

BRITAIN AND WORLD TRADE

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LONGMANS, GREEN AND CO.

55 FIFTH AVENUE, NEW YORK
221 EAST 20TH STREET, CHICAGO
88 TREMONT STREET, BOSTON
128-132 UNIVERSITY AVENUE, TORONTO

BRITAIN & WORLD TRADE

Quo Vadimus and other Economic Essays

BY

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LONGMANS, GREEN AND CO.
LONDON :: NEW YORK :: TORONTO

1931

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Made in Great Britain

PREFACE

I AM conscious of the fact that this book owes more to others than should, perhaps, any publication issued under the name of a single author. I have in the first place to thank my colleagues, Mr. J. H. Chapman, Miss D. P. Etlinger, Mr. F. Hilgerdt, Mr. G. Frumkin and Mr. A. Rosenborg and others, for checking the numerous figures with which I have attempted to illustrate facts or to support contentions. Indeed, to them I am mainly indebted for the actual elaboration of the various tables which the book contains. Moreover, the whole process of analysis would have been impossible had it not been for the labour which they have devoted over a series of years to constructing the foundations on which the science of international economics may one day be built.

More especially am I indebted to Sir Arthur Salter, who gave me the necessary incentive to start upon this work and the encouragement to pursue it. But for his inspiration and his unstinted help at all stages of the undertaking, this collection of essays would never have been brought into being.

I am further indebted to Professor Clay for kindly reading through and criticising the manuscript of the paper entitled "Britain and World Trade," to Dr. P. Jacobsson for similar help in connection with the essay on "Gold and Prices," and to Professor C. R. Fay for a number of criticisms which he sent me on the original draft of the essay entitled "Quo Vadimus?"

I have to express my thanks to the editors and proprietors of *The Nineteenth Century and After*, Limited, to the editor of *Index* and the *Svenska Handelsbanken*, and to the Council of the Royal Statistical Society, for permission to republish the first, third and last papers contained in this book.

Finally, I have to express my thanks to my brother, Mr. John Loveday, for reading through the whole manuscript with a critical eye and for seeing the book through the press.

GENEVA, *November*, 1930.

INTRODUCTION

THIS book is a collection of independent articles or essays, the majority of which are concerned with world economic problems. The articles were written at different dates since 1927 and do not constitute a homogeneous unity; they frequently overlap and impinge upon one another. Statements are repeated; the same facts recorded more than once; the same problems approached and then reapproached from somewhat different angles. I had thought at one time of trying to weld this miscellany into a more uniform whole. But both time and energy failed me and I decided in the end only to endeavour to render more apparent such unity of thought as the various articles possessed by bridging a gap here or there with an additional essay or an elaborated phrase.

The collection as it stands contains perhaps a greater unity of thought than of exposition. In the first article I have tried to trace what seemed, two or three years ago now, to be certain of the major post-war tendencies that had determined the economic development more especially of Europe up to the end of 1925.

In these first seven years of hectic and confused endeavour orderly development slowly and painfully emerged out of chaos. Fighting continued on the outskirts of the central area of warfare for some four years after the Armistice was signed. Demobilization was far from completed when in 1920-1 a major com-

mercial depression added new armies of unemployed to the care of States, many of which were still uncertain of their frontiers. The peace treaties could not do more than lay down the general rules on which attempts should be made to settle the vast accumulation of claims and counterclaims which the war had left, and in the earlier years, owing to the breakdown of the mechanism of public finance, settlement was rendered impossible and new claims were created. The restoration of devastated regions and reconstruction of plant was conducted in a maelstrom of prices in which calculations of profit and loss were rendered impossible. The real significance of the changes which the war had produced—the growth of industry in the Far East, South American and other former European markets, the development of New York as a financial centre, and the dependence of Europe on American capital, the excess of war plant, the self-determination of Russia—only gradually became apparent. In this welter of insecurity and doubt there stood out as fixed ideals in the minds of the peoples of Europe west of the Russian frontier, a picture—largely imaginary—of the economic organisation in 1913 and, with intense brightness, economic nationalism. Economic nationalism was the natural consequence of the hopes and sufferings of earlier years, and the pre-war economy was the only orderly economic system of which the living had had actual experience. That the two ideals were, in a large measure, in contradiction to each other was ignored. Each nation endeavoured to establish within its own boundaries a microcosm in imitation of the macrocosm which was constituted by Europe as a whole a decade earlier. To this objective all were naturally urged by the general political and

economic insecurity and doubt which existed. From external risks individual States sought safety for a time by rendering themselves, in so far as possible, self-sufficing and insulated. As a result to the insecurity, which, taking the Continent as a whole, was rather increased than diminished by this policy, was added as a major factor, restrictive of economic progress in Europe—lack of freedom. It is with these questions of lack of freedom and insecurity that this first essay is largely concerned.

But while Europe was thus insulating her national units and restricting her trade, the other Continents were making normal and certain countries exceptional progress, so that the centre of economic gravity tended to shift to an appreciable extent from the Atlantic to the Pacific Ocean and of financial gravity from London to New York.

The endeavour to reconstruct the economy of 1913 failed and an essentially different economic organization gradually evolved. The change was inevitable and was rendered more complete by a development of the technique of production which modified the whole structure of industry. The growth of motor transport, the electrification of industry and the advance in the mechanization of agriculture, together with mass production, profoundly affected industrial and agricultural states alike. This technical progress was accompanied by a concentration of the control of industry by means of the conclusion of national and international agreements for the regulation of output and prices and the allocation of markets. Political insularity was thus to some extent countered by industrial internationalism. Industrial internationalism did not, however, so much

increase freedom as permit more orderly control. Greater freedom was gradually won during the course of the decade 1920-30 by the natural decay of certain forms of construction and by the gradual awakening by States to their inevitable interdependence.

