of labor might or might not increase, while its average income would decrease, remain stationary, or increase more slowly than it would have done if there had been no immigration. This situation would arise if it were found by employers that immigrants could be more easily exploited than native-born workers. It is on this basis that restrictions are often advocated against international movements of commodities as well as against international movements of labor. The products of exploited foreign labor, it is said, should be subject to high tariffs or even to embargoes. The same principle underlies the contention that the immigration of such labor as is likely to be easily exploited by domestic employers should be prohibited.

The concept of exploitation will be discussed in a later chapter in relation to restrictions on the movements of goods. So far as immigration is concerned, it must be again stressed that a case which may be valid against immigration on one scale is not necessarily valid against immigration on another scale. Moreover, the effect of immigration on the relative position of labor depends to some extent on social institutions, the nature of which varies at different times and in different areas. Let us suppose that in a region with abundant natural resources the supply of labor is inadequate to utilize these resources to the maximum advantage, and workers are for the most part unorganized and thus weak in bargaining power. In these circumstances the immigration of an appropriate number of workers from areas where labor is well organized in unions would not only lead to an increase in average income but might also improve labor's relative share of the total income, since the immigrant workers could be expected to introduce zeal for organi-

zation of unions and experience in promoting it. Wages would be likely to rise by an amount partly attributable to a more advantageous relationship between the productive factors and partly to a strengthening of the bargaining power of labor.

Here, as elsewhere in population studies, constant checking up of hypotheses by facts is necessary if we wish to reach useful results. Facts show that it is unsafe to assume that immigrants formerly accustomed to low wages in other countries will remain content with low wages in new environments, or that immigrants coming from countries where labor is poorly organized will show no capacity to organize or willingness to enter labor unions when they reach new environments. Nor are immigrants who come from countries where labor is fairly well organized always foremost in promoting organization in new environments. Commons has pointed out that

.... the majority of unionists are immigrants and children of immigrants from countries that know little of unionism. Ireland and Italy have little to compare with the trade union movement of England, but the Irish are the most effective organizers of the American unions, and the Italians are becoming the most ardent unionists. Most remarkable of all, the individual Jew from Russia, contrary to his race instinct, is joining the unions ¹

It is notable that in the matter of trade unionism immigrants into America have been attacked from opposite directions. Sometimes they have been accused of promoting combinations and fomenting strikes and riots; on other occasions they have been charged with unwillingness to join trade unions. Hourwich points out, with numerous illustrations, that

The change of public sentiment from 1894, when the "ignorant foreign workmen" were accused of organizing labor unions, to

¹ John R. Commons, *Races and Immigrants in America* (New York, Macmillan, new edition, 1920), p. 151.

1910, when the "ignorant foreigners" were accused of keeping away from labor unions, is symptomatic of the progress of organized labor during the intervening period. In 1894, when the "ignorant foreigners" comprised mainly the races of the "old immigration," trade unionism was still weak; after eighteen years of "undesirable immigration from Southern and Eastern Europe," organized labor has gained in numbers and won public recognition.¹

In certain regions of the Pacific Coast of the United States illegal methods have been frequently adopted by native-born American farmers, acting in collusion with local sheriffs, to suppress strikes and to prevent workers, largely immigrants from Mexico and the Philippines, from meeting together, organizing, and negotiating collectively on wages. In the California valleys during the autumn of 1933, lawlessness on the part of the farmers and sheriffs reached alarming proportions, and the Committee of Investigation sent by the Governor of the state reported that workers were denied their constitutional rights. The available data on the attitudes toward immigrants of employers and of established labor unions are too extensive for detailed review here. The foregoing illustrations, however, will serve to emphasize the dangers of facile generalizations to the effect that immigrants from countries where wages are low are commonly content with poor wages and conditions in their new environments. Of course in some instances they are more content with a given wage than native-born workers are; this situation will be found more among the "first generation" immigrants than among their children. For example, Strong says of the early Japanese immigrants into California:-

It was easy enough to find agricultural work. There was a continual labor demand as new lands were opened and the white

¹ I. A. Hourwich, *Immigration and Labor* (New York, Huebsch, 2d edition revised, 1922), p. 333.

people drifted to towns. Japanese labor was cheaper and gave the white employers few labor disturbances to consider They were easily satisfied, for the wages and rough shelters found were luxurious compared with the bare subsistence and poor homes in Japan.¹

Of course it would be unwise to deduce from this statement that Japanese peasants of today, if permitted to enter California, would be equally docile. There has been a great change in the behavior of the Japanese peasant in Japan since the first Japanese entered California. Japanese tenant farmers have organized in unions in many districts, and even where formal organization has been lacking they have shown capacity for strong collective action on numerous occasions. Serious local riots have frequently occurred in recent years.²

A Massachusetts labor newspaper in 1845 referred contemptuously to English immigrants of that day as "English workmen, whose abject condition in their own country has made them tame, submissive," and accused them of willingness to "work 14 and 16 hours per day, for what capital sees fit to give them."³

Similar charges have been directed from time to time against immigrants from various sources, and are by no means confined to Asiatics. But the greatest caution should be observed in any attempts to interpret the data on this subject. In some cases an immigrant may for a time appear to be less active than a native-born worker

¹ Edward K. Strong, Jr., *Japanese in California* (Stanford University Press, 1933), p. 106.

³ One evening in 1929 while in central Japan I was attracted by a red glare in the sky which turned out to be caused by the burning of a prominent agricultural landlord's house in the presence of 5,000 tenant farmers who planned this episode in deliberate and determined manner. Local police, hopelessly outnumbered, were obliged to look on helplessly. This was only one of many such incidents. There are, in the Ministry of Agriculture in Tokyo, voluminous confidential records of a large number of such disturbances, giving the most minute details of the circumstances of each.

³ Cited by Hourwich, *op. cit.*, p. 346.

in promoting his own interests through labor organizations. But this must not be accepted as proof that he is content with his lot and that he does not desire to participate in the work of labor organizations. His opportunities in this direction are very restricted; he is often regarded with hostility by the native worker; and he is sometimes barred, perhaps openly on grounds of color, perhaps indirectly by the imposition of specially large entrance fees, from joining labor unions dominated by native-born workers. Often there is no labor organization in existence in the class of work in which he is engaged. Apart from relatively small numbers of technical workers, immigrants usually enter agriculture—an occupation in which it is notoriously difficult to organize labor—or unskilled urban occupations, in which organization even among native-born workers is very backward.

In the United States trade unionism has developed on craft lines. The American Federation of Labor is no more than an association of craft unions; it is not the counterpart of the Trade Union Congress in Great Britain nor of the *Confédération Générale du Travail* in France. No doubt Hourwich had American experience chiefly in mind when he said that "to organize 'the working class' is not the aim of the trade union."¹ In the United States the greater part of organized labor is nationalistic in outlook, and remains largely unpermeated with socialistic philosophy. Its object is to organize skilled labor, to secure for it the right of collective bargaining, and to reduce hours, raise wages, and improve working conditions for its members. It is hostile to immigration and aims, not to organize immigrant unskilled labor, but to exclude it. The result is that what organization there is of immigrant unskilled labor tends to be left to spontaneous effort occa-

¹ Hourwich, *op. cit.*, p. 347.

sionally aided by organizations loosely designated as communist. This in turn leads to denunciation of such organizations, by employers and others and sometimes even by officials of the American Federation of Labor, as communistic, and to the use of such illegal methods of suppression as those described above.

Trade unionism in Australia differs in many respects from trade unionism in the United States, but its general attitude toward immigration is hostile, at least as regards other immigration than that of agricultural labor. In British Columbia organized labor opposes immigration of Asiatics, but has come to favor the grant of full citizenship to former Asiatic immigrants established in the country. In the United States no Asiatic not born in America can become an American citizen, and discriminatory land laws prevent Asiatic persons from acquiring titles to land in California.

When all these circumstances are taken into account, it does not seem possible to make out a case for excluding immigration into North America and Australasia on the ground that the relative shares of the total incomes received by the different factors of production would be changed to the disadvantage of labor. For the government which has the power to exclude immigrants also has the power to enforce existing laws for the protection of labor, and, if necessary, to introduce new measures to strengthen the bargaining power of labor. The necessity in some countries of government action to secure the same rights for immigrant workers as were already possessed by native workers was the subject of the following important recommendation by the International Emigration Commission:

It is desirable that in default of legislative measures already existing in the various countries, the members of the International Labor Organization should take steps to bring about as far as pos-

sible by means of international conventions equality of treatment between immigrant workers and their dependents and their own nationals, particularly in respect of labor and social insurance legislation, and of relief, and of the right of association for trade union purposes.¹

In the post-war years the French government has made vigorous attempts to secure the same treatment for immigrants as native workers receive. There are other areas in which neither the letter nor the spirit of this recommendation can be said to have been accepted. As we have seen, the immigrant worker in some parts of California cannot even rely on the protection that would be afforded by the enforcement of the existing laws which have no special reference to immigrants. The lives and liberties of immigrant workers who attempt to organize trade unions are sometimes endangered. In the recent dispute in the Imperial Valley, farm operators and local authorities refused to obey a federal injunction. As long as the present antiquated machinery of local government continues to exist, it is unlikely that California can be made safe for the immigrant workers who engage in agricultural labor in fruit and vegetable districts. Local police, taking orders from various local authorities dependent for office on the votes of farm operators and their sympathizers, cannot be relied on to enforce laws impartially; moreover, local authorities can enact ordinances specifically designed to hamper any attempts at labor organization, as recent moves of the Boards of Supervisors of many counties in California show.

However, local government problems cannot be discussed here in detail. The point of importance to the present discussion is that the exploitation seems to be due not so much to any willingness of the immigrants to be

¹ *Report of the Commission on International Emigration* (Geneva, International Labor Office, 1921), p. 4.

exploited, as to the arbitrary actions of groups of employers, aided by local authorities, in a federal state where effective control by the central government is very limited. So frequently have immigrants shown dissatisfaction with low wages, and readiness to organize even in the face of violent opposition, that there are no adequate grounds for the view that they are content with inferior pay and conditions, and contribute nothing to the general pressure for higher wages exerted by groups of native workers. To insure that this pressure will be maintained adequately, the governments in countries of immigration should take appropriate measures to protect immigrants in the exercise of their rights to organize and to bargain collectively, and should extend fully to them the social services received by native workers. If these conditions are fulfilled in a region where the productive factors are present in such proportions that an increase in labor supply in certain industries and regions would increase the average income of the people, it appears certain that labor as a class would share in the increase of income, and probable that the proportions in which the increased total income was shared would not change significantly to the disadvantage of labor. This conclusion would be just as applicable to immigration of Japanese and Chinese as to immigration of Mexicans, Filipinos, and others.

Admittedly the conditions specified above have not been established in actual practice, and to the extent to which they have not been established the bargaining power of the immigrant workers has been impaired. On the other hand, attempts at collective bargaining among native-born workers have in many industries met with the most determined resistance from American employers.¹ On the whole, in the actual conditions prevailing in

¹ Samples of very recent practices and attitudes of employers in some leading industries may be found in the detailed reports of the hearings before

the United States, the bargaining power of labor in some occupations has probably been weakened to some extent by immigration, but whether it has been weakened to a large extent is extremely doubtful. It is worth notice that trade unionism made little or no advance after drastic restrictions were placed on immigration in the early post-war years until the Roosevelt administration came into power. As Wolman and Peck pointed out recently,

.... the whole labor movement was left in 1929 with a membership presumably somewhat larger than it was before the war, but with its effective control over industry considerably impaired. While, therefore, the percentage of the gainfully employed in trade unions had risen from roughly 6 to 7 per cent between 1910 and 1930, the position of unionism in all basic industries, except building and rail transportation, had been greatly weakened.¹

The same authors enumerate several causes, which there is no space to discuss here, that contributed to the failure of organized labor to make appreciable progress in this period.² No definite conclusions regarding the effects of immigration policies can be drawn from the facts outlined by Wolman and Peck, but they do tend to induce a somewhat sceptical attitude toward the view that immigration was a major cause of the weakness of organized labor in the United States. Trade unions made rapid gains during the war only to lose most of them in the post-war years. Since the Roosevelt policies were put into operation extensive gains have been made once more. On both these occasions the power and influence of the administration were used to support labor's right to organize and bargain collectively, and some restraint was placed

the National Labor Board. See especially *New York Times*, March 1, 1934, p. 1, and March 15, 1934, pp. 1, 12.

¹ Leo Wolman and Gustav Peck, "Labor Groups in the Social Structure," in *Recent Social Trends* (New York, McGraw-Hill, 1933), II, 834.

² *Ibid.* II, 833-35.

directly or indirectly—though this restraint has only been partially effective in the second case up to the time of writing—on the use of the customary weapons with which employers and local authorities combat trade unionism in the United States. These facts reinforce the conclusion, reached above, that governments are able, by enforcing existing laws and, if necessary, by adopting new measures, to establish and safeguard the rights of immigrant and native workers to organize trade unions and bargain collectively with employers. If a government uses this power, then, so long as the relative supplies of the factors of production in some regions within the country are such that a given addition to the supply of labor will not reduce per capita income, there is no need to prohibit immigration for fear that it will weaken the bargaining power of labor. On the other hand, if a government fails to use its power to establish and uphold the rights of labor to organize and bargain collectively, the prohibition of immigration will not safeguard native workers from exploitation. The policies of organized labor on immigration have not always been sound. The interests of labor would be promoted best by a twofold policy, which in the first place would bring pressure to bear on the government to uphold the rights of workers to organize, to safeguard members of unions from victimization by employers, to prohibit the company union, and to prevent the use of the injunction and other measures by state and local authorities against organized labor; and in the second place would actively promote organization of unskilled workers, including immigrant workers, and would direct union policy as a whole along industrial and not craft lines.

In countries where the relative proportions of the productive factors in the different regions are such that an addition to the supply of labor in any of them would reduce per capita income, the chief objection to immigra-

tion would be based on its tendency to reduce per capita income, and this objection would still be valid even if it could be shown in a given case that immigration in such circumstances would not weaken the bargaining power of labor. It appears likely that in practice the bargaining power of labor would be somewhat weakened, but in any case average real wages would fall. Hence, under these conditions it is hardly necessary to analyze in detail the effect of immigration on labor's relative share of the social income.

CHAPTER VIII

POPULATION AND MIGRATION (*Continued*)

MIGRATION AND THE TRADE CYCLE

An immigration policy intended to be permanent or applicable to a long period should never be framed during a world depression. Immigration of most types of labor, except perhaps when it is accompanied by proportionately large imports of capital, would be likely to produce adverse effects if it took place in the trough of a great depression. But the conditions which exist during a world depression are no indication of the demand for labor at prevailing or even higher wage rates during other phases of the trade cycle.¹ Moreover, even in the absence of artificial restrictions, immigration declines very markedly in times of depression. This happened in the United States in the period before restrictions were imposed on immigration from Europe. As Jerome says: "The character of the cyclical variations is closely similar to the cyclical variations in employment opportunity in the United States. A fairly close similarity is also found in the seasonal fluctuations."²

It follows that no valid conclusions regarding the merits or demerits of a given immigration policy can be drawn from the simple fact that during a world-wide industrial depression there is such and such a volume of unemployment in a given region. All immigration might

¹ H. P. Fairchild seems to have overlooked this when, as late as the middle of 1931, he said during a discussion on migration restrictions that "to him it always seemed somewhat superfluous to speak about the need for more population in the United States when they recalled that they had some nine million people unemployed." See *Report of the Proceedings of the Second General Assembly of the International Union for the Scientific Investigation of Population Problems* (London, Allen & Unwin, 1932), p. 209.

² Harry Jerome, *Migration and the Business Cycle* (New York, National Bureau of Economic Research, 1926), p. 239.

be prohibited during periods of industrial depression; but the problem of what immigration policy is advisable during other phases of the business cycle would remain unsolved.

It does not follow, however, that the course of a business cycle in a given region is uninfluenced by immigration, nor that, from the standpoint of attempts to control the business cycle, it is a matter of indifference what immigration policy is adopted. It has been argued on the one hand that migration tends to lessen fluctuations by inducing readier responses to variations in the demand for labor at given places and prices, and on the other that in boom periods it aggravates excessive expansion in the capital industries, and in periods of depression adds to unemployment in so far as there is a lag between the decline of employment and the decline of immigration. Further, migration from one area which is passing through a period of depression to another area in which conditions are prosperous during the same period would seem beneficial; but in so far as industrial fluctuations synchronize in different areas, the question may be asked whether or not, assuming a given volume of immigration during a boom to be beneficial to one area, the corresponding emigration may be harmful to other areas.

In a scrutiny of these hypotheses it will be convenient to begin with the circumstances in which, from a short-period viewpoint, the case for restriction seems strongest and does not appear to be invalidated by long-period considerations which favor an opposite course. Jerome's study shows that the high correlation between fluctuations in business activity and fluctuations in immigration under unrestricted conditions did not preclude some lag between the decline of employment opportunity and the decline of immigration, and failed to prevent a net immigration during some periods of depression in the United

States, This can probably be accounted for by the failure of the general public, in the early stages of a downturn of business, to realize the world-wide or, in certain cases, even the country-wide nature of the depression. At such times many people imagine that conditions are better elsewhere and leave their homes to embark on what is in most cases an inevitably futile quest. The tendency to ascribe a depression, until it is far advanced, to local causes, can be seen in the readiness with which electorates express decisively their disapproval of the governments in power during the onset of a depression. Thus in Great Britain the Conservative party owed their victory in October 1931 largely to the belief of the electorate that it was the policy of the Labor government that had brought the country into financial difficulties—a view which of course has never been entertained by students of the trade cycle, who interpret the depression in terms of factors operating on a world-wide scale. The majority of people in every region know very little of contemporary conditions in other regions, at least until trade depressions are far advanced. This fact appears to justify the imposition, during world depressions, of artificial restrictions on the migration of many classes of workers.

But the case for restrictions on international migration during world depressions is also a case for restrictions on interregional migration within national boundaries. From an economic standpoint it is unfortunate that so large a part of the voluminous literature on migration treats the subject in such a way as to convey the impression that international migration is fundamentally different from internal migration. Writers who are insistent that international migration is essentially an economic problem, and who support on supposedly economic grounds restrictions on immigration into the country of which they happen to be citizens, do not question the desirability of

internal migration: indeed they hardly ever consider this subject. Doubtless there are in some cases important political and sociological differences between these two forms of migration, but no fundamental economic distinction is involved. If there are valid economic reasons for restricting migration between nations in certain conditions, there are also valid reasons for restricting migration in similar conditions between regions within the same political state.¹ If, to take one of many conceivable examples, business fluctuations in Europe are reduced by existing restrictions or could be reduced by further restrictions on migration between nations, could not business fluctuations in the United States—approximately equal in area to Europe—likewise be reduced by restrictions on migration between different regions of the country?

On the whole, the case for restricting interregional as well as international migration during world-wide business depressions is strong. In the present depression it is probable that some two million young men have been wandering about the United States, obtaining free rides on freight trains and passing automobiles. Rarely is the position of any one of these "transients" improved by migration in the midst of depression. As trade improves, the men who have remained on relief rolls in their own localities are re-employed before "transients" are considered. It is not surprising that the state authorities in California, a state which, owing to its climate, is particularly attractive to transients, have taken some indirect steps to discourage further immigration into the state. There is

¹ Colonel Rorty seems to have grasped this point, so far at least as short-period considerations are involved. See a suggestive comment of his reproduced in Jerome, *op. cit.*, p. 120, note. Jerome's excellent work to my mind suffers from its failure to treat this matter. Without implying any criticism of the actual choice of a title for his book, it may be said that a strictly descriptive title would be "Business Cycles and International Migration to the United States."

little reason to doubt that if California had been an independent state its government would sooner or later have placed an almost complete ban during the present depression on immigration of most types of labor from the rest of North America.

There have been some cases of deportation of former immigrants during depressions on various legal pretexts. In this respect Canada has been a much worse offender than the United States. From a world point of view this is an antisocial practice, representing an abuse of sovereignty, which, far from receiving any support from my argument in favor of restricting migration during periods of universal depression, runs directly counter to it. It is in reality enforced migration. From the standpoint of the country to which the deported workers are sent, it represents immigration during a period of universal depression and is certain to be harmful. The country or region the social income of which has been increased in the period immediately preceding the onset of the depression by the work of the former immigrants should make itself responsible for their maintenance during the depression, when, through no fault of their own, they find themselves out of work along with thousands of native-born workers.

The next problem to be studied is the nature of an appropriate immigration policy during periods of world prosperity, or at times when, in the absence of artificial restrictions, migration will take place between countries all of which are passing through the boom phases of the trade cycle. There appears to be an implication in Jerome's work that a country is adversely affected by emigration in periods of prosperity. Thus he says:

.... in those periods when cyclical conditions in the two countries are similar, the effect on cyclical unemployment in the countries of emigration must be even less favorable than in the United States, for in such periods the emigrant tends to leave

when industrial conditions are good and to remain at home when they are bad.¹

The relationship between population and natural resources and the proportions in which the productive factors are combined are rarely, if ever, the same in two regions; and in many cases the differences in these respects between regions are very great. Yet booms and depressions are common to all regions. Presumably, when migration between two regions occurs during a boom common to both, the attractive force is a relatively higher rate of remuneration in the country of immigration, due, in most cases, to the existence of a higher per capita supply of land and other natural resources, or to a more advanced state of the arts in the region of immigration than in the region of emigration. Both these factors may operate in combination, and there is frequently some connection between the state of the arts and the supply of natural resources, though the extent of the connection may vary greatly, and other factors are involved. In such circumstances, and especially when the per capita supply of natural resources is much greater in the country of immigration than in the country of emigration, migration is in general beneficial to the country of emigration, during booms as well as depressions; in most cases it is particularly beneficial when the emigrants consist of agriculturalists and unskilled laborers.

Exceptions to this general statement are conceivable. The term "labor," as we have seen, comprises many factors of production. The loss of certain types of technical, skilled, and professional labor, during booms as well as depressions, might be harmful to a region, even when emigration of agriculturalists would be beneficial. It is doubtful, however, whether this kind of situation often

¹ Jerome, *op. cit.*, p. 209. See also the paragraph headed "The International Aspect/" p. 242.

occurs in practice, except during periods of persecution inspired by religious or nationalistic excesses. The general principle laid down above seems to be applicable to a great majority of cases. It illustrates the necessity, in framing migration policies, of taking account of long-period as well as short-period considerations. It was indicated above that in times of world-wide depression the case for restriction of migration was not offset by long-period factors. Even though the ratio between labor and natural resources would be improved at such times in the country of emigration, there are conclusive objections to dumping immigrants into countries with superior natural resources at times when the people of those countries were temporarily unable, owing to world-wide maladjustments, to utilize those resources properly. But at other phases of the trade cycle long-period considerations should play a decisive rôle in the determination of migration policy.