The changes in technique rendered possible a rapid growth of the production of wealth in all parts of the world immediately some order was created out of the chaos caused by war or revolution.

In the second essay I trace briefly the remarkable progress actually achieved between 1925 and the autumn of 1929. In these years a number of the impediments to international intercourse and business in Europe were removed, debts were consolidated and an agreement on reparations reached; production and trade developed with extraordinary rapidity, and developed most rapidly where recovery had previously been slowest. Currency stability was almost universally secured and the habit of saving was revived. Attention began to be diverted from problems connected with restitution and reconstruction to those which emerged from the new economy that had gradually grown up.

In the third essay I consider certain of those problems and those forces arising not from conscious social endeavour but unrelated human action, which may be likely to influence the course of development in the future. As conditions improved a change took place in demand which was due to a number of causes amongst the most important of which were perhaps the slackening in the growth of population, the change in the distribution of income and the drift of country folk to towns. As income per head increased a greater proportion of

total demand was directed to those goods and services which are required once the elementary needs of existence have been satisfied. This shift in demand affected both industry and agriculture. The wheat farmer and the manufacturer of coarser textiles suffered; the dairy farmer, the fruit grower, and those industries which cater rather for our comforts than our needs benefited.

But the whole economic community was affected by the fact that the demand for goods and services satisfying secondary needs is less stable than is the demand for the necessities of life. It roves over a wide range of choice; it is highly sensitive to changes in prosperity and in taste; it is optional and erratic. It is with the paradox of this instability of demand and the growing rigidity of the mechanism of production that this third essay is largely concerned.

In the fourth I deal with certain financial problems and more especially with two phenomena—the trade cycle and the threatened shortage of gold—the effects of which may run counter temporarily or permanently to the direction of certain of the forces discussed in earlier pages.

I have thus tried to move from the past to the present and from the gateway of the present to look out upon the horizon of the future.

The present depression has checked the growth of wealth and must postpone the solution of the problems to which the increase in individual income gives rise. It has, in addition, intensified the feeling of insecurity and doubt and the inclination of each nation to barricade itself against the rush and thrust of a changing world. The depression of 1930 will no doubt pass and be followed by another period of economic activity, but if

the supplies of gold in the near future prove inadequate, as the analysis of the ascertainable facts given in this essay seem to suggest, the rate of development may be retarded.

In the final essay of this series I deal with the peculiar situation of the United Kingdom in the new world economy which is growing up and endeavour to show that the decline of British trade has been due rather to the rigidity of the whole mechanism of national production than either to the past disorder in Europe or to currency policy. I argue that a similar currency policy adopted by other States has not, retarded progress to any comparable extent because they have been able and willing to adapt themselves to changing conditions and that our failure to secure trade has been greatest in regions least affected by the war.

At the end of the book I have appended a paper which I read before the Royal Statistical Society in 1929 on the measurement of Tariff Levels. This paper, although it deals with a subject that has rightly attracted considerable public interest, is definitely of a technical nature. The one fact about Tariffs on which agreement is likely to be reached is that their measurement is not easy; and it cannot be claimed that this paper is easy reading.

The articles (but not this last paper) are intended for the general public, not for the professional economist, and I have avoided in so far as possible the use of technical terms and those classical reservations by which the scientist endeavours to render himself immune from the attacks of his colleagues. In fact every figure quoted and every conclusion suggested might have been muffled in a silken cocoon of a thousand reservations and thought have been immeshed in its threads. The greater part of the

book is concerned with major forces influencing not simply this or that country, but groups of countries, whole continents or even the whole world; it is concerned not with the output or sales of a single factory or a single State, but with world output and world trade. These forces—like the waters of a river—are affected by the regions through which they pass. In one place their current may be clear and rapid, in another dark and sluggish. In no two places will their effects be identical or will those effects be equally apparent. But they possess a character and unity in spite of their local variations, and they possess an aggregate of power, though that power be unevenly distributed about their length. When once the existence of such forces is ascertained, their behaviour may be studied—with the aid of a telescope, not a microscope—and deductions made and lessons learnt.

In the same way may lessons be learnt from the statistics of world production and world trade. In fact the world production of no single commodity of importance is or can ever be ascertained with precision. Amongst the hundreds of thousands of single book entries by which the amount of coal raised to pit-mouth in all the quarters of the globe is recorded there is infinite occasion for error, and to such error must be added the wider inaccuracies of estimation when records are incomplete. Likewise does no single mining company know with complete accuracy the weight of the coal it raises. Ounces are ignored and hundredweights lost or gained. These losses or gains tend to cancel out unless some exceptional cause of error exists. The facts that are essential are recorded and the deductions that are essential are drawn—the fringe of error is

immaterial. For the world the fringe is longer ; sometimes it is too long. But that some fringe exists is of no insignificance to those who study the facts from the only perspective from which they are visible at all in their entirety. Not infrequently, however, the mass statistics are based on rough estimates in which the error may be serious and significant. In such cases it is essential to collect evidence from as many and as independent sources as possible and watch in what direction the accumulated evidence seems to point. The direction of the wind and its force must be judged from the clouds by those who do not possess an anemometer, and in economics exact measurement is rarely if ever possible. The statistics we employ suggest probabilities ; they do not give mathematical proofs.

The subjects or the special aspects of the general phenomena of economic development selected for consideration have all seemed to me to be important and of interest. But my choice has been largely determined by the fact that in the course of my daily work I have had to devote special attention to one particular question or another. The whole book is largely concerned with what is perhaps the central fact and paradox of economic life to-day : the accompaniment of a growing instability of demand by a growing rigidity in the mechanism of supply. To that problem is the article which constitutes part of the sub-title of this book specially devoted. But in that article I have confined myself to describing the problem as it appears in its economic setting. Its solution cannot be wholly, will not perhaps be even mainly, economic. The mechanism of production has become less flexible in Europe and Australasia (and will almost inevitably become somewhat less flexible elsewhere in the world)

because governments and their peoples have so willed it. During or since the war more than one country in Europe has buried unmourned its ideal of the liberty of the individual. A generation is growing up which has never learnt to respect it; but has been taught only to believe that the publican must be master of the sinner. As to whether this death and burial of individual liberty beneath the State, the trust, or the union, be a cause of satisfaction or regret I am in no way concerned here. But by that liberty, by a sense of individual responsibility and independence, by the personal effort and initiative which it stimulated, the changes in demand could be met. They may perhaps be met in other ways—by an attempt to capture and control demand itself or by a central control and co-ordination of the whole mechanism of production with all the political consequences that implies. The choice lies to-day, not between socialism and capitalism, but between Planwirtschaft—whatever the Plan—and liberty. To the economist Italy is, in the main, logical and that logic comprehensible; Russia is logical and comprehensible. Comprehensible and logical too is the endeavour in the United States to conquer demand and create mass psychology for the delectation of mass production—to restrict choice in order to concentrate on the production of an endless series of identical articles, to organise a life which, as one author expresses it, is no longer austere but expurgated. What is not logical is to have neither liberty nor plan, neither the flexibility which results from the free movement of the units nor centralized control. A considerable part of Europe has scarcely begun to look for a solution of its fundamental economic problems—and cannot hope to find a solution until it

decides on what social or ethical premises it desires to act. It will never find it by twisting round the precepts of the nineteenth century the red tape of the twentieth. It is because the solution of these problems depends upon social and ethical postulates that they are not discussed in the following pages. This book is concerned with the science of economics, not with the science of politics. The selection of economic problems for consideration has, as mentioned already, been determined partly by chance. To some persons the most striking omission may appear to be the almost complete absence of direct reference to unemployment. But unemployment is the manifestation of a failure to solve other problems—sometimes one, sometimes another; it is not an independent problem standing by itself. It may reflect, as it did in England between 1923 and 1929, the inevitable results of too rigid or too unco-ordinated an economic system, or as it did largely in Germany towards the end of this period, the passing effect of the reorganisation of the mechanism of production, or as it does in part to-day, a phase of the trade cycle. Certain aspects of the questions of flexibility and of the trade cycle are regarded in the third and fourth essays and some reference is made to that complex of changes which we like or dislike to call 'rationalisation.' I do not possess the requisite knowledge for treating this third subject more fully. There is, however, a further subject which appears to me of capital importance and is, or may be, bound in the closest relationship both to the questions discussed and this secondary problem of unemployment. It has been omitted because I doubt whether it is ripe for gathering; but it requires watching and some reference should be made to it here.

I argue that demand is likely to become less stable as wealth per head of population increases, and further that it shifts from consumption to capital goods and back in sympathy with variations in the rate of the growth of wealth and in the general level of prices. It is the function of the producer to anticipate these changes, and on the success with which he executes this function will the continuance of prosperity depend. But his power to influence the broad division of demand between consumption and capital requirements—or in other words to influence the division of individual income between spending and saving—is limited. Is there not a danger that in the future the growth of the production of wealth may be checked by a partial failure to spend? In recent years Europe at any rate has been short of capital and the instinct to save was weakened by war and inflation. At first sight the question may well seem paradoxical and absurd. But the means of production have been enormously improved since the war, known needs can be satisfied with far less effort than heretofore; when the machinery of production is once running, the demand which the accepted standard of living creates may be met without undue straining, and when it has been met progress must slacken or the standard of living be changed. Which will happen? Will individual habit keep pace with technical progress? Have the great mass of consumers enough imagination readily to change their way of life? Will they want to do so? These are questions with which producers in the United States have now long been concerned; questions which for instance Mr. Ford would answer in the negative failing any special effort on the part of manufacturers to stimulate demand and jostle habit. In Europe they

are perhaps not mature to-day. But it is at least conceivable that before many years are past they will be found to present a problem more serious for Europe than it will ever be for America, for in Europe habits are more deeply imbedded than in younger continents. Moreover, the tendency to underspend is very ancient. Every peasant who hoards gold underspends. The danger of hoarding has been largely overcome, but with the renewal of prosperity it may be that at any rate in certain parts of Europe—in France perhaps in particular—economic progress will be restrained by the torpor of the consumer. It is too early to judge to-day; but we should at least be awake to the possibility of this risk arising.

At first sight what I have just said may seem to be in direct contradiction with the whole line of argument running through the article entitled "Quo Vadimus?" Demand cannot be at once torpid and unstable. The contradiction is more apparent than real. If wealth per head increases demand must become more unstable after a certain standard of wealth has been exceeded. If demand remains torpid wealth per head will not increase. The producer may have to awaken the consumer; if he does so with success he must watch and pursue his vacillations.