In fact, the reduction of short-period fluctuations in business activity should not be accepted unconditionally as a desirable end. If the restriction of migration of all kinds, domestic and international, were carried far enough, per capita income would be greatly reduced. The consumption of basic necessities fluctuates less than the consumption of those products which are consumed after the basic necessities have been supplied. Hence fluctuations might be less severe if per capita income were reduced by new restrictions on migration, but this would hardly be a commendable achievement. It is of course desirable to reduce fluctuations in so far as this can be done without reducing average income in the long run. It might even be desirable to reduce average income slightly over the long run if by doing so we could reduce fluctuations markedly. This is a matter to be determined by the following criterion. If the fluctuations are so great that

average income in periods of depression is far below the minimum required to purchase the basic necessities for welfare, and far above this minimum during booms, it would be beneficial to introduce a measure, supposing one were available, which would prevent income from falling so far below the minimum as in the previous case, even though the average income for booms and depressions together was lower than before. Thus suppose an income represented by the number 11 to be required to purchase the minimum requisites for welfare: then an income of 12 in boom periods and 10 in depressions, the average for booms and depressions being 11, would be preferable to an income of 16 in booms and 8 in depressions, the average for booms and depression being 12,

There is little reason to suppose, however, that this objective could be reached by restrictions on migration. If it could, there would be no special case for restrictions on international as distinct from interregional migration. On the whole, it may be concluded that effective remedies for the trade cycle must be sought in other fields than that of migration. In spite of the great reduction of immigration since 1924, as compared with the pre-war period, the United States is now passing through a greater depression than has ever been experienced in its history. It might even be argued that restrictions on international migration have helped to intensify the trade cycle. On the whole, however, I am inclined to think that restrictions affect longer-period movements of economic phenomena than those associated with the trade cycle. They may have had something to do with conditions of semi-depression persisting in certain countries since the end of the boom of 1920, and, as it were, underlying shorter-period cyclical movements.

Again, the interregional approach must be followed if we are to refine our conceptual scheme to take account

of the complex situations found in real life. To work out the effects of migration when there is world-wide prosperity, or when two nations treated as economic units are passing through a boom, is useful; but the realities, especially in post-war years, are too complicated to be treated on such simplified lines. Conditions of prosperity rarely exist in every part of a country, and in all occupations, at the same time. Thus, during the boom preceding the present depression, the bituminous coal industry in this country was in a poor way, and the cotton industry in New England languished. Japanese agriculture did not share recent semi-prosperous conditions in certain sections of industry. The return of relative prosperity in Great Britain would leave a large number of coal miners still unemployed. Numerous examples relating to other countries could be cited. These facts reinforce the case for developing migration theory out of studies of movements between regions and between industries. Movements between nations can be fitted into the picture subsequently, by taking into account cultural and other sociological factors which create additional obstacles to movement as well as other matters not usually associated with those interregional movements that take place inside national boundaries.

When migration is approached from an interregional standpoint, and when long- and short-period considerations are taken into account, the argument that emigration to the United States during the upward phases of the trade cycle is not in the interests of the regions of emigration loses its force, and it appears that on the contrary these regions are in most cases benefited by such movements. Turning to the case of Japan, it is clear that the readjustments necessary to remove agricultural overpopulation cannot in any case be accomplished rapidly. Regardless of how far business conditions may improve in

Japan as the present world depression passes, some emigration of Japanese agriculturalists to those areas where wages are higher than in Japan but from which Japanese are now excluded would be wholly beneficial to the Japanese people. Neither from the short-period nor from the long-period viewpoint would any harmful reactions in Japan be likely to result from such emigration.

MIGRATION AND INCREASE OF POPULATION

If all the premises in the Malthusian scheme were adequately supported by facts, and if the preventive check were inoperative or insufficiently operative and birth control were not practiced, population would be continually pressing on subsistence, and the conclusion would correctly follow that over a long period migration would make no difference to the size of the population either in the country of emigration or in the country of immigration.¹ But it has already been shown in chapter iii that some of the premises on which the view that population is always pressing on subsistence is based are unacceptable. There is no a priori method of predicting the precise effects which a given migration will produce on the size of the populations in the countries of immigration and emigration.

Yet Francis A. Walker contended that immigration had made no difference in the size of the American population. Immigrants had merely taken places which would otherwise have been occupied by additions to the native stock.² Supporters of this view hold that the prohibition of immigration would not reduce the size of the future population. This theory was not derived from the extreme form of the Malthusian doctrine stated in the pre-

¹ For a further qualification see above, pp. 34-41.

² For Walker's statement of this doctrine see his *Discussions in Economics and Statistics* (New York, Henry Holt, 1899), II, 417-26 and 437-51.

ceding paragraph. Walker claimed to have given empirical proof of its validity: he believed he had demonstrated from census and immigration statistics that, even if there had been no immigration after 1790, the population of the United States would have increased just as much as it did increase. However, even if this had been an indisputable fact, it would not in itself have proved conclusively that the same situation would continue in the future. Walker had therefore to find a suitable hypothesis before he could predict that what he believed to have happened in the past would continue to happen in the future. The hypothesis which he adopted was that natives deliberately restricted their rate of increase just to the extent required to offset the additional numbers due to immigration, because of fear that their children would be brought into contact and competition with aliens.

The statistical aspects of this question have been thoroughly treated by Willcox,¹ and no space need be taken up here with them. Willcox concludes:

.... that the population of each part of the United States grew in response to its own conditions at the time, and that the apparent uniformity in the rates of growth before 1845, upon which Walker rested his theory, disappears as soon as the different parts of the country are studied separately. The theory had its value as a challenge of the current belief that immigration regularly increased the population by an amount equal to its number. But it is almost equally incorrect to maintain that it did not increase the population at all.²

It is somewhat disquieting to find that Walker's doctrine still has its adherents, or at least had them until very recently.³ For even apart from Willcox's thorough

¹ Willcox, "Immigration into the United States," in *International Migrations*, II, 92-107. See also W. S. Thompson and P. K. Whelpton, *Population Trends in the United States* (New York, McGraw-Hill, 1933), pp. 304-08.

² *Ibid.*, p. 103.

³ A related doctrine was stated, without evidence, by E. M. East in 1927: ". . . no statistician who has adequately and properly studied the facts can

statistical refutation of it, there is overwhelming presumptive evidence against it. According to Walker's own premises, the reduction of the domestic birth-rate was volitional, and it would hardly appear credible that a multitude of individuals, each acting independently, would restrict births exactly to the extent required to offset the numbers of immigrants. An Invisible Hand would surely be required to effect a whole series of such coincidences. Moreover, the Walker doctrine embodies the fallacious idea discussed in the last section of this chapter, that migration of workers from areas where wages are relatively low to areas where wages are relatively high necessarily depresses standards in the latter areas. It is fairly clear that during most of the period to which Walker's statistics applied the relative proportions of the factors of production were such that an increase of labor did not reduce per capita income and employment opportunity.

Indirectly, of course, a given volume of immigration may affect fertility, even in cases where the income optimum population has not been exceeded. If immigration hastens urbanization, fertility is likely to be reduced; and if the immigrants settle on the land while natives move to towns,¹ the fertility of the natives may be reduced more than that of the immigrants. But though this is still of some importance, birth control, in the last few years in some areas, has been spreading rapidly in rural districts, and the differential between rural and urban fertility, like the differential between the fertility of social classes,

deny that, if emigration takes place from a country in which there is population pressure to a so-called underpopulated country, there is an immediate increase in the birth rate in the former country which restores the previous equilibrium." See *Proceedings of the World Population Conference* (London, Arnold, 1927), p. 295.

¹ Internal movements are difficult to trace. In 1920 one-third of the foreign-born in the United States lived in rural areas or in cities with populations of less than 10,000. Cf. Willcox, *op. cit.*, p. 111.

appears to be a passing phenomenon.¹ However, there are other ways in which immigration may affect the domestic rate of increase of population. The general trend of fertility has been downward over large areas of the world for a considerable time, but this downward trend did not commence simultaneously in all areas and has not continued at equal rates in all areas. When fertility rates in the regions of emigration are higher than those in the regions of immigration, the fertility of the immigrants remains relatively high for some time. It soon begins to approximate native fertility rates;² but in the period that elapses before the adjustment is complete, average fertility for all groups in the region is likely to be raised by the immigration, or prevented from falling as much as it would otherwise have fallen. Whether this is an economic advantage or a disadvantage depends upon the population position of the region; it need not necessarily be a disadvantage.

In some cases there is migration from a region of relatively low fertility to a region of relatively high fertility, though it is probable that the opposite conditions prevail in the majority of cases. The possible effects of immigration on the size of the population over given periods of time are numerous, and no sweeping generalization can be made: the factors which influence the results vary in different cases and each case must be examined on its own merits. Similarly the effects are economically desirable or undesirable according to the

¹ Examples are given by Hogben, "Biological Aspects of Population Problems," *Biological Reviews and Biological Proceedings of the Cambridge Philosophical Society*, April 1931, VI, 176. But differential fertility of social classes is still very important in many areas. See E. Sydenstricker and G. St. J. Perrott, "Sickness, Unemployment, and Differential Fertility,** reprinted from *The Milbank Memorial Fund Quarterly*, April 1934, Vol. XII.

² There is a considerable literature with a bearing on this subject, See especially the very thorough work of J. J. Spengler, "Has the Native Population of New England Been Dying Out?*** *Quarterly Journal of Economics*, August 1930, XLIV, 639-62.

changes which they make in the position of the population with reference to the welfare optimum position. The difficulties in the way of ascertaining these changes do not justify the assumption that the changes are usually in an undesirable direction.

It can safely be said that in most cases immigration increases population in the country of immigration, at least in all but very long periods. It has been said that Walker's doctrine, however absurd it may be when applied to the short run, is valid over a long period. On certain Malthusian assumptions this would be correct, but the assumptions do not correspond with facts. Apart from Malthusian theories, there seems to be little basis for the view that Walker's doctrine is necessarily applicable even to a long period, particularly when account is taken of recent trends in fertility rates. If present Australian fertility rates were to continue, it does not appear that, in the absence of immigration, the Australian population would ever increase very greatly. If immigration from regions with higher fertility rates took place continuously, even though the fertility of each batch of immigrants after a time came to approximate native fertility, the population would be kept at a higher level than it could reach in the absence of immigration.

The Walker doctrine can be regarded as valid for long periods only on the assumption that total population increases not only beyond the income optimum but also at a rate too great to be offset by improvements in the arts. Experience shows, however, that there is usually a movement of immigrant fertility rates toward native fertility rates, not a movement of native toward immigrant fertility rates, though there is a considerable time lag between the movements. Perhaps it would be more appropriate to say that in modern times there is a movement from high to low fertility rates. This movement is taking

place in countries of emigration as well as in countries of immigration, and in countries in which there is little net movement either way. Clearly it is an outcome of factors that are independent of the immigration of unskilled and agricultural workers.

Fertility rates are subject to changes arising out of sociological factors, and confident predictions of their future movements cannot be made merely on the basis of past experience. Hence, before judgments can be passed on immigration policies in relation to the future, it is necessary to consider them in relation to alternative movements of fertility rates, either of which may take place.

Let us consider the case of an area which is underpopulated from the standpoint of both the income and welfare optima, but in which the conditions of fertility and mortality are such, and are likely to continue to be such, as will bring about a steady natural increase that is likely after a considerable time to bring numbers close to the welfare optimum. Such a community has to choose between two alternative policies, or a compromise between them. In view of the fact that the relation between population and natural resources is such that, in some occupations and in some parts of the area, the supply of some types of labor could be increased without reducing per capita income, or without preventing it from increasing as much as it would otherwise increase, the question arises whether or not a certain amount of immigration should be permitted, or whether it should be left to the natural increase of the native population to supply the additional workers gradually over a relatively long period of time. Let us first assume that, whichever course were followed, it would be equally practicable to stop the increase before it went too far.

The maximum aggregate and per capita incomes would

be secured, both in the short and in the long period, by allowing the domestic increase of population to be supplemented by considerable immigration, the rate of which would have to be regulated by consideration of the adjustments required. The opposite policy of excluding all immigrants would, in the period intervening before the native increase had removed underpopulation, keep world income and the income of the area in question below the level to which it could be brought. The concepts of the aggregate income of a community and of per capita income are of course always relative to time. In the case under consideration a certain number of generations would live at a lower standard than they could reach if a given rate of immigration were permitted, and they would do so, not in order to sacrifice present income for the sake of increased future income, but in order to insure that all future additions to aggregate income go to their own descendants and not to people who were born in other countries.

Before expressing judgment in this case let us consider a second case, in which, though the conditions are otherwise similar to those in the first, the native fertility and mortality rates are such that, in spite of a low mortality rate, the native stock is not reproducing itself. This situation may for a time, as in some Western countries today, be obscured from the general public by the residual effects of past fertility. If these conditions continued, and immigration were prohibited, the population would in time decline and the underpopulation would become greater. Aggregate and per capita income would decline or fail to increase as much as it would if population were greater. If immigration were permitted continuously at a rate not too great for adjustments to be effected, aggregate and per capita income would be increased. In this case, as in the first, the gain in income under the one policy as

compared with the other would not be confined to the people of the area concerned. There would tend to be an increase in the volume of trade between it and other areas, which would increase the incomes of the peoples of the other areas; this would be particularly important for the areas with relatively large supplies of labor.

The state of the arts is not assumed to remain constant, and the question arises whether or not changes in the arts may change the income optimum or the welfare optimum. This point was discussed earlier; what can be said here is that when framing a policy there are no *a priori* grounds for assuming that future improvements in the arts will necessarily reduce the income optimum or the welfare optimum. If, as time went on, it were possible to ascertain that the positions of these optima were shifting, the amount of immigration could be adjusted to meet the new situation. In any case it is not to be supposed that the amount of immigration that is appropriate for a given period is permanently appropriate.

Hence a definite conclusion may now be reached. In the case of an underpopulated country the policy of supplementing the native increase, or of offsetting the native decrease, as the case may be, is to be preferred on economic grounds to the policy of excluding immigrants, which leads, in the first case, to reliance on the native increase for the removal of the underpopulation over a longer period of time than would be required if immigration were permitted, and, in the second case, to acquiescence in continued underpopulation. A policy of excluding immigrants in such conditions appears to be wholly indefensible on economic grounds. Even though the native people are willing, for non-economic reasons, to bear the economic losses which such a policy brings on them, there is no escape from the fact that the people of other areas, less fortunately placed, will inevitably be

injured by such a policy, not only because they are unable to send emigrants to the area in question, but also, what is probably more important, because the condition of underdevelopment in that area restricts the extent of the trading relations that can be carried on with it. More will be said on this last point in chapter ix.

In spite of the practical difficulties in the way of ascertaining whether or not the population position of a given area is such that a given addition to the labor supply would increase or decrease per capita income, the foregoing analysis has a direct bearing on practical problems, especially on the Japanese population problem. For there is a very strong presumption that in some regions around the Pacific additions to the labor supply would increase per capita income. Some parts of Australia come within this category. With respect to some of the probably underpopulated regions, however, movements of capital as well as movements of labor must be taken into account, and the discussion of this aspect of the matter will be withheld until the next chapter. A definite conclusion can be reached, even before capital movements are considered, on the policy of total exclusion of Chinese and Japanese immigrants from the areas which are probably underpopulated. However, a number of sociological questions have first to be examined.

SOME NON-ECONOMIC ASPECTS OF MIGRATION

It is often alleged that racial differences justify the complete exclusion of immigrants coming from certain areas. The space available for discussion of this subject here is very limited and the treatment must of necessity be simplified. But in view of the prominence given to it in the literature and legislation on immigration the subject cannot be passed over in any discussion of migration that is to have a practical bearing.

Ethnologists have laid down certain criteria based on purely physical characteristics by which races may be differentiated.¹ But skin-color, the nature of the hair, the cephalic index, and such criteria cannot be reasonably made the basis for discriminations with respect to immigrants unless they are correlated with other factors of greater significance. Such factors may be either mental or physical. Let us first consider the general question whether or not differences in physical characters are associated with differences in mental characters. After an extensive review of the materials on the subject, Karl Pearson concluded:

When we come to associate mental and bodily characters, we find no correlation whatever of prognostic value. Statical characters and dynamical characters may be correlated with one another as closely as parent is to child. Mental characters may be correlated with mental characters with the same degree of association. But although mental characters are correlated with statical characters the degree is too slight to be of value; the dynamical characters promise something better, but the association is hardly more than as close as second cousins Vast as the labor in this form of inquiry has been, we are yet no nearer than men were fifty years ago to determining mentality from bodily measurements.²

Carr-Saunders points out:

That gross mental abnormalities are at times associated with physical malformations such as a cleft palate is well known. Otherwise there is little or no evidence of association between specific bodily characteristics and mental endowments.³

Since "race" is a concept that has reference merely to physical characters, there is no case for discriminating against immigrants belonging to particular races on the

¹ See, for examples, A. C. Haddon, *The Races of Man* (New York, Macmillan, 1925), pp. 1-36, and Griffith Taylor, *Environment and Race* (Oxford, Oxford University Press, 1927), pp. 33-43.

² Karl Pearson, "On Our Present Knowledge of the Relationship of Mind and Body," *Annals of Eugenics*, I (1925-26), 405-06.

³ A. M. Carr-Saunders, *Eugenics* (London, Williams & Norgate, 1925), p. 67.

ground that they possess undesirable inherited mental characters. But discrimination on this ground has been supported by appeals to the results of intelligence tests given in the United States Army during the World War, and it is said that the results of these tests "had great weight with Congress" at the time when the Immigration Act of 1924 was passed.¹ There is no space here to discuss the literature on intelligence tests as applied to different racial groups. It must not be supposed that the results of all such tests support the view that significant racial differences in intelligence exist. But it is important to grasp the limitations as well as the uses of such tests. Hogben has well summed up the main points:

Can any useful meaning be attached to the word [intelligence] as a description of the characteristics of human beings? The only way of answering this question is to let different observers arrange a group of individuals in a scale of what they call greater or less intelligence, and to see whether it is possible to devise some independent test by which the same group can be arranged in a way which corresponds fairly closely with independent estimates based on personal impressions. This is what an intelligence test does

Those who are not conversant with the problem often assert that intelligence tests do not really measure intelligence. It would be more true to say that the only precise meaning which we can attach to the word intelligence is conveyed by whatever characteristic intelligence tests measure.²

Unfortunately, many, including certain psychologists, have assumed that differences in the responses of different individuals to the stimuli supplied when intelligence tests are given correspond to differences in genetic constitution. This is a speculative hypothesis which leaves out of account the important influences which operate in the period between conception and the age at which intelligence tests are given. Differences in genetic consti-

¹Roy L. Garls, *Immigration Restriction* (New York, Macmillan, 1927), p. 239.

²Lancelot Hogben, *Nature and Nurture* (New York, Norton, 1933), p. 27.

tution may play some part, but it is almost certain that differences in external influences during gestation and the early years of life contribute toward determining differences in intelligence. Consequently, even if immigrants from certain sources showed an average intelligence quotient less than the average for natives, it does not follow that they would be lowering the average innate capacity of the future population.

Let us next consider whether or not there is any evidence that the differences in physical characters by which races are differentiated are correlated with differences in other physical characters that are significant from a welfare standpoint. First, it is clear that gene differences do play a part in determining differences in the susceptibilities of different individuals to particular diseases. Thus a considerable resistance to malaria is said to have developed among some of the African people due to the selective effect of constant exposure to infection over a very long period. But it is no special recommendation for an immigrant into the United States to be highly resistant to malaria. Modern advances in bacteriology and hygiene enable the environment to be controlled so thoroughly, and individuals to be artificially immunized so effectively, in respect of certain diseases, that it has become unimportant for an individual to possess a genetic constitution that is resistant to such diseases.

Maximum longevity, at least when it is accompanied by reasonably good health, may be regarded as a socially desirable objective. How far is longevity a matter of heredity? This is still in dispute, but there is a considerable presumption that the biological constitution has much to do with it. In a paper embodying the most recent study of the subject,¹ the following conclusion is reached:

¹ Raymond Pearl and Ruth De Witt Pearl, "The Distribution and Correlation of Variation in the Total Immediate Ancestral Longevity of Nonagenarians and

Longevity may reasonably be regarded as a single numerical expression of the integrated effects of all the forces that operate upon the individual, innate and environmental. It not only may be, but is in fact, affected adversely or favorably by environmental circumstances of the most varied sorts, but also it is closely bound up with the biological *constitution* of the individual, and biological constitution in man is a very highly complex matter indeed.¹

It appears, however, that much more research will be needed before the mode of inheritance can be determined. Pearl, though believing that biological constitution influences longevity, is doubtful whether longevity is inherited according to a Mendelian mode of inheritance.² As regards immigration, Sydenstricker concludes:

The available evidence thus points strongly to the conclusion that environmental conditions account in far greater degree than any constitutional factors for differences in actual achievement in survival among the racial stocks that have composed the immigration to this country. There may be, and probably are, constitutional differences that manifest themselves in a higher susceptibility to disease on the part of one race stock as compared with another, but the evidence on this point is so unconvincing as yet that it must be regarded as of relatively little importance in comparison with the known effects of different conditions of life and work.³

S. J. Holmes has carried out an elaborate investigation of the data on mortality and morbidity relating to the Negro in the United States. Though there appear to be differences in the susceptibilities of blacks and whites to particular diseases, he concludes that "there is no adequate evidence that he [the negro] has any less capacity to resist disease in general than the whites/⁴

Centenarians in Relation to the Inheritance Factor in Duration of Life," in *Human Biology*, February 1934, VI, 98-222.

¹ Pearl and Pearl, *op. cit.*, pp. 221-22.

² *Ibid.*, pp. 219-21.

³ E. Sydenstricker, "The Vitality of the American People," in *Recent Social Trends*, I, 644-45.

⁴ S. J. Holmes, "Differential Mortality in the American Negro," *Human Biology*, May 1931, III, 242.

There has been an unfortunate tendency among writers on eugenics to exaggerate the relative importance of genetic as compared with environmental factors, and to overestimate the potential benefits of controlled breeding. The recent work of Hogben, J. B. S. Haldane, and Sydenstricker is doing something to correct this tendency.¹ Sydenstricker's approach through the study of vital statistics has led to some significant results. He brings forward a mass of evidence to support his conclusion that "the importance of conserving vitality and promoting enjoyment of life throughout life greatly overshadows, at least at present, the vague possibilities of lengthening the life span by the scientific breeding of future generations."²

It was formerly maintained that some races are relatively primitive while others represent a relatively advanced stage of evolution. Thus Griffith Taylor regarded the Negrito as the most primitive and the Mongolian as perhaps the most advanced.³ Hogben, however, expresses a more recent position when he says that, "if the progress of genetics has tended rather to diminish than to reinforce the hope of discovering which, if any, of the existing races of mankind is to be regarded as the most primitive, neither genetic principles nor ethnological data permit us to decide that culturally primitive races are backward in respect of their inborn limitations."⁴

This brings us to what is probably the chief factor

¹ For the bearing of Haldane's work on differential fertility see *Proceedings of the World Population Conference, 1927*, pp. 195-97. The papers in which Haldane examined the effect of selection on the composition of a population in which various characters are inherited in a number of different ways are contained in *Proceedings of the Cambridge Philosophical Society*, XXIII, 838-44; XXVII, 131-42; XXVIII, 244-48. See also Hogben, *Nature and Nurture*, and *Genetic Principles in Medicine and Social Science* (London, Williams & Norgate, 1931).

² Sydenstricker, "The Vitality of the American People," in *Recent Social Trends*, I, 659.

³ Taylor, *op. cit.*, pp. 8-9, 337-40.