Some persons may set a higher value on security than on development and consider that economists attach too much importance to the size of the national dividend. To such persons the facts recorded in the article on the Economic Status of the United Kingdom may present no grounds for regret or misgiving. They may argue that what is of true value emerges rather from the power of appreciation than from the capacity

to add to the number of available objects ; that what the world should really study is the mind of the consumer, and his power to appreciate what is, not the technique of production or distribution. Miss Hughes, in her study of humanism in education, quotes a passage from the writings of Luther which expresses this view with both beauty and force. "A city's increase," Luther says, "consists not alone in heaping up great treasure, in building solid walls or stately houses, or in multiplying artillery and munitions of war ; nay, where there is great store of this, and yet fools within, it is all the worse and all the greater loss for the city : but this is the best and the richest increase, prosperity and strength of the city, that it shall contain a great number of polished, learned, intelligent and honourable and well-bred citizens ; who, when they have become all this, may then get wealth and put it to good use."¹

The increase of the national dividend is in fact a means, not an end. It may be inadequate as a means to certain social ideals. But it happens to be the particular subject with which this book is concerned.

¹ Quoted in " *Citizens to be.*" M. L. V. Hughes, pp. 288-9.

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POST-WAR ECONOMIC TENDENCIES FROM THE ARMISTICE TO 1925¹

IN 1925 the League of Nations undertook an elaborate enquiry into the general economic conditions of the world, the results of which were published in a series of memoranda during the course of the two succeeding years. These memoranda cover a very wide range of subjects—questions of population, agricultural and industrial production, international trade, public finance, etc. They are not concerned, however, with the detailed problems of this or that individual country, but present a bird's-eye view of world conditions and world tendencies. It is with certain of these world phenomena, with certain of the forces which cut across national frontiers, that this article is mainly concerned. I wish to estimate roughly the relative economic development in recent years of the major territorial masses into which the globe may be conveniently divided and consider at the same time some of the causes which have determined the varying degrees of prosperity achieved and some of the hindrances to further progress which still encumber the ground.

For a proper appreciation of the significance of the changes which have taken place in relative prosperity it is necessary to have present in the mind a picture of the distribution of the world's population.

¹ First published in *The Nineteenth Century and After*. April and May, 1927.

Such a picture must necessarily have hazy and blurred outlines, for only about two-thirds of the world's population have been subjected to official enumeration by means of census returns and in certain cases the apparent increase in numbers is due at least in part not to natural growth but to more efficient counting. For almost the whole of the rest of the world official or semi-official guesses have been made—but these sometimes vary wildly from source to source and from year to year. The student can, therefore, but rest in hope that what appear to be the most reasonable estimates are not as wide from the truth as some official announcements are from others. Of this doubtful third of the world's population, however, by far the greater part are within the frontiers of China, and, if the commonly accepted assumption that the Chinese population amounts to about 450 millions be correct, then the world's population must be divided approximately as follows :

Well over half is living in Asia ; Europe accounts for just over a quarter ; North America for over 6½ per cent. ; South and Central America for over 5 per cent. ; Africa for between 7 and 8 per cent., and Oceania for about half of 1 per cent. There are thus more than twice as many people living in Asia as in Europe, and the population of Europe exceeds that of all the rest of the world, exclusive of Asia, by more than a quarter. But more than 20 per cent. of the population of Europe are Russians.

The continental distribution of the world's population is so uneven that the changes which have taken place in the rate of growth in recent years have but slightly modified the balance. Those changes are, however, important.

The information with reference to China and Russia¹ is of such doubtful accuracy that it is best to omit these countries, large though the fraction of the total inhabitants of the world contained within their territories may be. The population of Europe exclusive of Russia between 1913 and 1925 would appear to have increased by slightly over 4½ per cent., that of Asia excluding China by over 5 per cent., of Africa by between 9 and 10 per cent., of Oceania by 17 per cent., and of both North America and South plus Central America by about 21 per cent. The figures are necessarily rough for the changes in European territories have rendered estimation for past years extremely difficult. The African and Asiatic official estimates are largely guesses and in the census returns of South America, which do not cover the whole territory, the previously unrecorded have gradually been netted. Probably the results for North America and Oceania are the most exact. The average increase for the world without China and Russia would appear to have been about 8½ per cent. and, if the doubtful estimates for these two countries be included, for the whole world just over 6 per cent.—a remarkably small rise for a period of 12 years.

There has in fact been a drop in the rate of natural increase, and this drop is due, of course, in part to war casualties, to low birth rates during the war and to post-war epidemics. But since 1920 there has been a rapid decline in the birth rate, a decline which is, in fact, but a continuance or an accentuation of the tendencies which became generally apparent in Europe about 1880. Thus Professor Kuczynski has shown that the birth-rate in Northern

¹ At any rate in 1913.

and Western Europe fell without interruption quinquennium by quinquennium from an average of 32.8 per mille in the period 1876-1880 to 24.2 in the five years ending in 1914.¹ Indeed throughout the century it is probable that the rapid increase in population which then took place was due in Western Europe more to a reduction in the death rate than to an increase in the birth rate. After a certain stage is reached, however, the latter and not the former must become the factor of primary importance. Improved hygiene and sanitation, and greater medical knowledge cannot prolong life indefinitely; and when, through a more rapid fall in the birth rate than the death rate, the growth of population slackens, after a certain stage has been reached the death rate is likely to rise. At first reduction in the birth rate may cause the death rate to fall too, for a lower birth rate may improve the general standard of health and, quite apart from this, mortality is always highest among infants. If, therefore, the number of infants born is reduced the general mortality is for a time reduced likewise. But later, as the average age of the population increases the death rate must rise. Unless then, some radical change takes place in the fertility of the peoples of Western and Northern Europe, the race between the advance of medical science on the one hand and mathematical law on the other must, before long, be won by the latter. The birth rate continues to fall; the death rate is likely to rise. On the facts as we know them to-day, the population of this part of the world, unless inflated by immigrants, is likely to become stabilised for a time and perhaps later diminish.

¹ *The Balance of Births and Deaths.* R. R. Kuczynski, p. 9.

In this fact there is nothing extraordinary or necessarily disconcerting. The nineteenth century was exceptional, not the twentieth, though the causes of the slower growth of population may be different from those of the past. As Professor Carr Saunders states, "for the greater part of human history the population has probably been approximately stable in numbers, or has been increasing so slowly that the increase has been hardly perceptible. It may well become stable again."¹

There remains, however, a vast difference between the birth and death rate in Eastern and Southern and in Northern and Western Europe. The net increase in France in 1925 was 1.4 per mille, in England and Wales it was 6.1 and in Germany 8.8; but in Bulgaria it was 17.7, in Roumania about 14.5, in the Soviet Republic 21.5. Moreover this rapid increase in the Near East was achieved in spite of death rates exceptionally high for Europe if not for the world; in Russia 23.2 per mille, in Roumania 21.7, in Bulgaria 19.2, compared with 12.2 in England and Wales and 11.9 in Germany. So long as the crude birth rates in these agricultural states remain at 40-45 per mille as they were in this year, the death rate must no doubt remain relatively high likewise, but the scope for reduction by improved hygiene is obviously great and we may expect that for a number of years to come the balance of population will shift in favour of the Eastern and Southern nations of Europe.

No less certain is it that the population of South America, of Oceania, of South Africa, of Canada, of Japan will increase more rapidly than that of industrial Europe or even of the United States.

¹ *Encyclopadia Britannica*, 14th Edit. Vol. 18. p. 232.

These changes in the relative rates of the natural increase of population must sooner or later tend to affect the distribution of the pressure of population on national resources, the composition of the streams of European and Asiatic emigration and hence the racial distribution of the inhabitants of the world.

To-day both in Europe and elsewhere, though the phenomenon is not universal in its application, wealth is increasing most rapidly in industrial and population in agricultural countries.

How far is it possible to compare the growth of wealth and of population? There exists, of course, nothing of the character of a world census of production, and industrial statistics are peculiarly defective in Europe. Europe's knowledge of her own economic situation is, and always has been, extraordinarily limited. The League of Nations has, however, in some of its recent publications attempted to measure the growth of the production of raw materials and foodstuffs in the world since 1913, and although for China and certain other countries, more especially in Asia, data proved to be lacking and only a restricted list of raw materials is considered, a good deal can be learnt from the results obtained. I need not here enter into the processes of calculation employed. Over sixty commodities are taken, and an index of production is compiled in such a way as to eliminate the effects of changes in the purchasing power of money. The world is divided into a number of groups of countries for which separate indices are computed. The results are as follows :

PRODUCTION INDICES, 1913 = 100.

	All Products.		Raw Materials and Colonial Products.		Foodstuffs.	
	1924	1925	1924	1925	1924	1925
(a) Eastern and Central Europe—						
Excluding Russia (U.S.S.R.)	85	97	88	99	83	97
Including Russia	83	100	80	93	84	102
(b) Rest of Europe	103	109	108	109	99	109
Europe—						
Excluding Russia (U.S.S.R.)	94	103	100	105	90	102
Including Russia	91	103	94	102	101	104
North America	118	127	124	137	113	117
South America	120	130	123	132	119	129
Africa	134	143	152	170	122	124
Asia—excluding Asiatic Russia	122	127	155	171	108	109
Oceania	121	118	104	114	137	121
World	109	118	119	130	103	111

The position, then, may be roughly summarised as follows. In Europe, as a whole, the pre-war level of production in raw materials and in foodstuffs was rather more than regained in 1925. Asia and North America produced about one quarter, Oceania nearly a fifth, more than they did; Africa and South America over a third more; Central America, owing to the development of the petroleum industry, produced over two-thirds more. Every continent save Europe, therefore, produced more per head.

Moreover in considering the results achieved by Europe, it is necessary to bear in mind that the year 1925 happened to be favourable for agriculture.

In comparing the position of the various groups of countries the fact must not be overlooked that the progress achieved in certain cases has been from very small beginnings.

Asia and Central America reflect, of course, the enormous growth in the production of rubber and petroleum for the motor car industry, and Asia and Africa the steadily increasing demand for vegetable fats. In addition Japan and China have been favourably influenced by the ability of the North American population to substitute silk to a large extent for cheaper textiles. What is at first sight disconcerting is that though the production of textile raw materials (more especially artificial silk), fertilisers, and wood pulp has increased in a very satisfactory manner in Europe, that of her great basic industries, metals and fuels, has receded. We must consider, therefore, what other evidence exists for determining whether Europe is richer or poorer than before the war.