⁴ Hogben, *Genetic Principles in Medicine and Social Science*, p. 132.

which has led to intense opposition on alleged racial grounds to immigration of members of certain races into the lands occupied by English-speaking peoples. In practice, when it is said that one race is superior to another, what is implied in most cases is superiority in cultural achievement. But what is the criterion of such superiority? As regards the material elements of culture certain objective criteria are available, though the difficulty of finding a common denominator in respect of different aspects even of material culture makes it necessary in the end to fall back on the consensus as the ultimate determinant of the relative positions of different cultures, in respect both of their material and their non-material elements. But is the consensus a consensus only of the group which believes itself superior? If it is, it may well be looked on with suspicion. However, I think that, in respect of the material elements of culture, it is often the case that a group is willing at certain stages to admit inferiority to another group. In respect of the non-material elements, this situation is not so often found. It can, however, be agreed that some cultures are more primitive than others, in respect both of their material and their non-material elements.

But cultural differences throw no light on innate racial differences. There are great differences in the cultural achievements of different groups within the same race. The Ainu belong to the Caucasian race; yet their cultural achievements are hardly to be compared with those of the Chinese and Japanese. Moreover an insuperable difficulty in the way of correlating variations in race with variations in culture lies in the fact that the relative position of any race in the scale of cultural achievement varies greatly in different epochs of the world's history. The point need not be elaborated: the notion that differences in cultural achievement can be correlated with differ-

ences in the genetic constitutions of members of different races can be refuted by a wealth of illustration which it is not necessary to give here.¹

There remains another supposedly biological argument according to which immigration of members of another race is undesirable because it leads to the crossing of races. It is said that the products of such crossings are innately inferior, mentally and physically, to the products of unions between members of the same race. In rare instances there is a physiological case against certain crossings on the ground that certain blends of physical characteristics may produce disproportionalities. In general there appears to be no evidence that the products of racial crossing are mentally or physically inferior. In regard to the mulatto, Holmes says:

Despite the numerous assertions which have been made as to the physical weakness of the mulattoes I can find no valid grounds for concluding that they are constitutionally inferior to either the whites or the pure blacks.²

There is another school of thought which maintains that race mixture is desirable and that the products of it are superior to the products of unions between members of the same race. But the facts do not appear to support either the generalization that the cultural achievements of the products of racial crossbreeding are necessarily inferior to those of the peoples of the separate races, or the opposite generalization that they are necessarily supe-

¹See R. H. Lowie, *Culture and Ethnology* (New York, Boni & Liveright, 1917), pp. 27-46; Franz Boas, *Anthropology and Modern Life* (New York, Norton, 1928); Friedrich Hertz, *Race and Civilization* (New York, Macmillan, 1928); E. B. Reuter, *Race Mixture* (New York, McGraw-Hill, 1931); and R. E. Park, "Human Migration and the Marginal Man," *American Journal of Sociology*, May 1928, XXXIII, 881-98. A. C. Haddon points out (*op. cit.*, pp. 2-3) that "a classification based on culture may be of interest to the sociologist, but it is obviously one which can have no prime importance in regard to genetic relationship, though it may indicate the influence of peoples upon one another. There is no such thing as racial culture."

²Holmes, *op. cit.*, p. 241.

rior.¹ In the case of two races markedly different in respect of specific achievements, the achievements of the products of crossbreeding are likely to be intermediate between those of the members of the two separate races, and much above those of one of the parent stocks. This, for example, is true in respect of the mulatto in the United States.² These and other facts indicate that differences in contacts play a large part in determining differences in cultural achievements. For example, certain subgroups of the Negroid race had few contacts until very recent times owing to the physical difficulties of penetration into Central Africa. At first sight it may appear that the descendants of those who were brought to America have had good opportunities of contact with an advanced material culture. To a certain extent this is true, and Negroes have made important advances in America; but proximity does not always involve close social contact, and it is hardly necessary to state that numerous artificial barriers greatly restrict the contacts of Negroes with other Americans. These barriers have been maintained more rigidly in practice against the full-blooded Negroes than against persons of mixed blood, some of whom are light-skinned. This and the direct or indirect contact with a white parent have brought greater contact between the mixed-blood persons and the whites than between the blacks and whites: hence the greater cultural achievements of the mulatto than of the full-blooded Negro. Other examples could be given.

This conceptual scheme, in general harmony with the viewpoints of Reuter, Park, and others, fits the facts much better than any racial hypothesis. In any case, racial hypotheses, as we have seen, are directly contraindicated

¹ For sound discussions of this subject see Reuter, *op. cit.*, and Park, *op. cit.*

² There is a considerable literature on this subject. See especially Reuter, *op. cit.*, pp. 107-79, for one of the best general surveys.

by the facts. These conclusions have a direct bearing on immigration policy. For differences in the specific achievements of different racial groups, and of different occupational groups within each race and nation, traceable to genetic factors, if they were proved to exist, would be unalterable, and, though in the long run they might be offset by a program of selective breeding,¹ in the short run a fairly strong case might be made for prohibiting immigration of certain racial groups, and restricting in some degree the immigration of certain occupational groups, even when the economic situation in an area justified immigration. But if the differences in question are cultural rather than genetic, their significance for immigration policy is of another kind. For the inherited part of culture is not a matter of biological inheritance, but a matter of social heritage: it is therefore not fixed and unalterable. When immigrants different in culture from the natives enter an area, there are several possibilities. A process of accommodation may take place, the immigrants changing their habits and customs to conform to those of the native peoples. This, however, does not imply that the immigrants will become culturally identical with the natives; accommodation has reference mainly to external matters, especially to the behavior of the immigrant in the presence of natives. When their culture becomes identical with that of natives, immigrants are said to have been socially assimilated.² When the culture of immigrants is markedly different from that of natives, the immigrants sometimes pass little beyond a process

¹ At least on the assumption, in the case of the racial groups, that, though the immigrant race was below the native in average capacity, yet there was some overlapping between the races.

² This of course does not correspond with the popular use of the term "assimilation," which is loosely applied to situations in which much less than cultural identity has been established. In fact the popular use of the term resembles more closely what the sociologist means by "accommodation." than what he means by "social assimilation."

of accommodation, but their children are likely to be assimilated with the native culture. In practice assimilation is not wholly a one-sided process. The immigrants do not necessarily abandon all the special characteristics of their culture; some of these may eventually become a part of the culture of the descendants of natives as well as of the descendants of immigrants. Very complicated situations arise. Indeed, changes in certain aspects of immaterial culture are extremely difficult to trace, and it is extremely difficult to tell in any given case whether assimilation is complete.

Both accommodation and assimilation may be hindered or prevented from taking place in certain cases by discriminatory measures adopted against immigrant groups, which greatly limit the scope of their contacts with native culture and restrict their economic opportunities. The groups which have become the objects of these discriminations have generally belonged to different races with certain distinct physical characteristics. Thus Robert E. Park considers that in America ". . . the chief obstacle to assimilation seems to be not cultural differences but physical traits . . . immigrant peoples who bear a distinctive racial mark do not easily mix with the native population."¹ These artificial obstacles to social contact not only retard assimilation but may reduce the opportunities of the groups affected by them to establish contact with new ideas, with the result that the former countrymen of the immigrant groups keep more abreast of modern ideas, even though they remain in their native countries. Thus, my observations suggest that young men of Japanese descent in California, even those who enter universities, are much less progressive in their political ideas and sentiments than are a large number of students of Japanese universities.

¹ "Social Assimilation," in *Encyclopaedia of the Social Sciences*, II, 282.

Some sociologists appear to be pessimistic regarding the prospects of the assimilation of groups bearing distinctive racial marks. In an important paper on "Race Segregation in California," however, W. G. Beach has recently rejected the view that these racial marks are the basis of segregation.

.... they are indeed associated with the segregation characteristics, but whenever the segregation barriers have been lifted, thereby permitting the segregated group to share adequately in the larger economic-cultural system, these physical race marks form no permanent bar to the complete assimilation of the group.¹

These conclusions are supported by the experiences of the Japanese in the Puget Sound region and, to a more limited extent, in other parts of Washington and in Oregon.²

The point at issue is an important one. However, even if physical race characteristics have played a leading part in group segregation, it does not follow that they will necessarily continue to do so indefinitely. Discrimination against a group on account of the skin pigmentation of its members, or the shape of their eyes, or other physical characteristics, is essentially irrational; at no time has it been approved of by all members of the dominant group, and the number of those who realize its irrationality probably increases with the spread of education.³

Though there is no scientific justification for the erection of artificial barriers to assimilation, it does not follow that the existence of any cultural differences between groups within a community is socially undesirable. It

¹ Walter G. Beach, "Race Segregation in California," *Sociology and Social Research*, March-April 1934, XVIII, 350.

² Evidence on this is given by Beach, *op. cit.*, pp. 313-44, and by John A. Radenaker in a paper given recently before the American Sociological Society entitled "Japanese in the Social Organization of the Puget Sound Region."*

³ See T. J. Woolfer, *Racial and Ethnic Groups in American Life* (New York, McGraw-Hill, 1933), pp. 233-43, for an account of organized measures to reduce racial prejudice.

may even be doubted whether complete accommodation and assimilation are essential to the establishment of social harmony, or whether, in cases where at present they appear to be essential, they will continue to be so in the future when growing knowledge may weaken the intolerance of differences which is a part of our social heritage surviving from a remote past. Uncritical approval of complete social uniformity does not rest on a rational basis: it may be little more than an atavism, since it is found in primitive communities in extreme forms. The cult of national homogeneity does not necessarily make for maximum cultural achievement; it may, at any rate when it is combined with the cult of national self-sufficiency, lead to cultural retardation by reducing social contacts.

Galitzi has described the process of assimilation in these terms:

When two peoples of divergent cultures come into contact as a result of immigration, the culture of the alien group is modified by that of the native population This modification is not total but partial, as many cultural traits survive which do not clash with the new environment. The final result, however, is the blending of the immigrant traits with the salient characteristics of the native culture, so as to give rise to a new culture, distinctive in character, which is enriched by the contributions of different ethnic stocks.¹

Artificial obstacles to assimilation have prevented this process from being carried far in the case of Oriental immigrants into the United States and their descendants. The foregoing analysis leads to the conclusion that there is no inherent "natural" obstacle to assimilation—in the sense in which Galitzi defines it—of Oriental immigrants which places them in a special class and forms a rational basis for applying discriminations against them which are

¹C. A. Galitzi, *A Study of Assimilation among the Roumanians in the United States* (New York, Columbia University Press, 1929), pp. 164-65.

not applied against other immigrants. The majority of Orientals have not been given the opportunity to become assimilated: under these circumstances there seems to be little point in the contention, frequently advanced by opponents of Oriental immigration, that Orientals are unassimilable. This contention would only have force if no special economic and social restrictions had been placed on the opportunities of Oriental immigrants and their descendants to establish contacts with the native culture.

Thus, if and when the economic conditions in an area are such that a given amount of immigration will neither lower per capita income nor prevent it from rising as fast as it would otherwise rise, there is no adequate case on biological or sociological grounds either for prohibiting immigration in general or for prohibiting the immigration of Orientals while permitting the immigration of other peoples.

IMMIGRATION POLICY

The bearing of the conclusions reached in the foregoing sections of this chapter on migration policies has now to be summarized. The most important fact about migration is that it is a means of reducing the disparity which exists between the distribution of population and the distribution of natural resources. This establishes a *prima facie* case for a policy permitting unrestricted migration. Examination of facts, however, leads to the rejection, both on economic and on sociological grounds, of a policy of *laissez faire* with respect to migration. In the absence of interference, considerable migration takes place between and within regions and nations during periods of world-wide depression. Such migration involves waste and dislocation and brings no discernible economic benefit. Hence a policy imposing restrictions

during such periods both on internal¹ and on international migration is desirable.

During other phases of the trade cycle, prohibition of immigration is not economically desirable when there are no reasons for supposing that the relative supplies of the factors of production within a region are such that an addition to the supply of labor would reduce per capita income or retard its rate of increase.² The difficulties of determining whether or not in any given case an addition to the supply of labor would have such an effect do not prevent some practical conclusions regarding policies from being reached. There is a high degree of probability that a certain amount of immigration into the English-speaking world, especially into parts of Australia and

¹ Restrictions on internal migration during universal depressions could be worked out in connection with nation-wide schemes of unemployment insurance. It is interesting to note that unemployment insurance has sometimes been regarded as a hindrance to internal migration. There appears to be no adequate reason why this must necessarily be the case, but schemes could probably be constructed which would use unemployment insurance to discourage movement during general depressions while encouraging it at other times.

² There may be an economic incentive to migration toward a region long after this position has been reached, for in such a region the wage level may be higher than in many other regions, either because there is a still larger relative supply of labor in the latter than in the region in question, or because the state of the arts in this region is advancing so rapidly as to offset the unfavorable effects on per capita income of additions to the relative supply of labor, while in the other regions, from which emigration tends to take place, the improvement in the arts has been less marked. In such a case will per capita income in all the areas combined be most favorably affected by permitting or preventing immigrants from flowing to the area where the wage level is highest? I doubt whether the simpler forms of the income optimum theory enable valid conclusions to be reached. There does not appear to be an income optimum position for one region independently of the situation in other regions. In the situation envisaged above, emigration from the regions of lower wages tends to improve per capita income. How will the change in the economic situation in these regions react on the position of the income optimum in the region of higher wage level to which the emigrants moved? The reactions on trade have to be considered along with other factors. If the migration, while raising per capita income, lowers total income in the low-wage regions, it might decrease the external trade of the high-wage region, and this might tend to lower the income optimum of the latter. But if the migration were not large in relation to the populations of the regions of emigration, it seems unlikely that total income would be reduced in the latter. These considerations are tentative, and I have not yet reached conclusions definite enough to be incorporated in this book.

North America, would not for a considerable time adversely affect the growth of per capita income except during depressions. This establishes an economic case for immigration into those regions to an extent and during periods which have to be determined after study of the situations and prospects of particular industries. There is no pre-established harmony, no "automatic" regulatory factor, independent of human planning, which will insure that the most appropriate volume of immigration takes place.

If unnecessary strife in agricultural as well as in industrial regions is to be avoided, government regulation of labor conditions is necessary to secure equality of treatment of immigrant and native workers, to establish for all workers a right to collective bargaining, and to prevent the machinery of local government from being diverted to the support of employers' interests alone.

When these economic conditions favorable to migration exist, there are no sound biological or sociological reasons for completely excluding particular peoples on racial grounds. In framing policies it is of course impossible to ignore the prejudices of the native population.¹ Prejudices are facts. But though prejudices have to be taken into account, there is no reason why a complete surrender should be made to them in the framing of policies. In cases where native prejudices make the problem of assimilation of certain groups unusually difficult, it may be necessary at first to proceed slowly, and for a time to limit the immigration of such groups to a greater extent than the immigration of other groups is limited. This policy will have to be followed if immigration of Japanese and Chinese into the western regions of the United States and Canada is to be resumed with a mini-

¹ It must not be supposed that English-speaking peoples have a monopoly of prejudice. I have observed considerable prejudice against Koreans in Japan.

num of friction. The best way to meet prejudice against Oriental immigration is to demonstrate that a limited amount of such immigration can be made to work to the economic benefit of all, as it has worked, for instance, in the Puget Sound region.

Regulation of immigration from a social as well as from an economic standpoint is essential if unnecessary friction is to be eliminated. In particular, a satisfactory sex ratio among immigrants should be required. Friction has always arisen in practice when the proportion of males has been very large among an immigrant group of distinctive culture.¹ To advocate enforcement of a suitable sex ratio among immigrants is not to advocate restrictions on marriages between natives and immigrants who belong to a different race. Legislation prohibiting interracial marriages has been passed in several American states. It follows from what was said in the previous section of this chapter that such legislation has no scientific basis; it forms one of a number of artificial barriers to social contacts and social assimilation. The legal opposition or social ostracism which stands in the way of interracial marriages serves no rational purpose.

The discussion of migration in the present chapter leads definitely to the conclusion that there are no satisfactory economic or biological or sociological reasons for the complete exclusion of Oriental immigrants from North America and Australasia. The protests of Oriental peoples against this exclusion policy are well founded, and, as soon as the present world depression passes, complete reconsideration of the whole problem of migration will be appropriate in the United States, Canada, and Australia.

¹ A considerable amount of the friction described in the valuable study by Bruno Lasker, *Filipino Immigration* (Chicago, University of Chicago Press, 1931), is to my mind traceable to this simple fact.

In the years between the imposition of restrictions on immigration from Europe and the coming of the present depression, there was a considerable volume both of international migration to, and interregional migration within, the United States, As Woofter puts it:

. . . immigration was no sooner restricted than the vacuum thus created drew hundreds of thousands of Southern negroes from the farm to the industrial cities Deficiency of European immigration also encouraged a flood from our northern and southern neighbors, Canada and Mexico. It also served to increase the movement from the territories, Porto Rico, Hawaii and the Philippines to the continental United States.¹

With the passing of the present depression there will almost certainly be a tendency toward the resumption of this migration in some degree; in fact, without it some drastic agricultural and industrial readjustments would be necessary. In view of the probability that some migration will continue, at least for some time, to be desirable on economic grounds in North America, and that part of this will cross national frontiers, it is time to revise the existing haphazard and pseudo-scientific legislation on immigration, or preferably to replace it by totally different laws which will take some account of the economic positions of the countries of emigration. For the methods of restriction adopted up to now in Australia and Canada as well as in the United States have to a disturbing extent run counter to economic tendencies, by placing the greatest restrictions on some at least of those regions where the supplies of agricultural and unskilled labor, as compared with the supplies of other productive factors, are greatest. Cultural preferences in the countries of immigration have run counter to economic tendencies in shaping the direction of migration. For example, the British were given a larger quota than any other people outside the American

¹ T. J. Woofter, "The Status of Racial and Ethnic Groups," in *Recent Social Trends*, I, 565.

continent. Japanese were totally excluded. Yet not only has Great Britain much larger per capita supplies of natural resources and capital than Japan, but there are also large areas other than the United States open to English immigrants in which relative supplies of labor are less than in England, and to which, therefore, there is an economic incentive to migrate.

In a recent article, J. Coatman expresses the view that "the development of avowedly and actually temporary migration ought to go a long way towards easing the situation for coloured and 'non-Nordic' races."¹ I cannot see that this offers the least scope for Japanese people. In his next paragraph, Coatman notes that English people "can move freely to the overseas Empire lands, undeterred by racial or political considerations. They are in the happy position of having their movements in these particular directions governed by economic considerations only."² Like most writers among the English-speaking peoples, Coatman shows little consciousness of the incongruity of the situation which he outlines.

Two other English writers endeavor to meet the difficulty as follows:

.... while Siberia, Manchuria, and Mongolia are sparsely populated, while in India the fertile lands of Burma have a population of only fifty-seven per square mile, the third largest state of Rajputana a population of five per square mile, while in South America 70 per cent of Brazil has a population of less than five per square mile, there is no justification for the idea that it is discreditable of Australia to have large areas unoccupied.³

I am not here concerned with the judgment passed in the last sentence of the passage quoted, but it is clear that

¹ "Migration in the Twentieth Century," in *Population*, February 1934, I, 72.

² *Ibid.*

³ J. W. Gregory, *The Menace of Colour* (London, Seeley Service, 1925), p. 239. This viewpoint is also indorsed by H. A. Wyndham in a paper on "The Problem of Colour," in the *Journal of Philosophical Studies*, April 1926, I, 233.

the mere fact that one area has a lower population density than another does not in itself make migration from the latter to the former area practicable. It has already been indicated that there is no economic incentive for migration of agricultural and unskilled labor from an area in which incomes are relatively low compared, say, with incomes in the United States to areas in which they are relatively still lower, even if the population density is greater in the former than in the latter area. This rules out migration of agricultural and unskilled labor from Japan to any of the areas mentioned in the passage except Australia and part of Brazil.

There is no escape from the conclusion that the prohibition of Japanese immigration into the lands controlled by the English-speaking peoples inflicts economic injury on Japan. However, exaggeration must be avoided. While prohibition of migration over a long period tends to increase the inequality of the economic opportunities open to different groups, it must not be supposed that mere freedom of human migration in itself will equalize economic opportunities: some reasons for this have already been given, but an additional factor that remains to be considered is that capital, as well as abundant natural resources, is required to make a region suitable for immigration. Combined movements of labor and capital have been deliberately left out of account in the present chapter, but they have to be studied before the limitations on migration in certain directions can be fully realized.

CHAPTER IX

POPULATION AND TERRITORIAL EXPANSION

IMPERIALISTIC EXPANSION

It is clear that the volume of migration and the channels along which it flows are greatly influenced by the particular forms of political organization and the dominant political ideas that prevail in our age. Not only does the government of each nation claim the right to exclude immigrants from its territory, and to change its immigration laws without previous consultation with those who are affected, but the government of a nation which possesses colonies is usually able, if it so wills, to prevent immigration into those colonies from other areas. Even those who protest most strongly against the exercise of these "rights" generally accept the underlying premise that the people of each nation have the "right" to determine whether or not any immigrants should be admitted, and, in cases in which it is decided that some shall be admitted, from which group they shall be drawn. In practice these "rights" are not always fully exercised. But they are to an important extent exercised to the disadvantage of Asiatic peoples.

As we have seen, the criterion used in drawing up an order of preferences for different potential immigrant groups is a cultural one which runs counter to the economic criterion. This inherent conflict between cultural and economic tendencies is a deep underlying source of disharmony in the modern world. It would appear to supply a motive for territorial expansion in the world as it is now politically organized. For it would seem that only nations which possess colonies can be assured of an outlet for emigrants, and, though the nations which pos-

sess large supplies of land and natural resources in relation to the supply of labor do not in all cases adopt a policy of complete exclusion of immigrants, yet there is no sort of guaranty that they will not do so in a quite arbitrary manner in the future.

Is it not, therefore, inevitable that there should be an urge to expansion in the countries in which labor is relatively abundant but land and other natural resources relatively scarce?¹ Certain Japanese and Western thinkers have implied that shortage of colonies is a main cause of population difficulties in Japan. The Western powers, it is said, were in the field earlier, and had seized the available land throughout the world while Japanese people were still living in isolation. By the time Japan had made an effective appearance on the international stage (so the argument runs), it was too late to follow the example of the Western powers. Some of the protagonists of this view go farther, and argue that a redistribution of lands should take place. A few go farther still, and predict that in the absence of peaceful redistribution war is inevitable.

Some such viewpoint, though without the last prediction, was put forward by the Japanese members at the Conference of the Institute of Pacific Relations in 1927:

.... the existence of tariff and immigration barriers is a constant irritation to a proud people cooped up in a restricted area of inadequate resources. The question is bound to arise as to the sanction behind the frontier lines that have been drawn. Japan feels herself to be bottled up in a tiny island of the Far East. Other more favored nations can expand freely at the same time as their standard of living is raised. While other nations are expanding, ought the Japanese nation alone to be forced to abide by its present limitations?²

¹ It should be noted at this point that the discussion of the movements of goods as a substitute for the movements of factors of production is reserved for the next chapter.

² *Problems of the Pacific*, Proceedings of the Second Conference of the Institute of Pacific Relations, 1927, edited by J. H. Condliffe (Chicago, University of Chicago Press, 1928), p. 125. I have numerous quotations from Japanese

It will be convenient to distinguish between two forms of territorial expansion—imperialistic expansion and expansion into relatively unpopulated lands. By imperialistic expansion, I mean the extension of the political control exercised by the government of a nation to an area of by no means negligible population density, formerly independent or under the political control of another nation, and inhabited by people markedly different in culture from those whose rule is imposed on them. In general, it may be said that imperialistic expansion will open the way for migration of technical and professional workers from the politically dominant to the dependent area, but can promote migration of agricultural and unskilled workers only in cases where the incomes of such occupational groups are higher in the dependent than in the dominant area. Such cases are somewhat rare in the modern world; a country in which incomes are relatively high is usually able to maintain its independence. Consequently, imperialism rarely opens the way for large-scale emigration from the politically dominant country; there is no economic incentive for the great majority of workers to migrate to the subjugated lands.