There can be no doubt that the world as a whole is richer. The very fact that the raw material index is above that of cereals and foodstuffs points to this conclusion. For the richer a person or a nation or a world is, the smaller the proportion of his income expended on food tends to be. Similarly, the particular commodities the production of which has received the greatest stimulus, such as rubber, petroleum, cane sugar, cocoa, natural and artificial silk, point to a higher general standard of living. But this phenomenon must be interpreted with care, for while in America the standard of living has no doubt been raised, in Europe the shift which is perceptible toward a greater relative consumption, if not of luxuries, at any rate of non-

necessities, may be simply due to reduced saving and the diversion of production from capital enterprises to the manufacture of immediately consumable commodities. It is also possible that the production of foodstuffs is higher to-day than the figures suggest. The division of the big estates in Europe has resulted in a change in crops. The new small holder grows more vegetables, more fodder, and less corn than the big landlord. He prefers to feed to stock as much as possible and sell to his local market eggs, meat, cheese, and other dairy produce, less influenced than cereals by fluctuations in world prices. The great increase in the potato crop, for which at any rate partial statistics are available, is typical of this tendency.

But the statement made above, that there can be no doubt that the world is richer, requires further proof. We have to consider whether industrial production in general has kept pace with agriculture, mining, and the manufacture of certain crude products such as wood pulp, artificial silk, nitrogenous fertilisers, etc. In certain regions of the world the necessary evidence is readily obtainable.

In the United States of America a biennial census of manufacturing production is now taken, and it is estimated that the manufacturing output in terms of fixed values was about 60 per cent. greater in 1923 than in 1914. Between 1923 and 1925, according to the calculations of the Department of Commerce, there was a further advance of about 5 per cent. The production of raw materials in 1925 was probably not more than 27 per cent. above that of 1914, which means that in this country, at any rate, the national income has grown more rapidly than has the output of crude

products. In point of fact, various estimates of total national income have been made from which it seems probable that that income, after making allowances for price changes, was 40 to 50 per cent. greater in 1923 than before the War. Since 1923 there has certainly been a further advance. These results are in no way surprising, for the tendency in modern manufacture, especially in the United States, is all towards economy in the use of raw materials, and scientific discoveries have made it possible to render an equivalent service with less material expenditure. Wireless telephony and telegraphy afford the most striking example of this phenomenon.

In Canada the gross value of manufactured products rose from \$1,166,000,000 in 1910 to \$2,949,000,000 in 1925, or, after making allowance for price changes, by nearly 50 per cent. The net value added in manufacture is, however, a better measure of industrial growth, and from the information available it would appear that after making rough allowance for changes in values such net value increased between 1910 and 1925 by some 40 per cent., in Australia between 1910-11 and 1924-5 by about one third, and in New Zealand in the same period by over two thirds. But in none of these countries is the industrial growth comparable with that of South Africa, where the net value of factory output in terms of stable values has more than doubled between 1915 and 1925. This is an example, of course, of the extreme rapidity with which young organisms, economic and other, develop. There has been a similar growth of wealth in the Japanese colonies.

The raw materials and foodstuffs indices of these countries have not been calculated separately in the

League of Nations memorandum; but, employing approximately but not exactly the same data and the same processes of calculation as I adopted for them, for Australia an index of 126 and for South Africa of 139 in 1925 is obtained. As New Zealand is mainly a meat and dairy producing country, the raw materials index, which is very low, has no real significance. But in these three countries the industrial censuses show results which are more favourable than those which we obtain from considering raw materials and agricultural crops only.

For the rest of the world no recent and complete censuses of industrial production have been made. Such a census is now being compiled in the United Kingdom, but its results have not yet been made public.¹ We cannot estimate, let alone calculate, the industrial or the total income of Europe, Asia, or South America to-day. We can only guess whether it is greater or less than that derived from agriculture or the provision of raw materials. Asia, South America, and also Northern and Central Africa, however, are mainly agricultural, and the defects of the information concerning industrial output are not so vitally important. It is, however, general knowledge that the industrial development of South America was stimulated by the War and concerning parts of Asia fairly full information is available.

But we cannot base our opinion about the general economic prosperity of Europe on raw material pro-

¹ Since this was written preliminary results of the census of production have been published. Mr. Flux summarized these in November 1928 and reached the conclusion that compared with 1907—"the real income per head of total population . . . appears to have decreased by a small percentage". *Journal of Royal Statistical Society*, Vol. XCII, Pt. I, 1929, p. 15.

duction alone. We must hazard a guess about the productivity of her industries, and for this purpose we must collect such indirect evidence as exists. There are four possible lines of inquiry which may help us. First, for certain countries indices of current industrial production have been computed, and in one case a recent estimate of national income has been made, which will be found to throw some light on the particular situation of certain individual States. Secondly, from the consumption (not production) of raw materials some measure of industrial activity can be obtained; and we can calculate very roughly certain of the changes which have taken place in consumption. Thirdly, further light may be thrown on the subject by collating the available evidence concerning the conditions of separate industries. Finally, the subject may be approached theoretically and from the standpoint of prices. If the prices of manufactured articles which Europe produces and exports have risen more than those of the raw materials she buys, there may be grounds for believing that she is in a relatively advantageous position, and that even if the volume of her industrial production is not greater than it was thirteen years ago its effective quantum¹ is. This aspect of the question will require very careful consideration.

The countries for which direct calculations exist, even including those which are partial, are unfortunately few. An estimate of the national income of the United Kingdom in 1924 has just been made by Professor Bowley and Sir Josiah Stamp.² Their conclusion is

¹ i.e. Value after eliminating influence of price changes.