All this is clearly illustrated in the history of Japanese territorial expansion, and, as the space here available for illustration and application is limited, it will be convenient to keep the Japanese situation in the foreground during this discussion of the principles that govern the relationships between population and territorial expansion. The reader who is interested in other concrete situations, past or present, for a discussion of which space is lacking here, will find little difficulty in giving wider application to these principles.

Though Japan was a somewhat late arrival in the field

spokesmen and writers to the same effect; the quotation in the text, however, serves as a representative sample and space need not be taken up with the rest.

of colonization, Japanese political control has been extended in the modern period over very large areas. But nearly all Japanese territorial expansion has been of an imperialistic type. It is therefore in no way surprising that this expansion has failed to open up channels for a considerable flow of emigrants from Japan. The annexation of Formosa and Korea and the virtual annexation of Manchuria and Jehol have not led and will not lead to any significant outflow of workers from the overcrowded occupational groups in Japan. This has disappointed many Japanese thinkers, politicians, and administrators; but in the light of the principles worked out in this and the preceding chapter of the present study it might have been foreseen that conditions in the areas in question were such that they would not serve as outlets for those types of labor which were relatively most abundant in Japan. The renewed outburst of Japanese imperialistic expansion since 1931 will have no more success in the creation of such outlets than earlier imperialism had.¹

EXPANSION INTO EMPTY LANDS

Notwithstanding the considerable extent of Japanese imperialistic expansion in the last forty years, the feeling that there has been some difference between the opportunities of the Japanese and those of the English-speaking peoples for territorial expansion is not wholly without substance. Imperialism, as defined above, is not the only form of territorial expansion. The occupation of relatively empty lands may be regarded as an essentially different type of expansion from imperialism. Of course, the distinction must not be made too rigid; it is a matter of degree; hardly any lands worth occupation are completely unpopulated. The fact remains that the total num-

¹ There are, of course, other aspects of imperialistic expansion besides its relation to migration; these will be considered later.

bers of Indians in North America, and of aborigines in Australia, were very small; and in a limited and relative but significant sense it may be said that the European peoples were occupying "empty" lands when they established themselves in those continents.

There are important economic as well as political differences between imperialism on the one hand and the occupation of empty lands on the other; the effects of the one on the people of the colonizing power differ considerably from the effects of the other. In the areas acquired by imperialist expansion, there is a supply of labor—often a large one—already in existence and accustomed to an income level well below that found in the colonizing country. The empty lands have no such ready-made supply of labor; hence their acquisition appears at first sight to open the way for emigration from the colonizing power of all the factors or sub-factors included in the term "labor." A. J. Toynbee has used an analogy between the flow of population and the flow of water at different levels to depict the situation that tends to follow:

.... population, like water, is perpetually seeking to find a uniform level by flowing from one place to another, whenever bodies situated at different levels are in communication. In the case of water, the pressure generated when the difference of level is very great is one of the most powerful natural forces in the physical universe The pressure of population is a force of equal potency in human affairs Sometimes Fortune or Statesmanship has so directed this force that its action has relieved the congestion of population in the homelands of a civilised society by carrying off streams of emigrants into empty lands ¹

This analogy may have its uses as a very rough first approximation, but if taken too seriously it is misleading. The flow of population is much more sluggish than the flow of water, nor does it resemble the flow of water in leading eventually to a dead level in all regions which

¹ A. J. Toynbee, *Survey of International Affairs*, 192U (Oxford, Oxford University Press, 1926), p. 84.

have channels of intercommunication. Human migration in itself can never establish a "uniform level" of population, whether the uniform level is conceived in terms of density or in terms of income. There is little or no tendency for migration to establish a level in terms of density. There is a tendency for migration, even human migration alone, to contribute something toward the establishment of a level in terms of income, but, as we have seen, the possibilities in this direction are limited. Most important of all, human migration in itself, apart from movements of other productive factors, from densely populated to empty lands has little power to bring the distribution of population in line with that of natural resources, except perhaps over a very long period.

The danger of the analogy used by Toynbee can be seen clearly from an extreme hypothetical case. Let us suppose that the inhabitants of a densely populated region, in which natural resources are scanty, incomes very low, and the volume of savings very small, have been effectively prohibited for a long time from migrating to an unpopulated region, located at a considerable distance, which has an abundance of natural resources. What results would follow the sudden abolition of these restrictions? Clearly, there would be no stampede to the empty region, not only because of the costs of movement, but also because, however rich in natural resources the empty region might be, man power alone would be capable of developing those resources only very slowly. Rapid and substantial development is dependent not only on immigration but also on large imports of capital.

The course of migration toward relatively empty lands cannot be understood without taking into account the movements of factors other than labor. The amount of labor which can move without capital to regions in which there is an abundance of natural resources, but little

capital, is extremely limited. Thus non-imperialistic territorial expansion is essentially dependent on capital exports. The immigration into the American continent and into Australia in the nineteenth and early twentieth centuries could not have taken place on anything like the scale on which it did take place if it had not been accompanied by large imports of capital. This is reconcilable with the view that migration tends to take place from regions of relatively high incomes to regions of relatively low incomes, for in a comparatively unpopulated land rich in natural resources immigrants unprovided with substantial supplies of capital from outside will not be able to gain large incomes until, over a long period of time, they have slowly accumulated a substantial volume of savings. After European peoples had acquired relatively empty lands they were able to send emigrants to them in large numbers only when, as a result of the industrial and commercial revolutions, they (particularly England) had a very large volume of savings available for investment abroad.

Warren S. Thompson¹ has argued that the only satisfactory way to relieve the Japanese population situation is to transfer New Guinea, Borneo, and possibly Mindanao to Japan. This proposal, so far at least as it concerns the two former areas, is indorsed by W. R. Crocker.² These areas were selected by Thompson and Crocker on the specific ground that they were relatively "empty" areas. Such proposals must be judged mainly in the light of the principles developed above, though there are some other aspects to be considered later. The regions in question cannot absorb a substantial number of emigrants from Japan unless at the same time they are in a position to attract large quantities of capital.

¹ *Danger Spots in World Population*, especially chapter li, pp. 128-30.

² *The Japanese Population Problem*, pp. 193 ff.

The economics of expansion into empty lands can be analyzed in general terms, but the analysis has to be adapted to a number of different political situations, any of which may arise in the world as it is now constituted. Let us first assume that the political conditions are such that only the country which establishes political control over the empty lands will be able to send emigrants to them, and that the capital necessary for their development cannot be attracted from other regions and must therefore be supplied by the politically dominant country. In addition, it seems necessary to postulate that if there is a considerable distance between the two regions a government subsidy will be required to defray at least part of the costs of movement of the agricultural and unskilled laborers who emigrate.

In these circumstances, it is by no means obvious that the people of the politically dominant country would benefit in the short run from such movements of labor and capital to the empty region. The advantages of such expansion are particularly doubtful when the supply of labor is very large in relation to the supply of natural resources in the expanding country. There is a tendency for a larger proportion of the nation's capital to be exported than of its labor. In other words, relatively more of the scarcer factor would be exported than of the more abundant factor. If the amount of capital exported were appreciable in relation to the national supply, there would be a tendency in the short run toward a rise or retardation of a fall in the rate of interest; wages on the other hand might actually fall in the short run, or, if other counteracting influences were at work, rise less than they would have risen if there had been no export of capital and labor. The amount of income consumed per capita would decrease or its rate of increase would be retarded. The relative shares of the social income going to the capi-

talist and rentier classes would tend to increase, while the relative share going to labor would tend to decrease.

The essence of a loan is the transference of command over given quantities of present income from lenders to borrowers in return for undertakings given by borrowers to transfer to the lenders command over given quantities of income at specified future dates. When the lenders are in the politically dominant country and the borrowers are using the proceeds in a dependent colony, there is an immediate increase of consumption in the colony and a reduction of consumption in the dominant country—not necessarily below the previous level, but below the level that would have been reached if no loan had been made.

This analysis, however, is not necessarily applicable in all cases. Business fluctuations, as we have seen, do not always synchronize in all regions of the world nor even in all regions of an empire.¹ At certain phases of the trade cycle in a given country there is a falling off in the domestic rate of investment due to diminished prospects of profits. At such times, in the absence of loans for colonial development, the money savings that would have gone into such loans are not used for investments that produce real capital at home; money savings run ahead of investment, and part of what is withheld from expenditure on consumption goods is withheld also from investment that yields new producers' goods. Idle balances accumulate; the price level falls. The real social income is reduced; there has been an irrecoverable loss. If the country in which these conditions exist has colonies rich in natural resources yet to be developed, and business conditions are more favorable in the colonies than in the politically dominant country, opportunities of remunerative investment

¹ See Wesley Mitchell's introductory chapter to Willard L. Thorp's *Business Annals* (New York, National Bureau of Economic Research, 1926), pp. 73-100; and Bert il Ohlin, *Courses and Phases of the World Depression* (Geneva, League of Nations, 1931), pp. 105-15.

will be available to capitalists in the latter country which would not be available if it possessed no colonies. The colonial investments, without diminishing domestic consumption below the level at which it would have stood if no such investments had been made, will give to investors at home claims to receive future income from the colonies which they could not otherwise obtain. The investments will also stimulate demand for export products, and this will tend to check the fall of prices and prevent the rise of unemployment from reaching such a high point as it would otherwise reach. It would seem also that consumption will fall less than it would otherwise fall, since the savings that would otherwise be wasted are paid out to the factors of production engaged in producing export goods, and some of this purchasing power will be used by these factors to demand home market goods, the production of which will fall off less than it would fall off otherwise.

This has perhaps no application during periods of world-wide depression, but it may have some significance during periods in which semi-depressions exist in some areas and prosperity in others. From 1925 to 1929, prosperous conditions prevailed in some of the tropical regions of southeastern Asia, while Japan was in a state of semi-depression. In some circumstances, it is conceivable that the course of the business cycle might be unfavorably influenced by colonial investment. C. K. Hobson, in his study of the export of British capital, says:

The results of this inquiry, tentative as they are, would appear to suggest that home investment has, on the whole, been active in years when foreign investment has been active, though activity of home investment during the middle seventies coincided with depression of foreign investment. Probably home investment is subject to smaller fluctuations than foreign investment . . . ¹

¹ C. K. Hobson, *The Export of British Capital* (New York, Macmillan, 1914), p. 221.

In Hobson's study, the term foreign investment includes colonial investment. Now, if in any given case colonial investment fluctuates more widely than home investment, the demand of entrepreneurs for capital to use in colonial development, when superimposed on the demand for capital for domestic uses, may, in view of the fact that no absolutely constant ratios exist between reserves and deposits, lead to net additions to credits, above what are accounted for by new advances offsetting liquidated loans, by increase of population, and by such increases in production as are not offset by decreases in costs. This leads to forced saving (in the Austrian terminology) or an excess of investment over saving (in Keynes's terminology). Without accepting the extreme view that all forced saving aggravates business fluctuations, it can be concluded that if colonial investment helped to stimulate a rapid increase in the excess of investment over saving it would produce results that would eventually be inimical to the welfare of the people in the investing countries. More investigation is needed before it can be determined how far these possibilities are actually realized. However, the remedy for unsound investment, whether in the home, the colonial, or the foreign investment market, is to control investment in general rather than to stop all investment in some particular market, as some, reacting against the abuses of the last boom, apparently wish to do.

As regards the long-period effects of investments in "empty" lands, it appears that, when interest and amortization payments come in, the domestic supply of capital will be increased and over a considerable period of time will be greater than it would have been if the initial export of capital had not taken place. Just as, when the investment is made, there is an increase of exports relative to imports that keeps the available domestic supply of

goods and services below what it would otherwise be, so, over a long period, this is more than offset by an increase of imports relative to exports, and the available supply of domestic goods and services is greater than it would be otherwise.

But "other things" are not always equal in practice in the long period. It does not necessarily follow from the foregoing analysis that a grant of empty land to Japan would be beneficial at the present time, even if such land were rich in natural resources. In chapter iv, it was shown that in the next twenty or thirty years a substantial annual increase of population will continue in Japan, but that after that period the increase will in all probability fall off rapidly. For Japan, therefore, it is of the utmost importance that the supply of goods and services available for consumption shall be increased as much as possible in the next two decades. A policy that would lead to large additional sacrifices of present income in the next two decades, with a view to increasing the income that will accrue after that time, would be unsound. Not only will the pressure of growing population be eased after the next two or three decades, but it is also reasonable to assume that the state of the arts will improve everywhere in the meantime.

I hold that in these circumstances the grant of tropical or other lands only slightly occupied, however rich they may be in undeveloped natural resources, would be no remedy for Japanese population difficulties in the very period in which these difficulties are likely to be most acute.

TERRITORIAL EXPANSION AND THE OPEN DOOR

In the preceding section, territorial expansion was examined on the assumption that a Closed Door policy prevailed everywhere. Since, in fact, the Open Door policy prevails in the Netherlands East Indies and to a large

extent in British Malaya, this assumption will now be dropped. Under Open Door conditions, immigration into tropical areas is in some cases restricted during periods of depression, but there is no general restriction; immigrant labor is desired and is essential to the existence of many economic activities in tropical areas. But even under Open Door conditions, there is no incentive for Japanese agricultural and unskilled workers to emigrate to tropical lands unless considerable amounts of Japanese capital are available for the establishment of Japanese colonies in the unoccupied parts, say, of Borneo or some of the Outer Islands of the Netherlands East Indies. In the settled parts of the tropics, real incomes of such workers are lower than in Japan.

Japanese emigration to Brazil is made possible only by the investment of considerable Japanese capital in Brazil and by government subsidies to meet the costs of passages. This emigration is inseparable from an export of capital, but it differs radically from the type of emigration and capital exports from northwest Europe to North America; it is a planned capitalistic enterprise under government supervision. On that account, it is worth careful study,¹ and it has already shown itself superior to haphazard migration. But it is too expensive to the country of emigration to be extended on a large scale. From an economic standpoint, it belongs to the category of migration to empty regions, and, for reasons given in the preceding section of this chapter, I hold that it would be unsound policy for a country in Japan's position to carry this type of migration much farther in the next three decades. Perhaps half a century from now it can be greatly extended to advantage. From an economic standpoint, the limiting factor in this

¹ See J. F. Normano, "Japanese Emigration to Brazil,** in *Pacific Affairs*, March 1934, VII, 42-61. A more detailed account by Normano is appearing in book form.

type of migration for a long time to come will be found in the supply of capital in the region from which emigrants come, and not in the supply of land in the regions to which they go. The supply of relatively empty land in the world is very far from being exhausted, but large investments of capital are required to extend the areas under occupation.

Under Closed Door conditions, with Japan as the politically dominant power in a tropical region in southeastern Asia, it is hardly likely that much capital would be attracted from non-Japanese sources to combine with Japanese labor in the development of the colony. Chinese and other cheaper labor is available in eastern Asia and the Middle East. Any attempt to compel non-Japanese capitalists to use Japanese labor only would deter them from investing in Japanese areas, since cheaper labor and plenty of land are to be found elsewhere. Neither under Closed Door nor under Open Door conditions is there much prospect of the employment of considerable numbers of Japanese agricultural and unskilled workers in the tropical regions of southeastern Asia.

Some population writers have conveyed the impression that the extension of a country's political sovereignty over external regions in itself brings economic advantages to the people of the country. In such discussions, the nation is apt to be personified and additions to colonial possessions are conceived of as additions to a nation's property, just as new titles to wealth acquired by an individual are conceived of as additions to his property. It is of course obvious that the people of a country would benefit by the extension of its political control over areas whose former rulers excluded or greatly restricted the entry of its goods and factors of production. But as regards areas in which the Open Door policy has been consistently maintained, the situation is quite different. If, for example, a tropical colony in which the Open Door prevailed were transferred

to Japanese political control, any imports into Japan from the colony would have to be offset by exports from Japan to its colonies or to foreign countries. This is equally true under any political conditions; it is a fundamental principle independent of political boundaries. Business men and workers in colonies do not give away the products of their labor to the people of the politically dominant country for nothing; like business men and workers in politically dominant countries, they produce for their own consumption and for exchange, or for exchange only.

The Open Door prevails in Dutch colonies; only low import duties are imposed; these are for revenue only and are applied without discrimination. Hence, the change that would result from the acquisition of any of these areas by Japan, so far as trade barriers are concerned, would be infinitesimal. As regards capital movements, large quantities of foreign capital have been invested in the Netherlands East Indies. The United States Rubber Company has some of the largest estates in Sumatra. Many of the tea plantations in Java are in English hands. Part of the import trade throughout the Netherlands East Indies is managed by nationals other than Dutch. As we have seen, the Japanese have important iron-ore concessions in Johore, Open Door conditions prevailing to a large extent in British Malaya.¹

It is said by Warren Thompson and other writers that mineral resources needed by Japan are lying in an undeveloped state in some of the thinly populated tropical areas in southeastern Asia. What is there under existing political conditions to prevent the investment of Japanese capital in the development of these resources? It would appear that the chief factor is that available Japanese capital finds better prospective returns elsewhere; at pres-

¹The lines above were written before the recent changes in British policy were made.

ent, it is prospectively more profitable and sounder economic policy for capital to flow into such industries as the textiles and thus assist to increase an export trade which can be used to purchase required additions to food and mineral supplies from the countries in which these can be obtained on the most favorable terms. As long as this situation lasts, heavy investment by Japanese capitalists in tropical areas would be unsound economic policy. If and when the situation changes, such investment will be practicable in so far as the Open Door prevails. The economic results, which some writers on population believe to be attainable only by the cession of additional territory to Japan, can in reality be attained without change of existing political boundaries.

However, this analysis needs some qualification. In a nationalistic world there are other ways in which colonial possessions may confer benefits on the people of the politically dominant country. An underdeveloped country offers many opportunities to entrepreneurs. Large constructional works are likely to be undertaken, including the development of the means of transport and communication. As Hawtrey says:

Every operation incidental to development will be a source of profit to those to whom it is entrusted. Contractors will come on the scene to build railways, to make roads and to carry out various works of construction and improvement. Trade will spring up and passenger traffic. There will be a tendency for all these opportunities of profit to go to the countrymen of the concessionaires

In a new country the positions of the leaders of trade and industry are vacant. Those who get concessions from the sovereign authority are enabled to fill these positions and to receive the profits which are their reward.¹

In addition, the nationals of the country which exercises political control over a colonial region derive some

¹R. G. Hawtrey, *Economic Aspects of Sovereignty* (London, Longmans, Green, 1930), pp. 51-52.

advantages from familiarity with the language officially adopted in the region, and with the legal system and forms of administration. Such advantages will still be present in some degree even under Open Door conditions. The windfall profits which Hawtrey conceives of as going to concessionaires who are nationals of the politically dominant country may add to the quantity of goods and services in the latter, or may be reinvested in the colony. Such profits, however, where construction works are concerned, are not likely to be very extensive in the early stages of development of relatively empty lands; it is some time, for example, before railways can be made profitable in a thinly populated colony. In fact, the situation depicted by Hawtrey is likely to be more characteristic of imperialistic expansion than of expansion into empty lands, so far as the early stages of development are concerned, though it may be applicable to both in the long run.

On the whole, however, it is probable that the most important aspect of the Open Door policy is that which concerns the movements of commodities. It has become clear that in practice, whatever advantages the politically dominant country may possess, so long as the Open Door policy prevails, political factors alone will not prevent the traders of other countries from attaining a dominant position in the import markets of a colony; nor will they prevent outside countries from becoming the chief markets for the products of the colony. In fact, these developments may even occur sometimes in the case of colonies in which the Open Door policy does not prevail, though in such instances they are not carried as far as they would be under an Open Door policy. Space will not be taken up here with detailed illustrations, but the point is clearly demonstrated by a survey of the markets into which Japanese exports have penetrated, and of the trading relations of some of the tropical dependencies of southeastern Asia.

Though in some cases welfare may be promoted by subsidizing the production of some commodities and discouraging the production of others, the actual restrictions imposed on the movements of goods and factors of production do not serve these ends; such restrictions are supposed by their authors to serve the end of national power, not of welfare. If the maximization of the quantity of goods and services is the objective, it is clear that the Open Door policy, in the spirit as well as in the letter, is to be preferred to any other. Nationalistic influences, however, are unfavorable to the maintenance of the Open Door, and none of the problems discussed in the present chapter can be solved without considerable changes in the existing political organization of the world.

It will probably be more practicable to attempt to work out a solution based on the development and modification of existing institutions than to work for the establishment of wholly new institutions. The Mandates System of the League of Nations provides machinery which, after certain adaptations, can be made suitable for extension to all tropical regions. The chief modifications required are, first, the elimination of the Class C Mandates, which permit the Closed Door, and an increase in the powers of the Mandates Commission, enabling it to call for more detailed information than it can do at present and to make independent investigations when, in the opinion of its members, these are desirable. Along these lines some definite guaranty of the maintenance of the Open Door would be obtainable. At present, apart from mandated areas other than those under Class C Mandates, there is no assurance that the Open Door, where it exists, will be continued as a permanent policy; it is subject to alteration at the will of the government of the politically dominant power.

Pending a comprehensive change that will penetrate to

the root of present difficulties, there is no case for transferring colonies from a power that maintains the Open Door to a power that has always pursued a Closed Door policy, with a view to relieving population difficulties in the homeland of the latter power. As long as the Dutch maintain their present colonial policy, it is desirable that Dutch colonies should remain under Dutch control until they have reached a stage in which they will be fit for independence. Under present conditions, there could be no assurance that if additional colonies were granted to Japan the Open Door would be maintained in those colonies. If it were not maintained, the development of the colony would be retarded and it would remain a less valuable market for Japanese exports than it would have been if it had been kept in the hands of a colonial power like Holland which maintains the Open Door as a settled policy.

The land and natural resources of the relatively empty areas can be developed to the maximum advantage by the aid of capital from regions where capital is relatively abundant, and labor from regions where labor is relatively abundant. This objective can only be reached by an Open Door policy free of discriminatory restrictions, based on irrational grounds, against immigrants, goods, or capital from this or that source.

The chief benefit of emigration to a country in which labor is the relatively abundant factor is not necessarily to be found in the reduction of the relative abundance of labor; for in a densely populated country the extent to which emigration reduces the relative abundance of labor may be small. More often it is to be found in the new markets for some products and new sources of supply of others which are eventually opened up by the labors of the emigrants in new lands. This is often overlooked by the British and American writers who hold that emi-

gration is of no importance as a measure for relieving population difficulties; having pointed out that in any event it would be practicable, in a country in Japan's present position, for only a relatively small proportion of the annual increase in numbers to emigrate, they are apt to assume that they have disposed of emigration as a remedy for population difficulties. This conclusion is readily acceptable to those who are anxious for political or cultural reasons to exclude Oriental immigrants from lands inhabited by English-speaking peoples. It is not difficult to show that a large proportion of Japan's annual increase of population could not be absorbed in Australia even if immigration were unrestricted. But that does not dispose of the matter. If Oriental immigrants, whether Chinese or Japanese or both, were admitted to underdeveloped regions of Australia, and if capital were supplied by regions in which capital is relatively abundant, the development of Australia would be more rapid than it is, and trading relations between Australia and Japan would be more extensive than they are. This would contribute toward a solution of population difficulties in Japan in ways that will be described in the next chapter. The interrelationships between movements of the factors of production and movements of commodities are important for population studies.

There is no escape from the conclusion that the White Australia policy increases the difficulties that stand in the way of a solution of the Japanese population problem. The White Australia policy is also inconsistent with the doctrine which lies at the basis of the Mandates System of the League of Nations, and which, in some form or other, is usually put forward as a reply to critics who maintain that there is no justification for the imposition of a more or less autocratic Western rule on the indigenous peoples of tropical regions. There are a number of statements of

this doctrine. It will suffice for present purposes to cite Lord Lugard's version of it:

.... the tropics are the heritage of mankind, and neither, on the one hand, has the suzerain power a right to deny their bounties to those who need them nor, on the other hand, have the races which inhabit them a right to deny their bounties to those who need them the democracies of today claim the right to work, and the satisfaction of that claim is impossible without the raw materials of the tropics on the one hand and their markets on the other.¹

Average income is lower in Japan than in most of the other industrial countries, and agriculture cannot advantageously absorb more labor. The economic needs of Japan for external markets and for raw materials are greater than those of the leading Western countries. A policy which artificially retards the development of largely undeveloped regions has an unfavorable effect on the economic prospects of Japan.

¹ F. Lugard, *The Dual Mandate in Tropical Africa* (Edinburgh, Blackwood, 1923), p. 61.

CHAPTER X

POPULATION AND INTERNATIONAL TRADE

NATURAL RESOURCES AND INTERNATIONAL TRADE

The unavoidable divergence between the distribution of population and the distribution of natural resources is only partially offset by movements of the factors of production. Artificial obstacles have reduced the potential flow of these factors across national boundaries. But even if artificial obstacles did not exist, natural obstacles would be too great to permit a complete adjustment between the distribution of population and the distribution of natural resources. Moreover, some types of raw materials are so narrowly localized that, if complete identity were to prevail between the distribution of population and that of natural resources, large areas would have to be left uninhabited, even though they might be rich in some types of natural resources. Population cannot in any case be so distributed that each group has the same per capita supply of every kind of raw material and of every type of land.

In addition to movements of the factors of production, there is another way in which inequality between the distribution of population and that of natural resources can be reduced. Movements of goods may to a considerable extent be regarded as a substitute for movements of the factors of production. As Ohlin puts it:

Were the mobility of the productive factors between the regions free, then a levelling of their prices and a more efficient combination of them could be brought about through a movement from the region where some of them are cheap to others where these factors are dearer There are, however, many more or less important obstacles to such movements and efficient combinations cannot be established in that way. There is nothing else to do but to use them where they are and bring about a local-

ization of production which suits the geographical distribution of factors as well as possible. In this indirect way a certain equalization of their prices and adjustment of their combinations take place through the interregional exchange of commodities. The total volume of production is increased. *Thus, the mobility of goods to some extent compensates the lack of interregional mobility of the factors:* or trade mitigates the disadvantages of the unsuitable geographical distribution of the productive facilities ¹

Densely populated regions not endowed with abundance of natural resources are particularly dependent on trade with other regions. Thus, when the people of such areas imp'ort raw materials such as cotton, wool, lumber, or pulp which they manufacture into finished textile goods, part of which are exported, they are in a significant sense sharing in the land supply of the regions which produce the raw materials. They import raw materials, the production of which requires relatively large supplies of land; they export fabricated products, the production of which, given the raw materials, requires relatively little land. These trading relations help to offset the disadvantage of a small per capita supply of land in the densely populated region. In general, those commodities which can be produced only by the use of relatively large areas of land and of other natural resources in which the densely populated area is deficient will be imported, and those commodities which can be produced by the use of relatively little land will be exported. The former type includes many kinds of food and raw materials, and the latter, many kinds of manufactured goods. In the early stages of productive activities that culminate in the output of completed consumers' goods, much land tends to be needed; in the later stages, very little. Other things being equal, there is a tendency, sometimes partly offset by artificial obstacles, for these earlier stages to be carried out in

¹ Bertil Ohlin, *Interregional and International Trade*, pp. 41-42.

regions where land is relatively abundant, and the later stages in regions where land is relatively scarce.

These principles have been stated in a somewhat simplified fashion, but even so they are to an important extent applicable to the actual situation prevailing over a large part of the world. To deal comprehensively with concrete problems, however, it is often necessary to take account of the existence of many different productive factors. In fact, from what was said in the opening paragraph of this chapter, it follows that one of the reasons why the world's population must inevitably be distributed unevenly with respect to natural resources is that the term "natural resources" covers many different factors of production, the elasticity of substitution between which is less than infinity, and some of these factors are found in very few regions. As regards labor, the discussion in the third section of chapter viii on the migration of technical labor has an important bearing on international trade. For an area in which the supply of labor is relatively large and that of land relatively small cannot develop an export trade in manufactured goods until it has an adequate supply of technical labor, and it can obtain this supply in a short time only as a result of the migration of technical and professional workers. This again illustrates the fact that movements of productive factors produce reactions on the movements of goods, and these reactions produce greater effects on the economic structure of the regions involved than were produced directly in each region by additions to or subtractions from its supply of this or that productive factor.

Obstacles to the movements of goods, like obstacles to the movements of productive factors, in general tend to accentuate the divergences between the distribution of population and the distribution of natural resources, and thus to increase the inequality of economic opportunity

among different communities. Herein lies the strongest count against protectionism. It must not be supposed, however, that only communities unfavorably situated with respect to natural resources lose by protectionism. Trade arises out of differences in the relative supplies of the different regions, and it is advantageous for a community which has large per capita supplies of natural resources to import commodities in the production of which relatively large quantities of labor are required. Moreover, even an area richly endowed with natural resources does not contain every kind of raw material; it is therefore dependent on external trade for a share of the commodities which cannot be produced without the raw materials not available within its borders; such trade introduces greater variety into the composite commodity consumed by the community in the favored area. However, the people of densely populated regions poor in natural resources are most adversely affected by protectionism. The greater the obstacles to international trade, the less can groups which have small per capita supplies of land and raw materials within their borders share in the resources of other more favored groups.

POPULATION AND PROTECTIONISM

Summarizing certain conclusions reached in earlier chapters, it may be said that the available evidence, though incomplete, points on the whole to an improvement in the economic position of the Japanese people during the period in which the population has rapidly increased, and that today the average Japanese is much better off than was the average Japanese when the population was only half its present size. But there are indications of the existence of agricultural overpopulation, and agriculture cannot be expected to absorb new workers to advantage beyond those needed for replacement purposes; in fact,

gains in the productivity of agriculture would probably result if the total number of workers employed in it were reduced. It follows that industry and commerce are the main channels into which additions to the working population tend to be drawn. Industrialization will have to be progressively extended in Japan in the near future. Notwithstanding the unfavorable views widely expressed on the prospects of industrial development in Japan, the analysis in chapter vi led to the conclusions that shortage of domestic supplies of some raw materials will not prevent industrial progress on a substantial scale, and that adequate supplies of mechanical skill and inventive capacity are likely to be forthcoming.

It follows from these conclusions that, if the economic position of the Japanese people is to be maintained and improved, a still greater economic interdependence must develop between Japan and the rest of the world than exists now.

But the growth of economic interdependence may be hindered or accelerated by the commercial policies pursued both in Japan and in the rest of the world. The income and the welfare optimum population for any area, and for the world as a whole, can be raised or lowered by the actions of organized groups working through political assemblies, framing and executing commercial policies that promote or retard world economic intercourse. The denser the population and the more scanty the supply of raw materials the greater is the power of organized political bodies to affect the size of the income and the welfare optimum population. It is impossible even to discuss this concept of an income optimum population for such countries as Japan, Java, and England without taking account of commercial policies.

Two aspects of this problem require consideration: first, Japanese commercial policies, and, secondly, the pol-

icies of other countries as they affect Japan and as they affect one another. I have elsewhere discussed some aspects of the first and will not repeat statements already made. Having regard to the present state of Japanese public opinion, it is necessary to point out that the case for the extension of industrialization and commercialization in Japan to remedy agricultural overpopulation depends for its validity on the assumption that industrial and commercial expansion are not parasitic growths made at the expense of the taxpayer and of agriculture. The phrase translated as "encouragement of industries," so often heard in Japan, is usually interpreted to mean the grant of subsidies from funds raised by taxation, a part of which come from agriculturalists, and the imposition of high tariffs on imports. To stimulate particular industries in these ways with a view to removing economic difficulties suspected to be due to overpopulation is a misapplication of means to ends, except in so far as the infant-industry argument is applicable. The incomes of certain groups may be increased, but average per capita income will be prevented from increasing as much as it would otherwise increase.

Notwithstanding the arguments of the more doctrinaire free traders, there can be little doubt that subsidies and certain other forms of government assistance served a useful purpose in laying the foundations for Japanese industrialization. A supply of technical and managerial ability and of skilled labor had to be created, and capital had to be directed or attracted into industry. In the infancy of industrialization some sacrifice of immediate consumption was necessary to create the capacity for industrial production, and this could best be effected by government action.

What in effect occurs in this stage is that purchasing power is transferred from taxpayers (using that term in

a broad sense) to groups which engage in the production of certain kinds of producers' or consumers' goods which at the time cannot be produced at costs as low as those which prevail abroad. If the relatively high domestic costs are due to a relative scarcity of such factors as managerial capacity, entrepreneurial skill, and particular grades of technical skill, which during the period of subsidization can be made relatively more abundant, then, after a time, the change in the relative supply of these factors will enable a more efficient combination of factors to be made which will bring down domestic costs to the level of foreign costs, and thus render subsidies no longer necessary. This general principle would hold good for a communist as well as for a capitalist society, though in the former case we should hardly use the term "taxpayer." The present incomes of the mass of the people are curtailed to provide the difference between the remuneration needed to call forth a given quantity of certain goods from domestic factors of production and that needed to call forth the same quantity of similar goods from foreign factors of production. This difference arises out of a difference between the efficiency of the combination of the factors of production, due to differences in the relative scarcity of the factors, in the two cases. The differences will gradually disappear if the case is one where the infant-industry principle is genuinely applicable.¹ The whole issue involved, it should be emphasized, does not depend upon the respective merits of socialism and capitalism; it is one to be faced in any sort of economy.

Ohlin has said very happily that "the 'infant industry argument' should be called instead the 'infant country argument'." It might be better still to call it "the industrially infant country argument." In spite of all that has

¹ It is generally held that the costs of the initial support given should later be compensated.

been written on the subject, there are some significant questions still awaiting analysis. These questions are of broad scope, however, and cover much more than is implied in the infant-country argument. The central problem is this: How far should consumption be curtailed¹ or hindered from expanding in order to build up the supply of producers' goods with a view to increasing the supply of consumers' goods that will be available in a future period? The farther this process is carried, the greater must be the sacrifices of the workers who are living now. Some of these workers will live to receive long-run benefits from the immediate sacrifices; others will not. The problem is one to be considered in all planned economies; the infant-country principle, when adopted, is a form of economic planning. In countries where the wage level of a large number of workers is well below the minimum necessary for adequate nutrition, I doubt the wisdom of carrying very far a process which involves sacrifice of the present consumption of the majority of the people in order to improve future productive capacity. But many factors have to be taken into account which cannot be analyzed here owing to lack of space. I have raised the problem here mainly to show that it has yet to receive adequate treatment. It should be added that no solution valid for the concrete situations of real life can be worked out on the lines of the utility theory.

On the whole, I am in agreement with Dr. Moulton that "industrial and urban development would have proceeded very much more slowly [in Japan] in the absence of the government's fostering policy."² It must be admitted, however, that even when the objectives of these policies have

¹ This does not always imply that the production of consumers' goods will be reduced. Such goods may be exported in order to offset imports of producers' goods.

² Moulton and Ko, *Japan: An Economic and Financial Appraisal*, p. 337

been desirable the best means have not always been used to reach them. In particular, import duties are the least defensible of these measures; they are a technically clumsy method of regulation, and are apt to deceive the taxpayer and to corrupt politics.

Industrialization has passed out of its infancy in Japan, and protective tariffs in Japan can hardly be justified to-day by the infant-country principle. As far as very recent history is concerned, there is no doubt that certain industries or branches of industries which have received substantial subsidies and which have been protected by high import duties have given the most disappointing results, while the unsubsidized cotton industry has made great progress. In some subsidized and protected industries, it cannot be said that producers are or ever have been prosperous.

There is little consumers' consciousness in Japan. The World Economic Conference at Geneva in 1927 led to the formation of the Japan Federation of Liberty of Trading Associations, and, though the present writer has not been in touch with this organization since the middle of 1930, up to that time it derived its support in the main from banking and financial, shipping, and university circles. It seems likely that economic groups in Japan whose interests are adversely affected by protectionism will become stronger in the future, since the economic situation, as we have seen, will tend to compel Japanese people to obtain more food and raw materials from abroad, in exchange for exports of manufactures; and this will increase the number of persons interested in exports, visible and invisible, and in banking and finance. Up to 1930, I felt reasonably confident that the Federation of Liberty of Trading Associations had been floated on a tide which, though low at that time, was destined to rise steadily. But since then, there has been an increasingly

rapid resurgence of protectionism in Japan and throughout the world, and in Japan movements with liberal tendencies, always weak but for a time slowly gaining strength, have been almost engulfed in a wave of reaction and extreme nationalism. The whole political trend in Japan at present is unfavorable to co-operation with the rest of the world, in either political or economic matters. This trend may be reversed when the present world economic depression lifts; but the forces of reaction are strongly entrenched in Japan, and optimistic predictions are unjustified at present.

If we were dealing with an "economic man," and could presuppose rational action on his part, it would be legitimate to forecast a steady strengthening of the freer-trade movement, because of the probable increase in the number, wealth, and political influence of the "economic men" whose interests will be involved in foreign trade and its financing—an increase, resulting from the population situation of the country, which not even tariff walls will be able wholly to prevent, though they may greatly hinder it. But the attitudes of the Japanese people toward protection and subsidies are not explicable purely in terms of "economic motives." They are partly made up of irrational elements arising out of the intense nationalism fostered by the educational and social organizations and traditions of the people. It is the existence of these irrational sentiments in the background which enables the special interests of those groups which believe they will gain by protection and subsidies to prevail.

However, the ability of the Japanese people to meet the needs of additions to their numbers will not be determined solely by the domestic and foreign policies of Japan. Even if these policies were enlightened, the solution of the problem of agricultural overpopulation would be difficult and probably impossible in the face of high

and rising trade barriers set up by other countries. Industrialization within cannot be effective apart from freer trade without.

What the Japanese need is not a grant of tropical land but freer trade with the rest of the world. Countries which raise or maintain tariff walls, and in particular those which impose duties on imports of the kinds of goods which Japanese are specially fitted to manufacture, are hindering the solution of the Japanese population problem, and preventing the masses of people in Japan from obtaining a per capita income as high as they would otherwise obtain.

At the present time, it is the actual and potential trade barriers in the markets of the United States and the British Empire that present the greatest obstacles to Japanese exports. The American tariff on manufactured silk goods forces the Japanese to export large quantities of raw silk to America that might otherwise be manufactured into silk goods in Japan and sold abroad at higher values. The extension of imperial preference within the British Empire has already hindered the development of Japanese export trade, and impending further extensions threaten to hinder it still more in the future. The government of India, in raising its tariff on certain textile goods, by granting a preference to English goods necessarily discriminated against Japanese goods. At the Ottawa Conference, when the question was raised of preferences in the South African market which must inevitably damage Japanese trade, specific attention was directed by British publicists, in the case of both India and South Africa, to the inroads of Japanese goods into the markets of those countries, the implication being that these inroads should be checked by increased British preferences.

At the Ottawa Conference, also, the government of India agreed to give a 10 per cent empire preference on

a long list of manufactured goods, which includes woollen piece goods and rubber manufactures. This preference was to be extended to goods now subject to duties for revenue only and will soon be further extended to a shorter list of manufactures, which will include cotton and rayon piece goods. South Africa agreed to impose new duties on cotton and rayon piece goods from foreign countries, while leaving the duties on the same goods from Great Britain unchanged. Imports of knitted cotton types of underclothing were formerly taxed uniformly at 15 per cent. Duties on imports of these goods from foreign countries are now raised. South Africa also agreed not to lower existing margins of preference on a list of manufactured goods. This prevents the conclusion of commercial treaties with foreign countries for reciprocal lowering of tariffs. There are other features of less interest to Japan. This summary shows that the British Empire is busy with attempts to bar Japanese manufactured goods.¹

It is not disputed that imperial preferences are discriminatory measures. But it is commonly claimed that they are only discriminatory between the fiscal units of the empire concerned, on the one hand, and all the countries outside that empire, on the other, and that they do not involve discrimination against any particular country. This contention, however, is mere verbiage. When the government of India raises its tariff on cotton goods from foreign countries but not on those from other parts of the British Empire, everybody knows that the discrimination is aimed at Japan. Preferences on textiles in India and in British dominions and in some British crown colonies are a direct blow to Japanese exports. They affect the exports of other countries comparatively

¹ For a convenient summary of the Ottawa Agreements, see the "Ottawa Supplement" of the *Economist* (London), October 22, 1932, Vol. CXV.

little. S. H. Bailey expresses the position well in general terms when he says:

The practices of discrimination are judged not by what they seemingly are in the eyes of the discriminator but by what they are, viewed from the angle of unfavorably affected States. From this angle, many discriminatory practices are general in form but specific in incidence . . . ¹

Some publicists in Great Britain have recently taken the position that, while the raising of tariffs in the British Empire against other countries is most undesirable, yet, on the other hand, lowering of tariffs between the fiscal units of the British Empire would be a distinct contribution to world recovery. It is doubtful whether this view is well grounded, except perhaps in cases where the non-preferential tariff stands at a prohibitive level. To lower inter-imperial tariffs and retain tariffs against other countries at their existing levels may, of course, stimulate certain industries in other countries. It is conceivable that the stimulus to industries within the British Empire may place in the hands of the British people increased purchasing power which will be used, partly at least, to buy other goods from the countries some of whose industries were adversely affected by the widening of the gap between the duties on inter-imperial and those on foreign produce. On the other hand, the industries in these countries adversely affected by the widening of this gap have to be curtailed; consequently, the power of these countries to purchase goods from the British Empire is reduced. Moreover, in any case, readjustment of industries, involving a change in their relative importance, will be forced on these countries. It will be a readjustment, not made with the object and in the hope of utilizing new inventions and improved technique to raise per capita

¹ "The Political Aspect of Discrimination in International Economic Relations," *Economica*, February 1932, XII, 91.

income in the community, but forced by political action based on imperialistic sentiment, and having only the negative object of minimizing losses in trade.

It may be agreed that in some cases lowering of tariff walls between its own members by a group of countries, without lowering them correspondingly to countries outside the group, may be a step toward greater freedom of international trade. Sir Arthur Salter has given cogent arguments for modifying the existing interpretation of the most-favored-nation principle so far as to allow European countries to lower tariff walls within Europe without automatically lowering them in the same degree to countries outside Europe.¹ But the validity of this case seems to depend on the willingness of the European group to give opportunities for countries outside Europe to join the agreement for mutual reduction of trade barriers. European countries should not be compelled to wait for all countries in the world to reach agreement on reduction; it is to the advantage of the whole world that they should be at liberty to reach agreement among themselves as speedily as possible, and countries in the rest of the world which are unwilling to come into the agreement should not have the right to benefit unilaterally by the reduction of European trade barriers. But those countries outside Europe which are willing to accede to the terms of an agreement which might be reached between European powers should not be excluded from its scope merely because they are outside Europe. In other words, countries outside Europe should not be permitted by the operation of the most-favored-nation clause to take without giving, but they should be permitted to give and take.²

¹ *Recovery, The Second Effort* (New York, Century, 1932), pp. 199-203 and 212-19.

² The Convention of July 1932 between Holland and Belgium is a model which indicates the way out of the present tariff impasse in the world. It

Even if, however, imperial preference in the British Empire or any other empire merely took the form of reducing inter-imperial trade barriers without increasing barriers against the rest of the world, it would stand in a totally different category from the sort of European agreement envisaged above. As regards an inter-imperial agreement for reduction of barriers, based on the principle of imperial preference, outside countries would not only be prevented from taking without giving; they would also be prevented from giving and taking. No matter how willing an outside nation might be to join an agreement for reduction of tariffs reached between the different empire fiscal units, the door would be closed against it for purely political reasons. To extend an agreement for inter-imperial tariff reduction to countries outside the empire would be to abandon the principle of imperial preference. A great contribution would indeed be made if an empire with several autonomous fiscal units like the British Empire were to agree on a plan for the reduction of inter-imperial tariffs and then invite other nations to join in the agreement. If the British Empire were to take such a step as this, it would indeed be making a great contribution to world economic recovery. But, of course, this would not be imperial preference. From a world standpoint, the principle of imperial preference is an anti-social principle; it is inherently prejudicial to the solution of the population problem of the densely populated regions of the world.

The countries of the British Empire are hindering Japanese export trade in other ways besides the use of imperial preferences. The self-governing British domin-

provides for gradual reduction of tariffs between the two countries, and at the same time leaves the way open for any other countries to join in the agreement on the same terms. But it has been dropped, owing to the stand taken by protectionist countries, particularly Great Britain.

ions and India have built up tariff walls primarily to protect domestic industries. As these lines are being written, a strong agitation is being carried on in India with the object of raising the tariff on textiles to a level virtually prohibitive of Japanese imports. And when Japan returned to the gold standard under Mr. Inouye's direction, the sudden raising of the Canadian and Australian tariffs on silk textiles came at a time when the maintenance of Japanese exports was of particular importance.

THE FUTURE OF INTERNATIONAL TRADE

Industry and commerce are the main channels into which additions to the working population of Japan will tend to be drawn. Given freedom of access to world markets, there is large scope for Japanese industry to expand in the working up of raw materials, largely imported, into manufactured goods, part of which are exported and part absorbed at home. The striking successes of the textile groups in the last two decades are a good augury for the future. The domestic market is large; and conveniently accessible markets abroad, especially in India, the Middle East, the Far Eastern tropics, and the rest of eastern Asia, are extensive, concerned as they are with the wants of a very large part of the world's population. Small rises in the purchasing power of large populations with relatively low per capita incomes will probably afford more stable markets than will larger rises in the purchasing power of smaller populations that already possess relatively high per capita incomes.

Unless an upward turn appears in fertility rates, the populations of western Europe and probably of North America will decline in the near future, and this impending decline will become obvious to all as soon as "the residual effects of past fertility" have disappeared. For

reasons already stated, the same general movements of population which have been taking place in large areas of the Western world and which are revealing themselves, though in an earlier stage, in Japan are likely to appear among other Asiatic communities in the not very distant future, and perhaps sooner than is commonly believed today. European experience shows that fairly high fertility rates may be transformed in a few decades into rates scarcely adequate for replacement. But the process will be worked out later in Asia than in Europe, North America, and Australasia, and as a result of this time lag Asiatic populations will, for a time at least, constitute a larger proportion and those of Europe, North America, and Australasia a smaller proportion of the total population of the world than they do at present. The relative purchasing powers of the two markets will not necessarily change to the same extent as the relative populations change, but at least Asiatic markets are likely to increase in importance.