² *The National Income, 1924.* By A. L. Bowley, Sc. D., and Sir Josiah Stamp, G.B.E., Sc. D. (Oxford: Clarendon Press).

that the total income in that year was 1 to 2 per cent. greater than in 1911 and the income per head some 5/ per cent. lower. But to this conclusion they add the important qualification that "the income per head from home activities was very nearly the same at the two dates, the fall being due to the lessened value of income from abroad." An official estimate for Russia puts the total national income in 1925-6 at 70 per cent. of the pre-war and the income from land and industry at 90 per cent. Building is omitted from industries, and the difference between the two figures is accounted for by the smallness of present building operations, the restriction of transport and the contraction of trade. The margin is probably too wide, and the data on which to estimate income in 1913 are extremely sparse. The more important figure for our present purposes is the 70 per cent. For 1924-5 national income was believed to have been only 56 per cent. of the pre-war income, and in 1923-4 less than one-half. The 1925-6 figure must be largely influenced, *inter alia*, by the relatively good crops, not all of which, however, were ultimately harvested.

Only for Sweden and Finland are fairly complete estimates of industrial production made year by year. It is believed that the quantum of industrial output in Sweden in 1924 was about 9 per cent. greater than in 1913 and in 1925 12 per cent. greater. In Finland there has been an extremely rapid expansion in recent years, and it is estimated that the gross value of industrial production in 1926 was over 40 per cent. greater than before the war and the value added in manufacture over 50 per cent. greater. The comparable figures for

1925 were 31 and 42.¹ Both these countries are amongst those which have been most economically fortunate and successful in recent years, and they certainly cannot be accepted as typical of European conditions as a whole. Yet the Swedish index of industrial production is only seven points higher than the raw material index of western and maritime Europe in 1925.

Very much less complete indices of industrial production, partly based on indirect evidence, have been compiled for France² and the United Kingdom.³ The former stands at 109 for 1924 and 108 for 1925. Special estimates have been made for Alsace-Lorraine, so that the figures refer, both before and after the War, to the area within present-day frontiers. We must not attach more importance to this calculation than do its authors themselves. It is confessedly a rough estimate, based largely on indirect evidence and referring to only a fraction of the total industrial organisation of the country. But the industries covered are fairly representative, and the result obtained confirms the general impression which will be received from a study of present-day conditions in France that the total industrial production is both greater and greater per head of population than it was before the war. Of the British index it is only necessary to say that more elaborate subsequent investigation points to the conclusion that the figures (87 for 1925 and 67 for 1926) are probably too low, though there was of course a very serious drop, as shown, last year.

¹ The Finnish indices are probably so much higher than the Swedish partly on account of the method of calculation employed.

² See *Bulletin de Statistique Générale de la France*.

³ See *London and Cambridge Economic Service Bulletin*.

For Germany no comparable computations have been made. The Reichskreditgesellschaft Aktiengesellschaft, however, makes a careful study every year of the general economic condition of the country. According to its estimates, the quantity of production in 1925 was about as large as the production within present frontiers before the war, but that in 1926 was several units per cent. lower, though aggregate consumption did not fall below the old level. There has thus been a contraction in savings.

The conclusion from this more or less direct line of approach, therefore, is that the quantity of industrial output in France, Sweden, and Finland has grown more, in the United Kingdom, Germany, and Russia has grown less, than the aggregate production of raw materials and foodstuffs in Europe as a whole. I think an analysis of such fragmentary data as exist for Italy, Spain, and Denmark points to the probability of their being in the first class of relatively more prosperous countries. In Greece, with its large accession of refugee labour, there has been a great expansion of industry, though at the moment the new industries have to face a very difficult situation.

I will consider the second and third groups of evidence—the activity of certain special industries and the European consumption of certain raw materials—together. The production and consumption during 1925 of a number of products are shown below in percentages of the comparable figures for 1913. Europe is given both inclusive and exclusive of Russia, and for purposes of comparison world production figures are added.

	Europe.		Europe with- out Russia.		World.
	Pro- duction.	Con- sump- tion.	Pro- duction.	Con- sump- tion.	
Coal and lignite	91	94	93	97	99
Petroleum	85	—	104	—	275
Pig iron and ferro alloys ..	78	—	84	—	97
Raw steel	95	—	100	—	118
Shipbuilding	68	—	68	—	66
Mechanical engineering ..	87	—	90	—	109
Electrical engineering ..	141	—	146	—	201
Aluminium	277	—	277	—	285
Nickel	—	—	—	80	125
Copper	63	—	72	110	140
Lead	71	—	71	115	131
Zinc	80	—	80	98	116
Cotton	—	89 ¹	—	—	(114) ¹ 125
Wool ^{2 3}	—	—	92	95	101
Flax ^{2 5}	87	—	116	—	87
Silk ⁴	114	—	114	—	146
Artificial Silk ⁵	400	—	400	—	533
Coal Tar Dyes ⁶	79	—	79	—	101
Pulp	123	—	127	—	148

Certain of the results are estimates ; others are based on statistics which are generally accepted as reasonably complete and reliable. Probably those referring to the output of fuel, metals (except aluminium and nickel), and shipping tonnage are the most exact. For mechanical and electrical engineering and dyes I accept the ingenious, though somewhat courageous, estimates of the German Industrie Verband.⁷ All the figures of

¹ Mill consumption. Period 1909/10—1912/13: 1925/6.

² Base period 1909/10—13/14 compared with 1925/6.

³ Excluding U.S.S.R. throughout.