The Japanese people are well situated to take advantage of these contemporary and prospective changes. Those who hold pessimistic views on the prospects of Japanese foreign trade tend to overlook the fact that, while Japan's population has been increasing, the populations of other Asiatic countries have also been increasing without, up to the time of the world depression, showing signs of reduced per capita production and consumption. On the whole, the Japanese are at present the most educated of Asiatic peoples; hence, birth control is producing quantitative effects earlier in Japan than in other Asiatic countries. With a continuance of the present slowing up in the rate of increase of the Japanese population, some of the other Asiatic peoples will probably increase for some time faster than the Japanese. When the Japanese population ceases to grow, populations of other Asiatic

countries will probably continue to grow for a time. Hence, the indications are that the rate of increase in the consuming capacity of the Asiatic markets in which Japan has a footing will be greater than the rate of increase of the Japanese population, particularly as technical advances are likely to increase the per capita consuming power of the increasing Asiatic populations.

It is sometimes argued that Japanese exports will be displaced by the growth of domestic manufactures in other Asiatic countries. In respect of certain types of manufacture this will doubtless happen, but the extent to which markets are likely to be supplied from exclusively domestic sources tends commonly to be exaggerated. Writers on the population problems of Asiatic countries are not always consistent on this point. In discussing the prospects of Indian and Chinese industrial development, they are inclined to stress the "menace" of Japanese competition; in discussing the prospects of Japanese industrial development, they are likely to stress the menace of Indian and Chinese competition. Some canceling out is surely permissible here. Indeed, the view of competition here involved seems to be a heritage of the habits of thought associated with a romanticized militarism which envisages international commerce as a struggle in which one side must lose what the other side gains; which tends to emphasize the growth of the power to produce, while ignoring the growth of the power to consume, in other countries; and which focuses attention on the relative industrial position of a country in relation to other countries, rather than on its absolute position and its position today in relation to its position in former times.

Rapid industrial growth, proceeding simultaneously in a number of different regions, leads to a growth of world markets, except during periods of general depression and extreme protectionism. Loss of "industrial leadership"

by a country is of little importance so long as the per capita income of its inhabitants is increasing in an absolute sense. Holland was once in a position of commercial leadership; Great Britain is said to have held the industrial leadership of the world for some years in the nineteenth century. In these respects, both countries have since fallen behind some other countries; but their inhabitants have higher per capita incomes and lower death-rates today than they had when the relative commercial and industrial positions of their countries respectively were most favorable. Similarly, it may be expected that the economic advance of Asiatic countries other than Japan, so long as it is not accompanied by higher protectionism, will bring an increase and not a decrease in the per capita wealth of Japan. Certain sections of existing industries will no doubt be affected by competition from producers in other Asiatic countries. The markets for certain classes of cotton goods in China have already been affected, and Japanese manufacturers and distributors are anticipating further losses in some lines. To remedy this they are aiming, not without success, at a wider distribution of exports.

The fear that the economic position of a given area will be adversely affected by the future economic development of other areas, less advanced at present, has found wide expression. In some circles in the United States, the possibilities have been discussed of a development of industrialization in Asia that would "threaten" or "menace" the industrial "supremacy" of Western countries. As we have seen, up to the early post-war years, more optimistic estimates of reserves of minerals in Asia prevailed than are sanctioned today by geologists. Recently the tendency has been to cut down former estimates drastically, with the result that it is now maintained that the Orient can never hope to become industrialized in the sense in which North America and western Europe

are industrialized.¹ It is interesting to note that some of those who have reached the conclusion that the Orient will not be able to develop industries to the extent formerly anticipated seem to be under the impression that they are bringing good news to Western countries, and proving that certain conditions do not exist which, if they did exist, would constitute a "menace" to the industrial countries of the West. If this viewpoint is well founded, it would seem to follow that American people ought to rejoice at the news that the world is poorer than it was previously thought to be, and that its mineral resources are less than we had been led to believe. In that case, would not the people of a given state in the United States have good reason to rejoice if it were found that the reserves contained in other states of those minerals that were abundant in the given state were in reality far less than they had previously been estimated to be?

There appears to be a widespread idea that the economic relations between regions which have similar natural resources are wholly competitive, and that there is little or no basis for trade between them. This idea lies at the root, not only of the fear aroused by the former idea that China was very rich in minerals, but also of some popular arguments that are now being advanced in the United States with reference to the possibilities of trade with Russia. It is, however, fallacious to base predictions regarding the future course of trade between given regions wholly on a comparison of the raw materials available in those regions. Trading relations are determined by the relative proportions in which all the various factors of production are found in the regions

¹ What we are really concerned with is not the question whether or not the Orient can duplicate the economic development of America and Europe, but the possibilities of providing enough alternative occupations to agriculture to absorb that part of the increasing population which cannot be profitably employed in agriculture.

concerned.¹ It does not follow at all that there will be no basis for trade if one factor or group of factors is present in all the regions in similar quantities. For costs of production are determined by the prices of all the factors used in the production of a commodity. If North America, China, and Russia had identical supplies of the factors of production grouped under the term "natural resources," there would still be no basis for the view that relations between them would be wholly competitive and that there would be no economic reasons for the maintenance of trading relations. For those areas differ markedly in respect of the possession of factors of production other than natural resources. The relative supplies of various types of labor—technical, professional, skilled, unskilled, agricultural, and subdivisions of these categories—differ widely in the different areas. In time, the differences may become less in the case of some types of labor, but the probable movements of fertility and mortality rates are such that there are likely to be wider divergences than ever for a considerable time to come² between the total populations of Western and those of Asiatic countries. Hence, in the next few centuries at least, it is probable that the relative total supplies of all kinds of labor in these two groups of countries will diverge and not converge. Of course, given favorable political conditions, there will be a growth in the supply of capital and, as a result of improved technique, a growth in the supply of natural resources in Asiatic countries and in Russia, and the rate of growth of these factors will probably exceed the rate of growth of population. The same development, however, will almost certainly take place in North America. But though the supplies of natural resources and of savings may increase in all areas in relation to the supply of labor,

¹ See especially Ohlin, *Interregional and International Trade*, p. 27.

² See above, pp. 284-86.

the indications are that the supply of labor in relation to the supplies of other factors will remain much higher for many centuries in Asiatic countries than in North America. In addition, the relative supplies of a number of other factors will remain far different in the different continents, and the economic conditions will exist for much industrial specialization. From the same raw materials, a variety of different products are made; the proportions in which the productive factors are combined vary considerably in the production of different products from the same kinds of raw materials.

This line of analysis also leads to the rejection of the views advanced by J. Russell Smith and other economic geographers to the effect that, in the future, trade between regions within the temperate zones is likely to diminish and that between the temperate zones and the tropics to increase; in other words that, roughly speaking, east-west trade will diminish and north-south trade increase.¹ The second part of this viewpoint is probably valid, but the first must be decisively rejected. Of course, if trade barriers are kept high enough, the forecast may turn out to be valid; but the view that there are fundamental economic reasons which support it has to be rejected. The arguments of Ohlin against the view that east-west trade is likely to diminish considerably appear to be strengthened by the considerations advanced here with reference to the probable relative population trends in the near future in North America and Asia.² Of course, these considerations may increase north-south trade as well.

Similarly, the probable relative population trends in the next century in Japan and other Asiatic countries are such³ that the differences between the relative supplies of

¹ J. Russell Smith, *Industrial and Commercial Geography* (New York, Henry Holt, new edition, 1925), pp. 714-15.

² Ohlin, *Interregional and International Trade*, pp. 126-29, 265.

³ See above, pp. 284-85.

the various factors of production in Japan and those countries are likely to remain, for a considerable time at least, as great as or even greater than they are now. It follows that, apart from extreme protectionism and political disturbances, there are no adequate grounds for believing that Japanese exports as a whole will be prevented from expanding by the rise of Asiatic competitors. There will be a tendency for Japanese exports to North America to consist of commodities in the production of which relatively large quantities of labor are required, and for exports to other Asiatic and to African countries to consist in more fabricated products the production of which requires considerable quantities of technical labor. It is not possible to forecast in detail what industries will expand and what new industries will arise; this applies to industries that supply the domestic market exclusively as well as to export industries.

The difficulties in the way of such forecasting often lead to undue pessimism. It is generally not difficult to select particular industries in any country of the world and foresee possible difficulties that may beset them in the future. Unfavorable predictions are always easier to make than favorable predictions. On the other hand, to foresee the rise of new industries is usually impossible, and; when it comes to a consideration of the whole field of industry, events almost invariably falsify predictions. E. A. G. Robinson says very aptly:

We often hear the argument that industry has no openings for men, that there are no growing industries waiting to absorb the unemployed. But it has always been so. One and a half million men are employed today in industries which did not exist or hardly existed in 1900. If we had been looking for jobs for those men in 1900, we should never have foreseen the present numbers of workers in the motor industry and motor transport, in the making of gramophones and wireless sets, in road building, in electricity, or aviation. At this moment, in 1931, it is equally hard to foresee how those of the present two million unemployed will

ultimately be absorbed, for whose services in their former occupations there is likely to be no further demand. But there is no reason for doubting their ultimate absorption, unless we doubt our own capacity to spend larger incomes than we at present enjoy.¹

Neglect of the considerations brought out in this passage is partly responsible for the pessimistic nature of the conclusions reached in many writings on population problems. If Japanese militarism can be brought under control and favorable political conditions be restored, and if trade barriers can be reduced, the prospects are favorable for a large increase in industrial production and in the export of manufactured goods in exchange for those commodities the domestic supply of which is inadequate. As we have seen, Japanese industrial regions have a considerable supply of power available; they are located close to the sea within easy reach by ocean transport of some of the most densely populated parts of the globe; thus they are well placed for market-located industries. Under such conditions, shortage of many domestic raw materials is not necessarily a bar to an export trade which can be developed on the basis of the manufacture of imported raw materials and semi-manufactured products into finished goods.

Thus in the absence of war and high trade barriers it could be said that the limiting factors envisaged by Malthusian thinkers are nowhere in sight; the continued development of export trade is not hindered by any shortage in the world's natural resources. So far as there is a limiting factor in the development of trade along these lines, it would appear to consist, not in the factors envisaged in the Malthusian scheme, but rather in the supply of entrepreneurial ability, in the extent to which Japanese people

¹E. A. G. Robinson, *The Structure of Competitive Industry* (Cambridge, The University Press, 1932), p. 4. The figures quoted in the passage relate to England.

have the capacity to find out ways in which imported raw materials may be fabricated into products which can be marketed, partly at home and partly abroad, at prices profitable to producers, and which are wanted by consumers who have sufficient purchasing power to make their wants effective. More is involved in this than mere individual ability and inventiveness; readiness of producers, distributors, and financiers to collaborate, and collective or group and not merely individual action, are all contributing factors.¹

It is not intended here to imply that the system of capitalism or private enterprise is necessarily the only suitable form of economic organization for Japan. Entrepreneurial capacity[%] may show itself through various forms of economic organization. What needs to be stressed at this point is the necessity of developing the maximum entrepreneurial capacity possible in Japan in its present economic situation. Whether this capacity should be exerted through corporations privately owned and controlled, or through semi-public corporations or government industries in a socialist state, or through a combination of these forms, or other variants of them, is another matter. Whatever the forms of industrial and commercial organization, the fundamental need will be the same in the next few decades.

TARIFFS AND EXPLOITED LABOR

A strong agitation—successful in some cases—for increased restrictions on Japanese imports has derived support from the fact that wages in Japan are low as compared with wages in some of the countries into which

¹ It has, I think, to be admitted that the conclusions reached in this paragraph tend to reduce the significance of the concept of an income optimum, and to leave it somewhat vague and indeterminate in the case of regions which have easy access by sea to export markets and external sources of raw materials, and which have a large domestic market.

Japanese exports have penetrated. This fact is not peculiar to Japan; identical arguments have been advanced from time to time, particularly among English-speaking peoples, for tariffs against the goods of countries in which wages are relatively low. In some countries, particularly in the United States and Australia, this agitation is supported by the full strength of organized labor. It is also supported by many employers, including those who have given little evidence of zeal for paying high domestic wages or restraint in the face of opportunities of high profits. The imported goods in question, it is said, are produced by "sweated" labor, or by "exploited" labor, or by laborers whose "standards of living" are low. To permit imports of such goods, it is said, is to compel the domestic worker to face competition from sweated and exploited foreign workers, and thus to drag down his standards toward those of the sweated and exploited foreigners. The workers' dislike of low wages, the employers' dislike of competition, and the nationalists' sentiment against anything foreign are combined to give force to the agitation for tariffs. The doctrine just outlined has had much influence on legislation and carries great weight with the general public.

In certain respects, these arguments closely resemble the arguments on which organized labor in the United States and Australia bases its case against immigration. In substance, the same argument is used against the movements both of certain productive factors and of goods. This is not surprising when, as in the present study, the movement of goods is conceived of as a substitute for, or an alternative to, the movement of the productive factors. However, an analysis of the restrictionist doctrines in the two cases reveals some differences in the factors involved. First, the idea that immigrants coming from low-wage areas will necessarily continue to earn

low wages in the new countries was shown in the last chapter to be without foundation; under certain conditions, they can speedily earn just as high wages in the new country as the native workers receive. But the possibilities are less that the worker in a low-wage country who produces export goods will, as a result of the export trade, come to receive the same wage as the worker receives in the high-wage country to which the exports go. This does not mean that his wage will not be raised by the export trade; in fact, without such trade, earnings in the low-wage country would be less than they are. Secondly, the government of the high-wage country has the power to take measures to establish the immigrant workers' right to organize and bargain collectively, but it has no power to establish the same right for the workers in low-wage countries from which imports come; it can only exert what influence it possesses in the International Labour Office of the League of Nations.

A misconception of the nature of international trade appears to be implicit in the doctrine under discussion. It must be reiterated that trade takes place because the relative supplies of the factors of production differ in different regions. Since the supplies of labor in relation to the supplies of the other factors differ in different regions, it follows that wage levels in the different regions must also differ, and that it is absurd to attribute all differences in wage levels to "sweating" and "exploitation" in the regions where wages are relatively low. The corollary to the view that imports from low-wage countries should be excluded is that North America should exclude all imports and establish a state of complete isolation from commercial contacts with the rest of the world. The restrictionists' reply to this would be that not all imports are competitive with domestic products, and that only competitive imports should be excluded. Once this is ad-

mitted, however, it becomes difficult to maintain ethical objections to the consumption of products of exploited labor. If imports of non-competitive products of exploitation are accepted, indignation against the importation of competitive products of exploitation is less convincing than it would be if an all-round boycott were urged. Thus, in Lancashire and in the British House of Commons, there have recently been severe denunciations of labor conditions in Japan, and demands for higher empire tariffs against Japanese goods; but the Englishman apparently still sips his afternoon tea in complete unconcern about the conditions in tea gardens in India. If it is argued that only the imports of the competitive products of exploited labor injure domestic workers, then it is necessary to specify what constitutes competitive imports. The mere fact that a particular article is not produced domestically is no proof that it could not be produced domestically. No complaints are made against the importation into the United States of rubber produced by plantation laborers in the Middle East who receive extraordinarily low wages. Yet rubber could be produced in the United States—possibly at about thirty cents a pound; if external supplies were unobtainable, it undoubtedly would be produced here. It is all a matter of degree. If it would retard the growth of per capita income in the United States to exclude imports of rubber and produce it here at thirty cents a pound, does it not also retard the growth of per capita income to exclude imports of any other commodity that can be produced cheaper abroad than at home?

In general, it is to the interest of each region to specialize in those goods which require in their production large quantities of those productive factors that are relatively abundant and therefore relatively cheap in the region, and to import the goods which require in their

production large quantities of the factors that are relatively scarce and therefore relatively dear in the region. This means that in many regions of North America those products should be imported which require in their production relatively large quantities of those types of labor that are relatively scarce in North America. Naturally, this involves the importation of many goods produced by laborers who are paid much lower wages than laborers of similar type in North America.

As we have seen, however, the fact that those laborers in other regions who produced the imported goods were paid much less than domestic laborers is not necessarily evidence that they are exploited, in any reasonable sense which may be attached to the term exploitation. In discussing migration, I assumed that workers were exploited when they were denied the right to organize voluntarily in unions of their own choice and to bargain collectively through such unions with their employers. This concept of exploitation, though not entirely satisfactory, is a workable concept fairly appropriate for the purpose in hand. A. C. Pigou and Joan Robinson have developed concepts of exploitation well defined theoretically, but, at least in the present state of knowledge, it does not appear practicable to apply these schemes to the concrete situations with which we are here concerned.¹

It is clear that there is no ground for the assumption that the goods produced abroad by low-wage labor are necessarily the products of exploited labor. Similarly, it is fallacious to assume that none of the goods produced in a high-wage country are the products of exploited labor. Indeed, attempts to use the concept of exploitation as a weapon in tariff making are sometimes dangerous to those who handle the weapon. As was shown in the chap-

¹ A. C. Pigou, *Economics of Welfare* (London, Macmillan, 3d edition, 1929), pp. 811-12; J. Robinson, *Economics of Imperfect Competition*, pp. 281-304, 311-15.

ters on migration, it is certain that if the criterion of exploitation indicated above is accepted it has to be admitted that there is considerable exploitation of labor in the United States. If that criterion is not accepted, there appears to be no other workable criterion available,¹ and the concept of exploitation had better be abandoned.

At the present time, it is inevitable, even apart from exploitation, that wages should be lower in Japan than in some of the countries that import Japanese goods, since the relative supplies of labor are much larger and per capita income is much lower in Japan than in those countries. This remains true even if we make allowance for the fact that owing to the weakness of organized labor in Japan profits are likely to be unduly high² in proportion to wages. As we have seen, the effect of international trade is to enable the labor and organizing capacity in Japan to draw on the land and raw materials of other areas where population is less dense and labor therefore relatively more scarce. This process makes Japanese labor more effective and raises the national income, including the share which goes to labor. Consequently, international trade makes the disparity between Japanese wages and wages in leading Western countries less than it would otherwise be. To place additional obstacles in

¹ During the eighteenth and nineteenth centuries it would have been useful for some purposes to classify all goods produced by slaves as the products of exploited labor. In the later nineteenth century and early twentieth century, goods produced by indentured labor subject to a penal sanction could have been included. There are still some slaves in the world and some indentured laborers subject to the penal sanction, but the total goods produced by them for export is relatively very small and would have little significance; hence, such a concept of exploitation would not be serviceable today.

² Unduly, that is, from the standpoint of the welfare of the present generation of wage-earners. In addition, the weakness of organized labor tends to make for economic instability by causing an undue lag between the rise of prices and profits and the rise of money wages. This induces forced saving on a disturbing scale: i.e., real wages are sometimes decreased while real profits are increased during part of the boom period, and this tends to cause some diversion of demand from one composite commodity to another somewhat differently constituted composite commodity, with adverse effects on stability.

the way of Japanese exports prevents Japanese wages from rising as much as they would otherwise rise, or prevents them from rising at all, or forces them down, because Japanese labor is then compelled to work in conjunction with less land and a smaller supply of raw materials, and each laborer, on an average, will get a smaller return. It is impracticable, by refusing to accept imports from Japan, to coerce Japanese employers to raise wages. A group cannot be coerced into doing something by a measure which takes away the means of doing it. Those who desire wages to be raised in Japan should advocate a diminution and not an increase in the obstacles in the way of Japanese exports. Even if wages were raised at the expense of profits to the maximum extent possible, even if Japan were a socialist or communist state, Japanese wages would still of necessity be lower than wages prevailing in English-speaking communities.

In the present state of world political organization, only two practicable courses appear to be open to those people who in any one country are desirous of combating the exploitation of labor in other countries. In the first place, they can influence the governing classes in countries where conditions of exploitation exist, by frequent descriptions and criticisms of such conditions; secondly, they can bring pressure to bear on their own governments to instruct the government delegates to the conferences of the International Labour Organization to press for a vigorous constructive policy improving labor conditions and establishing the rights of collective bargaining by international convention. The spread of Fascism over large areas of Europe has in recent years ended the rights of millions of workers to organize in unions of their own choice; consequently the regions in which exploitation of labor exists have become so extensive that disastrous ef-

fects on world economic conditions would result from attempts to exclude the goods produced in such regions from the countries in which political democracy prevails. From the standpoint of the student of population problems, all such measures of restriction, however motivated, are seen as measures tending to accentuate the lack of correspondence between the distribution of population and the distribution of natural resources. Economic boycotts would appear to be best reserved exclusively for use as international sanctions directed against disturbers of international peace; in such cases, the damage they inflict is likely to be much less severe and prolonged than that which would be produced by modern warfare.

POPULATION AND NATIONAL SELF-SUFFICIENCY

Support for a movement toward national economic self-sufficiency, through barriers to trade and migration, was long confined mainly to politicians and business men. Recently, however, intellectual circles have shown some signs of being influenced by this movement. For example, J. M. Keynes, one of the leading economists of this generation, recently declared:

National self-sufficiency, in short, though it costs something, may be becoming a luxury which we can afford, if we happen to want it.¹

I sympathise with those who would minimise, rather than with those who would maximise, economic entanglement among nations.²

In view of the widespread undernourishment, the defective housing accommodation, and the inadequate provision for education in Great Britain today, it is difficult to believe that even the English people can afford the re-

¹J. M. Keynes, "National Self-Sufficiency," *Yale Review*, Summer 1933, XXII, 760.

²*Ibid.*, p. 758.

duction, or retardation in the rate of increase, of per capita income that movements in the direction of a greater measure of self-sufficiency would bring. But whether or not Great Britain can afford it, it is certain that Japan cannot. In the next thirty years "economic entanglement among nations" will become more and more necessary to Japan every year if its per capita income and welfare are to be increased above present levels. It has been shown that the absolute annual increase in numbers in Japan is likely to drop abruptly after 1955.¹ About a quarter of a century from now the difficulties created by rapid increase of numbers will be eased. But in the next twenty to twenty-five years employment has to be found every year for a large net increase in the working population, and, as we have seen, it is desirable that none of this net increase should go into agriculture. Yet industry and commerce can absorb this increase to advantage only so long as there is a concurrent increase in international trade. It will be an unfortunate coincidence if the next quarter of a century, in which extended commerce is indispensable to the solution of population difficulties, is marked by an intensified economic nationalism, with diminishing international trade.

Keynes contends that harmonious international relations are more likely to be promoted by restrictions on the free movement of capital and commodities between nations than by freedom of trade, but he cites no concrete evidence in support of this view. As we have seen, Japan, by ill-advised policies aiming at self-sufficiency in pig iron, restricts the import of pig iron from India. India restricts the import of textiles from Japan to support her own less efficient industries, or, under British influence, to favor Lancashire at the expense of Japan. Yet both India and Japan would benefit from the free exchange

¹ See above, pp. 103-04.

of these commodities, since the relative supplies of the different agents of production in the two countries enable the former to produce pig iron at lower costs than the latter, and the latter to produce most classes of textiles at lower cost than the former. In both these countries mutual irritation and ill will are engendered by the arbitrary restrictions imposed from time to time. Moreover, the spectacle of English people using the power and influence gained in past imperialistic expansion to interfere with the flow of goods between two leading Asiatic peoples scarcely promotes international harmony.

Indeed, it is hardly conceivable that international harmony can be promoted by artificial measures to reduce the international movements of the factors of production and of commodities. To demonstrate this, it is only necessary in concluding this chapter to restate in summary fashion the central thesis of this and the three preceding chapters.

Natural resources are distributed over the earth very unevenly with respect to population. The inhabitants of some regions have at their disposal much larger supplies of land and raw materials than are available to the inhabitants of other regions. In so far at least as productive factors and goods are prevented from moving freely between regions, there are enormous inequalities between the economic opportunities available to the peoples of different regions. In particular, the European peoples in modern times have expanded into, and established political dominion over, some of the largest and richest areas of the earth; within these areas are contained the most extensive supplies of cultivable land and of raw materials to be found in the world. Many of the Asiatic peoples, on the other hand, are confined within much smaller areas inferior in natural resources.

To restore some approach toward equality of economic

opportunity among all peoples, it is necessary to leave the way clear for redistribution of population and/or for movements of capital, and for interchange of commodities resulting from the development of regional specialization. Movements of population contribute toward the end in view, but human inertia, the costs of movement, the narrow localization of some raw materials, and the constant changes in technique which change the character of natural resources set limits to the extent to which population movements can restore equilibrium between the distribution of population and the distribution of natural resources. Capital movements contribute toward the end in view, both when they take place without movements of population, and also when they are combined with movements of population to develop new lands, open up new resources, and thus promote the growth of trade. Finally, specialization and trade serve as substitutes for movements of labor and capital. International trade enables the peoples of areas less favored with natural resources to obtain access to and share in the resources of more favored regions.

It is not necessarily the case that the movements of labor, capital, and commodities combined, even when they are unhindered by artificial restrictions, will completely offset inequalities between the distribution of population and the distribution of natural resources.¹ What is important is that on the whole they will reduce, these inequalities.

It follows that in a world where natural resources are unevenly distributed over different areas, and where invention is constantly changing the nature and distribution

" For a discussion which has some bearing on this, see Ohlin, *Interregional and International Trade*, pp. 96-113. There are a number of refinements of the theory of international trade which I have deliberately refrained from discussing, both on account of considerations of space, and also because my object has been to bring out in clear-cut fashion the great practical significance of the main thesis which runs through the last five chapters of this book.

of such resources, a movement toward greater national economic self-sufficiency will have the effect of increasing the inequality of the economic opportunities of different peoples. It will restrict the size and variety of the collection of commodities available to peoples of countries that happen to possess at a given time a relatively small supply of those materials which in existing technical conditions are most important for productive purposes. Immigration barriers preclude the operation of one factor making for readjustment between the distribution of population and the distribution of resources; trade barriers stand in the way of the other.

Policies aimed at promoting a larger measure of national economic self-sufficiency, then, by perpetuating inequality of economic opportunity as between groups, tend to promote strife and friction on a scale far greater than any which is likely to be produced in the course of the free international exchange of commodities.

This reasoning, though it leads to a decisive disapproval of all policies imposing obstacles to international trade, is not to be interpreted as supporting *laissez faire* or the capitalist system. It does, however, lead to the conclusion that, as long as capitalism lasts, the more freedom there is in international trade the better, and, when capitalism is succeeded by another order, trade between regions, and between nations (if they still exist), should not be subject to restrictions which are not applied to trade within regions or nations, whatever the forms of the organizations which carry on trade. It may be taken for granted that social control will have to be exercised in increasing measure over the production and distribution of goods and services. The term control, however, is too often used as if it were synonymous with restriction. Doubtless control does at times necessitate restriction in a particular direction: overproduction of a particular

commodity occurs from time to time and would still be likely to occur in some measure under any distribution of income; the price mechanism is often slow and inadequate as a corrective, particularly in agriculture. But restriction in such cases as these is very different from the restriction almost all along the line which is practiced in international trade, and which Keynes now favors in considerable measure in the interests of national self-sufficiency.

Nothing in the present study is intended to discredit generally all conceivable forms of control over international trade. Only those forms of control are desirable, however, which do nothing to offset the tendency of international trade to reduce the inequality of the economic opportunities available to the peoples of different nations. This, of course, raises difficulties. National governments exist which might control national trade, while there is no world government to control international trade. But I doubt whether anything will be gained by attempts to sidetrack these difficulties and to segregate specific areas in the hope of establishing more effective control over economic activities within them than can be established in areas intimately bound up with the rest of the world. Progressive thinkers who proceed along these lines are likely to be disappointed. Progress toward a more rational economic order cannot be dissociated from progress toward internationalism. Only in so far as the claims of national sovereignty and the appeal of national patriotism are subdued can satisfactory economic relationships be established within as well as between communities.

CHAPTER XI

POPULATION AND CONFLICT

A GENERAL VIEW

The economic consequences of the unequal distribution of natural resources with reference to population have constituted the main theme of the last four chapters. The relations of this theme to the actual course of political and social events are extremely difficult to determine. Some writers regard the population difficulties of certain areas as the main causal factor in the determination of the chief political and social upheavals of our times. Attempts have been made to interpret wars in terms of population factors, and statesmen have been depicted as puppets whose actions are shaped by an underlying and irresistible pressure of population.¹

The terms and concepts used in the discussion of this and allied subjects sometimes lead to confusion. Thus in the prolonged verbal conflicts which have ranged around the "materialist" or the "economic" interpretation of history, there has been a tendency to differentiate sharply between economic and other factors that have influenced the course of events. This is apt to mislead. There are few events which are wholly dissociated from economic influences; on the other hand, similar economic factors may at different times and in different communities be associated with political and social events that stand in sharp contrast with one another. Thus during a severe industrial depression there may be a communist uprising in one area, a fascist uprising in a second, and a democratic uprising in a third. There is a tendency to oust from power the party which happens to be in control in

¹ See, for example, Thompson, *Danger Spots in World Population*, pp. 47-48.

the early stages of the depression. Since different parties happen to be in power in different countries at any given time, the forms which the uprisings take, and the effects which they produce, vary greatly. However, the coincidence of a period of industrial depression and period of rule by a particular party in a given area, though it is of great importance, is not the only factor which determines the course of events. The differences between the cultural situations in different communities have to be taken into account. Now culture includes material objects, but it also includes much more than material objects, for example, customs and attitudes. As Malinowski says:

The form of cultural objects is determined by direct bodily needs on the one hand and by instrumental uses on the other, but this division of needs and uses is neither complete nor satisfactory. The ceremonial staff used as a mark of rank or office is neither a tool nor a commodity, and customs, words, and beliefs cannot be referred either to physiology or to the workshop.

. . . . the organic needs of man form the basic imperatives leading to the development of culture in that they compel every community to carry on a number of organized activities.¹

A sharp or even an approximate distinction between the influence of economic and of non-economic factors on group behavior in times of social upheaval can hardly be made; yet it does not follow that economic factors supply the whole stimulus to the group-behavior reactions.

Next, the question arises whether or not a distinction can be made between the influence of population factors and that of non-population factors. If so, the non-population factors may, of course, still be economic factors. It is very difficult to exclude population factors from economic factors, for the precise nature of the economic

¹ Bronislaw Malinowski, "Culture," in *Encyclopaedia of the Social Sciences*, IV, 627.

activities carried on in a given region depends on the relative proportions in which the different productive factors exist, and, if the size of the population changes in relation to the quantities of capital and natural resources available in the region, there will be some changes in economic activities. Notwithstanding this difficulty, there are circumstances in which a useful distinction may provisionally be made between population and non-population factors, in the study of specific situations. For example, discontent among agricultural workers sometimes has a considerable influence on the course of political events. In certain countries, notably Japan, this discontent since 1929 has had a twofold basis. In the first place, a world-wide depression affecting almost all occupations has caused agricultural conditions to deteriorate greatly. In the second place, even before the world depression, agricultural conditions were far from prosperous, in some areas, because of a scarcity of land compared with agricultural labor, which led to the maintenance of an uneconomically small unit in agriculture. When discontent emerges in these circumstances and induces political changes, it may be conveniently said that economic factors contributed largely to these changes,¹ and that the economic factors consisted partly of population factors and partly of non-population factors.

When there is considerable agricultural overpopulation in an area, and the development of industrialization is not rapid enough to draw off all the surplus agricultural workers, there is a danger that imperialistic expansion by the inhabitants of the area will be ascribed too hastily to population factors exclusively, and that the expansion may be represented, on inadequate grounds,

¹ This way of slating the matter does not conflict with the view that cultural factors produced the changes, and that the sum total of the cultural factors comprises more than the economic factors.

as an inevitable outcome of economic necessity. In chapter ix, I showed that the territorial expansion of a nation in which the supplies of labor are large compared with the supplies of the other factors of production is not always economically advantageous, at least in the short run—and the short run is sometimes of paramount importance. A distinction has sometimes to be made between territorial expansion that is economically advantageous to the people as a whole in the politically dominant country, and that which is disadvantageous to the people as a whole but which at the same time is advantageous to particular groups. When the latter type of expansion takes place, the groups which benefit try to represent the expansion as an outcome of the economic necessities of the people as a whole, but such claims when made by persons who are clearly benefited themselves should always be scrutinized with care.

Finally, though there are sometimes good grounds for the suspicion with which Socialists and others tend to look on movements of capital, many widely accepted arguments on which this suspicion is based are fallacious. From an economic standpoint, there is nothing intrinsically unsound in movements of capital from regions where interest rates are relatively low to regions where they are relatively high. It follows from the analysis of the last two chapters that such movements play an essential part in certain developments which greatly benefit areas in which supplies of labor are large compared with the supplies of the other factors. Some theories of imperialism, not confined wholly to socialist writers, represent the export of capital as the outcome of inability on the part of the population at home to consume all that it produces. These theories—the most widely accepted theories among those who have written on imperialism—are based on, and stand or fall with, some form of that doc-

trine or group of doctrines known as the underconsumption theory. I hold that the underconsumption theory is fallacious; but considerations of space make it out of the question to analyze that theory here.

In real life, it is hardly necessary to say, anti-social practices have been associated with movements of capital. In some cases, aggressive political measures have been adopted by governments to prevent defaults on foreign loans or to secure for their own citizens exclusive rights of investment in certain areas. Sometimes, as in pre-war Russia, foreign loans have been used, not for industrial or agricultural purposes but for armaments with which to suppress movements toward democracy. Often, investors have been misled by false statements regarding prospects in a remote region. An account of all the anti-social practices associated with movements of capital would fill volumes.

But the fundamental reasons why such practices have abounded are to be found in the facts of the international political situation outlined above in the first section of chapter vii. It is the irresponsible exercise of national sovereignty in international affairs that lies at the root of the matter. A secondary reason is the inadequacy of the machinery set up by governments to regulate investment by their own nationals. But none of these things should be regarded as discrediting capital movements in themselves. Such movements form an essential part of the mechanism of readjustment between the distribution of population and that of natural resources, and the strife associated with them is due to the shortcomings of the political organization of the world. In a world of socialist states, movements of capital would still be required to effect adjustments necessary for removing population difficulties. As we have seen, the pecuniary calculus is not always adequate from a welfare standpoint. When

undernourishment and bad housing exist in a country, it is sound policy for the government to tax large incomes and use the funds which in private hands might have gone partly into foreign investment for subsidizing the production of houses and certain kinds of foodstuffs. But this does not involve general restriction of capital movements. Neither laissez faire nor blind restriction, but constructive regulation alone will meet the needs of the situation.

POPULATION PRESSURE, TRADE DEPRESSION, AND CONFLICT

To many the invasion of Chinese territory by the Japanese army appears to be an outcome of population pressure,¹ and there are those who see in recent events a confirmation of predictions, made by some population writers in the past, that an inevitable urge would drive the Japanese to territorial expansion.

It was argued for several years before the outbreak of hostilities in September 1931 that the retention of Japanese possessions and privileges in Manchuria was "a matter of life and death" for the Japanese people, and certain Japanese politicians and publicists elaborated a "Right to Live" doctrine, which in substance implied that economic necessity might in practice justify measures which are a literal violation of existing international law.² The economic necessity envisaged in this doctrine is conceived of as a necessity created by the relation between a dense

¹ The quotations in chapter iv above, pp. 96-98, show that this view is expressed by Japanese as well as Western spokesmen.

² The best exposition and critique of this doctrine is to be found in C. Walter Young, *Japan's Special Position in Manchuria* (Baltimore, Johns Hopkins Press, 1931), pp. 298-326. His book was written before September 1931, and therefore does not cover the more aggressive reformulations of the doctrine which have been made since that time with the object of justifying actions which it might be difficult to justify on the basis of earlier formulations of the doctrine. Young showed prescience when he declared in his book that the Right to Live doctrine would be even more emphatically asserted in the future than it had been up to that time.

and growing population on the one hand and a limited land supply on the other.

The conclusions reached in the present study provide a basis on which the Right to Live doctrine may be evaluated objectively in economic terms. Reference to the discussion above¹ on sources of mineral supplies will show that there is no case whatever for regarding Manchuria as an indispensable or even as the most important external source of supply of raw materials to Japan. The contention that a large domestic iron and steel industry is essential to Japanese industrialization has been shown above to be unacceptable, and in any case Manchuria is not the best source of supply, as regards either quantity or quality, of iron ore or pig iron to Japan.

The case is even more conclusive as regards food supply. The exports of foodstuffs from Manchuria to Japan are relatively unimportant. Even the soy bean exports are used in Japan mainly as fertilizer and only a small proportion as foodstuffs or feedstuffs. It would not be difficult to replace the part devoted to the latter uses with supplies grown within Japan proper or Korea. The larger part, used as fertilizer, has been faced recently with severe competition from sulphate of ammonia, which has a higher nitrogen content per unit of weight than soy bean fertilizer contains. Imports of sulphate of ammonia increased rapidly up to 1929, but Japanese policy has recently been directed toward fostering domestic production, which increased two and a half times between 1929 and 1931.² As Dennery says:

In regard to the most important of its agricultural products—the only one which at the present day is indispensable to Japan—it would appear that, whatever may be its future status, Man-

¹ Chapter vi.

² See the excellent discussion by M. Dennery in *Supplementary Documents to the Report of the Commission of Enquiry* (Geneva, League of Nations, 1932), C. 663, M. 320, Vol. VII, Annexes, Part III, pp. 72-107.

churia is likely to play a decreasingly important part in the economic activities of the Islands.¹

From the standpoint of the population situation of Japan, the importance of Manchuria consists largely in its actual and potential value as a market. However, even this must not be exaggerated. Manchuria is not, and seems never likely to become, the most important external market for Japanese goods. Its future prospects are of no greater importance than the future prospects of other markets for Japanese exports.

It must not be concluded that the maintenance of trade connections between Manchuria and Japan proper is of little importance to the Japanese people. Established trade connections with external regions are never unimportant to any community. The exporting and importing interests whose livelihood depends on such connections are themselves consumers of domestic products, and if their livelihood is endangered they are compelled to cut down their demand for domestic products. Dislocation of trade in any one direction brings serious repercussions on the whole economic structure of a modern community. The reduced purchasing power of the group affected communicates depression throughout the body politic. Imperfect mobility of labor and capital make readjustment a slow and painful process. Dislocation of only a relatively small percentage of trade is enough to create widespread maladjustments in the interdependent economic world of today.

These principles apply no more to trade between Japan and Manchuria than they do to trade between Japan and any other region. In fact, at the present time one of the most impressive illustrations of their working is to be seen in the plight to which all those engaged in the production and export of raw silk have been reduced

¹ *Ibid.*, p. 79.

in Japan through depression in American markets. Reduced purchasing power among classes wholly or partially engaged in the production and export of raw silk has deeply involved other classes which cater for the home market. Not only have the latter classes suffered from reduced demand for their products, but large sums have been extracted from them in taxation for relief of the classes suffering from the depression in export markets.

Thus the conditions in export markets are of primary importance to the whole economy of Japan. Without regarding Manchuria as any different in this respect from other export markets, it must be agreed that dislocation of economic relations between Japan proper and Manchuria would be a serious matter for Japan. The reason, however, is to be found, not in the indispensability of any one commodity that enters into the trade between the areas, but in the fact that the economic relations between them are fitted into the Japanese economic structure considered as a whole, and their dislocation would, in considerable degree, affect this structure throughout.

The real interests of the people of Japan in external regions are fundamentally economic in nature. Imports of raw materials and foodstuffs must be offset by exports of goods and services, visible or invisible, regardless of the nature of the political control, and the identity of those exercising it, in the areas supplying the raw materials. So long as there are no considerable tariff walls in these external areas, it is generally a matter of indifference to the interests of the Japanese people whether they are under Japanese or other political control.

It is conceivable that improved order might be introduced into a particular area by the extension to it of Japanese political control, and that this might stimulate economic development. But the net results are more un-

certain than is commonly implied in popular discussions. Against these hypothetical economic gains that might gradually accrue in the future, it is necessary to point out a number of offsetting factors. First, there have to be taken into account the huge military expenditures, greatly exceeding initial estimates, involved in bringing an external area such as Manchuria under Japanese political control. Unfortunately, the data are not available for estimating with reasonable accuracy the extent of the great economic losses to Japan and to China which the prolonged military and naval operations entailed. It would be interesting to speculate on how large a supply of raw materials and foodstuffs might have been purchased by the Japanese people with the undoubtedly large sums spent on military and naval preparations and operations. Secondly, the large and permanent cost involved in the maintenance of Japanese political and military control over so wide an area, among a hostile population, has to be taken into account. Here again no reasonably accurate estimate is possible. Thirdly, account must be taken of the economic repercussions of the hostility felt by the great majority of the people toward political control by people of alien culture. Thus the expert of the League of Nations Commission in Manchuria, after analyzing a mass of first-hand evidence, states in his report that "well over 80 per cent" of the population are against the "Manchukuo" régime. He continues:

The Chinese civilian population is apparently overwhelmingly against the "Manchukuo." Their hearts are turned towards China, and their deeper loyalties and ties are truly Chinese. They may perforce submit, but they are opposed strongly to any non Chinese Government. (This does not necessarily mean that they wish for the return of their previous Chinese Governors. Their loyalties appear to be impersonal, and to China and Chinese culture rather than to Chinese personalities.)¹

¹ *Supplementary Documents, Annex C, p. 26.*

This is a political, and, more important still, a cultural fact. To ignore its economic implications would be to show a lack of realism. Cultural facts and economic facts are not independent of one another; they are parts of a related whole. Hostility to alien political control is unfavorable to maximum economic development. It may be doubted whether the long-run economic consequences of their actions have been adequately considered by those responsible for Japanese policy since 1931.

There is a fourth consideration. Japanese colonial policy is, on the whole, essentially of the Closed Door type;¹ and even in a region where better order could be produced by Japanese political control than would otherwise exist, the resulting economic gains might be offset, to some extent at least, by retardation of economic development due to a restrictive policy which forces on the region in question higher priced products from the politically dominant country in place of lower priced products obtainable elsewhere. The erection of a tariff wall between Manchuria and the rest of China is likely to prove unfavorable to the economic development of Manchuria.

These considerations, even though their relative importance cannot be estimated quantitatively at present, raise grave doubts regarding the economic wisdom of the "positive policy" (as it is called in Japan) pursued since 1931 by Japan. The potential economic advantage of this policy to the Japanese people is so problematical, and the danger of serious economic losses is so considerable, that the adoption of the policy is inexplicable in terms of the economic interests of the Japanese people as a whole. From the standpoint of the economic interests

¹ See the timely warning on this point by Professor Yamamoto, "The Basic Principle of Future Colonial Policy," *Kyoto University Economic Review*, April 1926, I, 82-90. For instances, of discriminatory measures directed against Chinese and Western economic enterprise in Manchuria, see *Notes on the Economic Consequences of Recent Events in Manchuria* (London, Royal Institute of International Affairs, 1933), pp. 26-29.

of the Japanese people as a whole, Japanese policy on the Asiatic mainland since September 1931 shows a lack of realism.

From the point of view of Japan's population problems I conclude that the maintenance and development of trade between Japan and Manchuria are important, **but** less and not more important than the maintenance and development of trade between Japan and the rest of the world. Neither as a market nor as a source of essential raw materials is Manchuria comparable to other external regions in economic importance to Japan. There is nothing in the population situation of Japan which necessitates the establishment of direct or indirect Japanese political control over the whole of Manchuria. Japanese political expansion on the Asiatic mainland since September 1931 cannot be interpreted in terms of economic necessity arising out of overpopulation within Japan proper. However, it is clear that both within Japan and within Manchuria economic conditions in a fundamental sense were involved in the political situation which developed in and after 1931. Since population factors have been so widely represented as playing the leading rôle in the situation, it is necessary to indicate very briefly the nature of the economic factors involved and their relation to population factors.

In 1931 world economic depression was deepening. Japan had been relinked with the gold standard at a most inopportune time. Japanese prices were dragged down along with prices in all gold-standard countries. The government pursued an avowedly deflationary policy; it had no option in the matter if Japan was to remain on the gold standard.

The return to gold, and the deflation which followed it, produced effects that were not confined to Japan proper. The rates of the South Manchurian Railway Com-

pany, fixed in yen, were linked with gold. The rates on the Chinese railways, which to some extent were in competition with the South Manchurian Railway, were fixed in terms of a silver currency. The outcome hardly needs to be stated. In addition to a reduction in the total economic activities in Manchuria, in keeping with the world recession of business, there was some diversion of traffic from the Japanese to the Chinese lines. As Webster has pointed out:

.... in 1929 the profits of the South Manchurian Railway were four million pounds. Since then they have steadily declined owing to the economic depression. This fact was one of the main reasons for Japanese action, for it meant that the financial forces connected with the railway were ready to support the plans of the militarists who were concerned with questions of security and prestige.¹

Mr. Hamaguchi (before his assassination) and Mr. Inouye appeared to regard deflation as a means of purging the economic system to remove weaknesses due to unsound expansion in the past. The purge was too strong. Agriculture, in particular, suffered severely under the strain. At this point population factors were involved, agricultural overpopulation aggravating the troubles of the countryside. However, the farmers were bound to suffer in any case from the general economic malaise, even if their numbers had been less than they were. It was simply a matter of degree. If there had been no occupational overpopulation in agriculture, the depression would have been less severe, but it would still have been present. The initial popularity of the government and the unpopularity of its opponents waned, and social discontent increased, in rural as well as in urban areas.

The world economic depression has given an impetus to political and social change in many regions of the

¹C. K. Webster, "The Far Eastern Crisis," *Contemporary Review*, April 1933, CXLIII, 395.

earth. Some societies have moved to the right, others to the left. Governments in power at the outset of the depression have in most cases been dismissed, and the policies with which they were associated have been repudiated. It was not to be expected that Japan would escape political change in this period; and, as it happened that the government in power in the earlier stages of the depression was committed to a conciliatory foreign policy on the Asiatic mainland, the reversal of this policy in the autumn of 1931 has to be attributed largely to the discontent created by the world economic depression. Japanese capitalists have wavered between support of a conciliatory policy and support of an aggressive policy on the Asiatic mainland. In the depths of a serious depression, with export trade to China falling off and Japanese railway revenues declining in Manchuria, they were ready to listen favorably to those who attributed Japanese economic difficulties to Chinese competition and Chinese recalcitrance.

The economic prospects of another powerful group contributed also to the adoption of an aggressive external policy. It was essential to the success of Mr. Inouye's financial policy that government expenditures should be reduced, and no substantial reductions could be achieved without touching the appropriations of the fighting forces. Mr. Inouye determined to carry through such reductions. Thus the fighting forces were faced in 1931 with impending reductions in appropriations for domestic fiscal reasons on the one hand, and on the other they were apprehensive of the World Disarmament Conference which was to open in January 1932.

At this point, any interpretation of the course of events must take account of certain political and cultural factors in addition to the strictly economic factors. These can only be touched on briefly here, but to ignore them com-

pletely is to open the way to exaggerated notions of the part played by population factors in shaping the course of events.

Let us first consider the peculiar political situation that existed. Political democracy has never been achieved in Japan. The power of the elected representatives of the people has always been greatly limited by the positions of the Privy Council, the House of Peers, and the Army and Navy. The Minister of the Army and the Minister of the Navy are not responsible to the Cabinet. But in the post-war years there was a trend toward democracy. Universal male suffrage replaced a limited franchise. The press, on the whole, became unfavorable to interference by the Privy Council with Cabinet measures and policies.¹

In spite of some ominous undercurrents, the trend toward firmer establishment of civilian control over affairs continued into the earlier stages of the depression. Mr. Hamaguchi and Baron Shidehara, with the support of the press, obtained ratification of the London Naval Treaty, in spite of opposition from the Army and Navy and the obstructive tactics of the Privy Council. When the reaction came, the pendulum swung far in the opposite direction. There were no effective constitutional checks on the Army and Navy, and since the coup d'état effected by the Kwantung Garrison in the autumn of 1931 Japanese foreign policy has been dominated by military influences. Some domestic economic effects of this domination are to be seen in enormously enhanced budgetary appropriations for the fighting forces since 1931. From one point of view, the Army and Navy may be regarded as a vested interest striving to obtain as large a share as possible of the national revenue.

¹ It is possible, however, to find exceptions to this. For an excellent discussion of the part played by the Privy Council, see Kenneth Colbourne, "The Japanese Privy Council," *American Political Science Review*, August 1931, XXV, 589-614, and November 1931, XXV, 881-905.

It was the world economic depression, however, that placed the Army in a position to take advantage of the opportunities afforded by the political system. The change brought about by the depression in the attitude of important sections of the capitalist class has already been indicated. But the discontent produced among other classes also aided the fighting forces. The conscript army is an institution through which discontent in the countryside may find some expression, and some rural conscripts have been associated with agitation against the existing order on the ground that agriculturalists are unfairly treated. The Army officers, standing in a paternalistic relationship to the rank and file which represents a carry-over from the social relationships of feudal times, have envisaged the social effects of the economic troubles of the countryside as a threat to the morale of the Army and to the stability of the nation. Their resentment has to a considerable extent been directed against the financial and industrial capitalists who operate on a large scale, and whom they are disposed to hold responsible for existing rural troubles. Hence there has emerged the semblance of a movement in Japan which is anti-democratic and at the same time to some extent anti-capitalistic, at least as far as large-scale industrial and financial capitalism are concerned. The supporters of this movement have no regard for any of the existing political parties and wish to see a regime established that is even more autocratic than the existing one.

This movement has some affinity to movements that have grown up in several countries since the World War, and which have in some cases reached a position of dominance during serious economic depressions. It has an appearance of radicalism which has misled some observers. Its anti-capitalistic attitude is confined to certain recent developments of capitalism, especially to those

aspects which tend ultimately to become international in scope. But the central characteristic of this movement is that, notwithstanding the use of phrases and slogans which give a superficial impression of radicalism, it stands essentially for cultural and political reaction, and is in consequence permeated with tribalism and with hostility to internationalism and cosmopolitanism. It is therefore by no means a new movement; rather it is a crystallization of elements always present in some degree in every society but strongest in those societies which have passed late and suddenly from medieval into modern conditions and in which the cultural lag is greater than it is in societies whose transition has been more gradual. Like those movements elsewhere which are designated loosely by the term Fascism, it is in essence a form of cultural atavism full of danger to the people of a country whose economic situation is such that internationalism is the sole avenue to salvation open to them.

An attempt to trace the influence of such cultural factors on recent events reveals the shortcomings of interpretations that are based exclusively on population or on economic factors. Economic factors have been involved in these events, for example, in those assassinations at critical moments of public men like Mr. Hamaguchi, Mr. Inouye, and Mr. Inukai. The murderers of Inouye and Inukai were influenced by the distress of the agricultural classes and were associated with the movement described above. The agricultural troubles which influenced them were, as we have seen, the product of the world economic depression and of agricultural overpopulation. But though population factors and economic factors entered into the chain of events that led up to the removal of leaders and the weakening of their policies, they do not in themselves account for the culminating act in the chain of events. This act is explicable only in terms of culture

and social heritage. Assassinations have characterized Japanese public life for centuries, and every leading statesman is in constant danger. Fundamentally, it has been the tolerant attitude of the Japanese public toward political murders professedly inspired by patriotism that has been responsible for their continuance. As an observer of long experience has said:

.... a peculiar indulgence is extended in Japan to murder which is not for a selfish purpose—such an excess of indulgence, in fact, that there is considerable danger of men reckoning on it as a safeguard from punishment and an avenue of honour.¹

This idolization of the murderers of public men probably has its roots in feudal times, when local rulers often wielded such despotic powers that no method but assassination was open to those who sought redress for the abuse of those powers. It is kept alive by traditions that form the basis of popular representations on the stage, in the cinema, in fiction, and in the teachings of primary schools.

Japanese educational institutions have done much to

¹ See the *Japan Weekly Chronicle*, July 28, 1932, p. 104. An account of the trial of the murderers of Premier Inukai was given by the Tokyo correspondent of *The Times*, London. Referring to "the fiery political speeches by the accused," he wrote:

"To thoughtful people these exposed the extreme crudity of the political ideas underlying the so-called second restoration movement, but they appealed to the sentimental patriotism of the Japanese, and the Court has been inundated with petitions, many of them written in blood and in a dozen cases accompanied by little fingers chopped off as evidence of sincerity."—*The Times*, London, September 12, 1933, p. 12.

Referring to Tachibana, one of this group, Hugh Byas wrote: "He surrendered to the Japanese military at Harbin after he had finished a book on his principles. He was brought back to Tokyo with the dignity of a state prisoner. His trial is not likely to come soon, and it will be surprising if he is severely punished. Crimes committed in the name of patriotism get off lightly in Japan."—*Veu; York Times*, September 18, 1932, Section 2, pp. 1-2.

The murderer of former Premier Hara was soon released from prison: it was felt that to execute him or inflict any drastic sentence on him would be to make a hero of him in public estimation. Again, Captain Amakasu, the murderer of the labor leader, Osugi, and of the latter's wife and seven-year-old nephew, was declared by one of the widest circulated newspapers in Japan, the *Osaka Mainichi*, to have been regarded by the majority of the Japanese people as a "national hero." He was quickly released from prison and was appointed head of the police in "Manchukuo."

Many other examples are available.

modernize the economic, and in some respects the cultural, outlook of the people. They have also proved to be a powerful instrument in the hands of those who wish to retain and pass on as much as possible of the social heritage. They have facilitated the introduction of social changes which, however, have been linked with parts of the social heritage in such a way as to make the changes appear as a return to the past rather than as innovations. The feudal age lasted until very near the present age in Japan. There are elements in the feudal tradition that have facilitated the building up of a powerful conscript army and surrounded it with prestige. Loyalty and filial piety are held up to every Japanese child as the supreme virtues. Doubtless the very emphasis upon the virtue of loyalty in a feudal era was evidence of the widespread existence of personal disloyalty in actual life. But this insistence in the social tradition upon loyalty as the supreme ideal was turned to account in modern Japan by those who set out, in the interests of unity, to foster an intensely strong sentiment of nationalism. Some of the qualities regarded as virtues by the dominant classes in the feudal era have been extolled in the modern era as means through which the national spirit might be intensified. In this process a romantic light has no doubt been turned on the past, and the prevalence of the feudal virtues in the feudal era has been exaggerated. In modern times the growth of the means of communication has facilitated the spread of these notions: schools and colleges, the press, magazines, cinema, stage, and radio have contributed.

Where social changes have been facilitated by making them appear to be in harmony with the social heritage, they have sometimes really involved a considerable break with the past. But such changes have often been little more than a reapplication of old elements in a new set-

ting. The introduction of a huge military organization was not averse to the sentiments of those who under feudal conditions had been wont to regard the sword as symbolic of the position of the most highly esteemed classes. To exhort a modern Japanese to be loyal to the state is no doubt a different matter from exhorting a feudal retainer to be loyal to his lord. But there is this in common. Both are exhorted to cultivate a similar sentiment, even though the object round which the sentiment is to be built up is different in the two cases. In each case, it is the dominant class which creates and sustains the notion that loyalty of one kind or another is the supreme virtue, since the maintenance of the privileged position of this class is dependent on the strength of that loyalty.

In Japanese society, certain notions are regarded as above criticism and are protected by drastic taboos. It is often said that the freedom from religious prejudice and the toleration of all forms of religious belief and disbelief is firmly established in Japan. The fact is that, though the beliefs that are surrounded with taboos in Japan are not to be found in the creeds of religious institutions, none the less they exist and the taboos associated with them are stronger than the taboos associated with any beliefs held in the English-speaking world. The religion of the State, with the Emperor as the symbolic object toward which the loyalties of the people are directed, is no less able to command the allegiance of Japanese people than are the religions of the West to influence their adherents. Rather, in its power to evoke loyalty, the cult of the State seems more effective than the adoration of gods which are not of this earth.

This cult may have served to promote national unity after the collapse of the feudal structure. It may still serve to promote the interests of certain classes and groups. On the whole, however, the loyalties of the Japa-

nese people, intense though they are, can hardly be said to rest on a rational basis. With what Lecky called the rise and influence of the spirit of rationalism, their irrationality has become evident to many in the intellectual classes and especially to university and college students. The growth of the rationalist spirit is due in the main to the intellectual contacts of Japanese people with Europe and America since the opening of the country. The traditional cults and loyalties no longer really serve as an unquestionably unifying influence. Conflict and change have been operating for several years. The old cults seem triumphant at the moment,¹ but they can hardly be sustained permanently. The objects of loyalty are inevitably subjected to criticism when the circumstances in which they originally become objects of loyalty are changed with developing knowledge and changing productive techniques, with all their social accompaniments.

Notwithstanding appearances, I believe on the basis of personal contacts that there has never been in recent years anything approaching unanimity among the Japanese people, even in regard to the loyalties held most sacred in orthodox circles. The idea often proclaimed that the Japanese are at heart a "united people" in the face of the recent conflict should not be accepted. Censorship, arbitrary arrests, threats of assassination, and above all social pressure may silence opposition so far as the outsider can detect. But the severity of the measures taken to suppress criticism negates the view that unity prevails. Under the surface there are intense social conflicts in Japan today. Repression, dismissal from universities, arrests, "third degree" methods, and imprisonment have failed to check movements among Japanese

¹ Note the intense efforts to impress the school children as well as adults in Japan with the story of the heroism of the three soldiers who threw themselves on the barbed wire with dynamite charges strapped on their backs. This is in the true feudal tradition.

students against the existing social order. Social stresses and strains are becoming intensified, and external expansion will not relieve them. No one can predict the outcome. Many landmarks will disappear before equilibrium is reached.

But the forces making for a more rationalistic outlook have lost ground during the world economic depression, so far as outward expression is concerned. They have been largely driven underground. The groups which have carried through a policy of expansion on the Asiatic mainland were able to do so because they could appeal successfully to the old ideas and conceptions of unquestioning loyalty among the mass of the people. To the modern mind these ideas may seem crude; but it is doubtful whether they are more so than the basic ideas of certain movements in Europe today. In any case, the quality of the object of loyalty has not necessarily anything to do with the intensity of the loyalty. As Olaf Stapledon has said: ". . . the mere prevalence of devotion to causes does not itself prove that loyalty ever is, as it purports to be, actually called into being by the intrinsic value of its object. . . ."¹ For a time the ideas and concepts largely transmitted from the past, and reinforced by modern modes of communication, have carried the day in Japan. The old symbols, presented through new channels of appeal, have served as stimuli evoking mass responses of the traditional kind. But their appeal will not last forever.

In the foregoing analysis, it is not intended to imply that present Japanese policies are an inevitable outcome of Japanese culture and social heritage. Hugh Byas has remarked recently that "elderly upperclass Japanese deplore the policy which landed Japan in isolation, but they

¹ W. Olaf Stapledon, *A Modern Theory of Ethics* (London, Methuen, 1929), p. 11.

are hopelessly outnumbered and wisely silent."¹ There have been attempts to modernize and reinterpret the traditional features of Japanese culture so as to bring them into harmony with the developing thought and changing circumstances of the post-war world. This indeed was in essence what Mr. Hamaguchi, Mr. Inouye, and Baron Shidehara were doing in practical affairs. This is the aim that Mr. Yukio Ozaki has consistently pursued through his long political career. Those who follow his utterances will find what is in effect the concept of a developing social heritage which has to be harmonized with successive social changes operating not only in Japan but throughout the world.² The difficulty, however, is that each generation has continued to be trained to respond unquestioningly to the stimuli provided by the old symbols, and has not been taught to exercise personal judgment and discrimination, or to realize that extensive modifications of the significance of these symbols must be made if Japan is to bring its international policy into harmony with post-war concepts of the comity of nations. Consequently the masses of the Japanese people had acquired a set of learned behavior responses to specific stimuli of a kind that could be provided readily by those who wished to direct Japanese policy along nationalistic and expansionist lines and away from international co-operation. It is this fact which has made possible the events that have occurred since September 1931.

Yet in more favorable economic conditions the reinterpretation of the traditional features of Japanese cul-

¹*New York Times*, April 28, 1933, p. 7.

² See the translation in the *Japan Weekly Chronicle*, January 5, 12, and 19, 1933, of three striking articles by Ozaki. "Some bigoted people," said Ozaki, "may denounce me as an anti-national—a term which I will willingly accept. Previous to the Meiji era, anti-clannists were regarded as traitors, but it was by anti-clannists, that is, outlaws of various clans, that the great work of the Meiji Restoration was accomplished. It must be by anti-nationalists or internationalists that the next or Showa Reformation will be accomplished."

ture with a view to harmonizing them with changing circumstances would probably have prevailed. If a militarist and reactionary policy had happened to coincide with the onset of the world depression, a disillusioned Japanese people would probably have turned toward the pacific policy of Shidehara, the outstanding Foreign Minister in Japanese history. The overthrow of that policy was in a fundamental sense due to the impact on Japan of a world-wide depression of almost unexampled severity. Thus economic factors world-wide in scope played a vital part in the determination of events. Though the agricultural depression was intensified by agricultural overpopulation that existed before 1929, there can be little doubt that the major part of the increased discontent among the agricultural classes, which influenced political events, was due to the drastic decline in agricultural incomes caused by the downswing of the business cycle.

Some population writers have predicted a situation in which a slow, steady deterioration of economic conditions in certain areas over a long period of time, due to overpopulation, will lead to desperate attempts at external expansion by war. In fact, however, it is hard to discover any community in which there are signs of a long-period downward trend in per capita income; and it would in any case be difficult for peoples in such conditions to provide themselves adequately with the sinews of war. On the other hand, there is no doubt that serious economic depressions often contribute toward political and social upheavals, domestic and international. Since cyclical fluctuations are common to countries in which the supplies of labor compared with the supplies of the other productive factors are markedly dissimilar, they can hardly be classified as population factors. It would seem to follow that population pressure has had much less to do with

political and social upheavals than has the trade cycle; in other words, cyclical fluctuations have contributed more than secular trends to drastic social and political changes. It is noticeable, however, that the political and social changes and upheavals associated with economic depressions have been much less severe in those countries in which the supplies of natural resources and capital are large in relation to the supplies of the other factors than in others in which they have been relatively small. Population factors therefore appear in some areas to have accentuated the social and political consequences of the business cycle.

Finally, the course of political and social events is shaped by cultural factors which are not in themselves rigidly separable from economic factors, but the sum of which comprises more than the sum of the economic factors.

CONCLUSION

In our era social and cultural changes, political changes, economic and technological changes, have accompanied and succeeded each other with bewildering rapidity. Rapid growth of population has not prevented, and in some degree has stimulated, changes that have transformed the material conditions of life in modern times. This transformation is in the nature of progress, because it has produced higher per capita income and a larger and more varied composite commodity, and has thus made available more of the material requisites of welfare than were ever available in earlier times.

Inventions, improvements in technique, expansion in productive capacity, and the exercise of increased individual control over the birth-rate have made it increasingly improbable that the world as a whole will ever be placed in the situation envisaged in the Malthusian

scheme. But serious population problems have still to be faced. They arise out of disparities between the distribution of population and the distribution of natural resources. Summarizing the main thesis of Part III, it may be said that population cannot in any case be distributed over the world in such a way that each group has the same advantages as all the others in respect of the possession of natural resources. But inequalities can to a large extent be offset by movements of population, capital, and goods. International trade enables groups less favored with domestic supplies of natural resources to share in the resources of the more favored groups, and benefits the latter by placing a more varied composite commodity within their reach than would otherwise be available, and by enabling them to obtain at relatively low costs those products which can only be made when relatively large supplies of labor are available. The prohibition of immigration and the restriction of imports of goods into the more favored lands, and drastic restrictions on the export of capital from them, perpetuate inequality of economic opportunity.

Consequently the full realization of the potential advantages of changed productive and distributive techniques is dependent on the development of economic organization along international lines. Such a development, however, is retarded by a lag in the immaterial aspects of culture,¹ which are still too near the stage appropriate to the conditions of parochialism and relative local self-sufficiency that prevailed in the days before transport and communication were revolutionized. Within societies organized along local and national lines, there

¹For the concept of cultural lag see W. F. Ogburn, "Social Change," *Encyclopaedia of the Social Sciences*, III, 332; also the same writer's *Social Change* (New York, Huebsch, 1924), pp. 200-259. For the sake of brevity the concept is used in a somewhat simplified form. See also F. Stuart Chapin, *Cultural Change* (New York, Century, 1928), pp. 218-19, 312-29, 350-51.

has been powerful resistance to the adaptation of the immaterial to the material aspects of culture. This resistance is largely psychological in character: material things have changed rapidly; ideas and sentiments in the minds of people have changed slowly. Moreover, what has already been indicated with reference to Japan applies generally. Certain groups in all communities, occupying a dominant social, political, and economic position, tend to act more or less consciously on the assumption that any considerable changes in the immaterial aspects of culture would undermine their position. Therefore, through educational institutions, through the press, and through the exercise of various forms of social pressure, they reinforce the appeal of old symbols which for generations have served as stimuli producing specific reactions of social behavior. The effect is to intensify tribalism in a world which has developed productive and distributive techniques that can function harmoniously only under cosmopolitan conditions. The stresses and strains thus created endanger the whole fabric of civilization.

These stresses and strains affect all parts of the world, but most of all they affect those countries which are poorly endowed with natural resources and which therefore can only attain a high level of per capita income by accepting and actively promoting the closest economic interdependence with the rest of the world. Paradoxical as it may seem, the cultural lag is even more marked in some of these countries, for example, Japan and Italy, than in some of the countries that are richly endowed with natural resources.¹ This makes it difficult for the peoples of the areas most endangered by restrictionist

¹ It would seem to be only on this basis that any serious case can be made for the view that the capitalist system leads inevitably to war. Conflict and warfare clearly do not benefit the capitalist class as a whole. But if the maintenance of the dominant position of the capitalist class is dependent on the retention and perhaps the intensification of the cultural lag, some case might be made for the view that capitalism leads to war.

policies to register telling protests against such policies. Japan is not in a strong position to protest against trade barriers, because most Japanese people favor protection in Japan and the Closed Door in Japanese colonies.

The explanation of the intensity of the cultural lag in Japan is probably to be found in the coincidence of two factors. First, the change from medieval to modern conditions came very late in Japan. Hence the suddenness of the transition has made the lag between material and immaterial culture greater in Japan than in the countries where the transition came more slowly. The ideas more or less appropriate to an old order were carried over to the new order. Secondly, the emergence of Japan from isolation came at the commencement of a period of unprecedented growth of nationalism and imperialism throughout the Western world, characterized on the economic side by a reversal of the previous movement toward freer trade, and by the diversion of an ever increasing proportion of state revenues into war channels. Today, exploited by a dominant militarist group at home, and abroad faced with personal exclusion and the exclusion of the fruits of their labor from the rich and extensive lands inhabited by the English-speaking peoples, the mass of the Japanese workers are in a precarious position.

To Japanese protests against restrictive measures it is easy for Western peoples to reply with a *til quoque*. To some this may bring emotional satisfaction, but it opens up no way of escape from the impasse into which the world has drifted. The now densely populated regions of eastern and southeastern Asia had few quantitatively significant economic contacts with the West until the overseas expansion of the European peoples began. It was the initiative of Western peoples that drew the eastern Asiatic peoples out of regional self-sufficiency into an economic structure involving world interdependence.

Both Eastern and Western peoples have gone so far in this direction that withdrawal at this stage would bring destitution to millions of people and probably would provoke dangerous social conflicts. We cannot without disaster escape from the dilemma by reversing modern economic development, and setting back our material culture to a point where it harmonizes with our immaterial culture.

As I write these closing lines the news comes that the British government has decided to adopt a Closed Door policy in its crown colonies and to limit imports from Japan. This is a dangerous exercise of the power divorced from responsibility which the present political structure of the world permits individual governments to assume in matters which affect the citizens of other countries. As we have seen, Japanese immigrants are already excluded from lands occupied by English-speaking peoples, and discriminatory duties hamper Japanese export trade with large territories within the British Empire. If Japanese economic relations with some of the richest lands on earth are still further curtailed, the next thirty years will be a critical period in Japanese history. As long as the English-speaking peoples claim and exercise the right to exclude at will, from the territories under their control, not only Japanese people but also Japanese goods, it will become increasingly difficult for Japan to cope with its economic difficulties. It is essential that Japanese exports shall not only be maintained but steadily increased in the next three decades. To express surprise and indignation, as so many in Western countries have recently done, at the growth of Japanese export trade, is to betray a lack of understanding of the most acute population problem of the present time.

Since the autumn of 1931, Great Britain appears to have followed a policy of offering the minimum resist-

ance to Japanese imperialistic expansion, and the maximum resistance to the expansion of Japanese exports. The economic analysis in this book leads to the conclusion that a realistic policy would follow exactly opposite lines. The population problem will be most acute in Japan in the next two or three decades; after that the situation will be considerably eased. Imperialistic expansion can do little or nothing to improve, and it is possible that it may considerably aggravate, population difficulties in their most acute stage. On the other hand, expansion of exports, which also involves an expansion of imports that benefits other countries, would provide an adequate working solution of the problem.

Some thinkers have held that war and other social conflicts arise out of blind impersonal forces inherent in Nature and beyond human control. For a time it was held by many that an instinct of pugnacity belonging to man's biological inheritance made war inevitable, but this view is now discredited in scientific circles. Many population students, however, have held that the reproductive capacity of man is so far in excess of his productive capacity that the pressure of numbers on productive resources is a standing menace to world peace and to social harmony. Actually, productive capacity is the one thing which shows no signs of failing, while reproductive capacity is now being brought so rapidly under individual control that over wide areas fertility rates have fallen below replacement level.

It is not, therefore, in the circumstances of the external world but in the minds of men that the mainsprings of violent social conflict lie. Prejudices, narrow provincialism, the pursuit of false ends, mistaken notions of the road to material advantage, the lag of immaterial culture behind material culture, and the defects in world political organization which are the results of this lag—these and

related factors, and not any shortage of natural resources in the world, are the stuff out of which wars and other violent social conflicts are made. The Malthusian vision of an ever present tendency for reproduction to outstrip production no longer need haunt us. There is no inexorable law, inherent in the processes through which the reproduction of the race is attained, leading mankind to disaster. It is not the niggardliness of Nature but the irrationality of Man that stands in the way of a working solution of the population problems that arise out of the inevitable disparity between the distribution of population and the distribution of natural resources.

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