⁴ Base period 1911/15.

⁵ Approximate.

⁶ 1924.

⁷ See League of Nations *Memorandum on Various Industries*: Geneva, 1927.

European consumption, exclusive of Russia, are a little too high, as it proved impossible to exclude Congress Poland and the Baltic States in 1913, while they are of course included for later dates. Present-day consumption is therefore inflated by an amount equal to the production plus or minus net trading balance of these districts. I do not think, however, that the error introduced into the figures on this account can amount in any instance to more than about 2 per cent. None of the figures should, of course, be accepted as mathematical verities; but the difficulty arising from the division of Russia is the only one which causes a constant bias in the same direction.

Both the consumption and the production of coal are slightly, the consumption very slightly, lower than in 1913. In Europe outside Russia the production of steel is at its maximum pre-war level, the output of pig iron is lower—a fact which is due partly to the increased utilisation of scrap for making steel, partly to the falling off in the demand for wrought and cast iron. With pig iron production at 84 per cent. of the pre-war amount and mechanical engineering at 90 per cent., if Russia be excluded, it is on the whole reassuring to find that the consumption of coal and lignite in Europe is as high as 97 per cent. It must be remembered in this connection that great progress has been made in economising the industrial use of coal, and also that in Sweden, Norway, Switzerland, Italy, and elsewhere hydro-electric power has been greatly developed. There is reason for believing that the consumption of coal in Europe in 1925 was higher than the average of the five last years preceding the War, and if coal consumption was higher, power employed was certainly greater.

If this is so, there must have been an important shift in production from what were previously the major industries to other forms of activity, for heavy metal production is down, mercantile tonnage launched was almost a third less in 1925 than in 1913, and construction of warships is likewise greatly reduced, while the consumption of cotton, wool, and flax is also smaller. So far as the textiles are concerned, cotton and wool have both been replaced to some extent by artificial silk, and the hosiery branch of the textile industry, to which most of the artificial silk goes, has on the whole been prosperous.

It is possible to estimate roughly the extent to which silk and artificial silk have counterbalanced the reduction in the utilisation of other textiles by calculating a textile index for Europe on lines somewhat similar to those adopted by the League of Nations. If we take the production of silk and artificial silk and the consumption of cotton, wool, flax, and hemp and the same average prices as are employed in the League's *Memorandum on Production and Trade*, we shall find that the index for the whole industry in 1925 was approximately the same as in the five years 1909-13. As this calculation includes Russia, and as in the cotton industry more fine counts are being spun, it is probable that in the rest of Europe the aggregate value of production is somewhat greater than before the War.

In contrast to these two groups of industries there has been a very rapid development in electrical engineering, a fact which is brought out both by the German calculation of the general production of the industry and by the higher consumption of copper. The consumption of aluminium has more than doubled,

and the falling off in the demand for wrought iron must be attributed in part to the fact that aluminium has so largely been substituted for it in the manufacture of hollow-ware. But the electro-technical industry and aluminium alone cannot counterbalance the drop in shipbuilding, mechanical engineering, pig iron production, and the serious drop in the manufacture of coal-tar dyes. How is it, then, that the power employed in industry is not lower than it is?

It so happens that the particular industries for which more or less complete quantitative information is available are amongst those in which the recovery has been slowest. The heavy metal industries and all those producing goods not intended for immediate consumption have been adversely affected by the contraction of savings in Europe. There has been a shift in manufacture towards the production of consumption goods. Thus the output of pulp has increased by over a quarter, and there has been a rapid expansion of the motor-car, the rubber, the footwear, the tobacco, the confectionery, and the perfumery industries, to quote only a few examples. In addition to this, the development of motor transport has diverted capital to some extent from the construction and expansion of railways, which rely on the heavy metal industries, to the improvement of roads.

With less capital available, less has been exported and the opening up of new countries with the aid of European industries has slowed down.

The cause of the lack of development in the European textile industry as a whole is, of course, different. That industry has been largely affected by the growth of competitive undertakings in India, Japan, China, Australia, and South America. But it is probable that the average

value for most of the goods produced, even after making allowances for changes in the general purchasing power of gold, is somewhat greater than it used to be.

If it be exact that the production of the heavy metal industry is not more than 5 per cent. lower than in 1913, that the output of the textile industry as a whole is at about the pre-war standard, that the consumption of coal and lignite, despite economy in use and the development of hydro-electric power and the popularisation of the internal combustion engine, is only about 6 per cent. down (or 3 per cent. if Russia be excluded), that the electrical engineering, motor-car, rubber, paper and other industries have very considerably expanded, it seems probable that the total industrial output of Europe cannot be widely different from what it was before the War, though it may be lower than it was in the boom year 1913.

But before attempting to draw any definite conclusion from this evidence, it is desirable to consider the last of the four methods of approaching the subject mentioned above. Have the prices of manufactured goods in Europe risen more or less than those of raw materials and foodstuffs? No really satisfactory measure of the prices of manufactured articles exists, and the compilation of an index of this sort presents very special difficulties on account of the fact that the character and quality of finished products are, as we have seen, undergoing continual changes. This being so, it is best to collect together evidence from a number of independent sources, so as to avoid the probability of a constant bias in one direction.

First, it is possible to calculate a general price index for raw materials and foodstuffs from the data collected

for the preparation of the *Memorandum on Production and Trade* mentioned above. The average for the year 1924 was 45 per cent. higher than in 1913. In 1925 prices of foodstuffs and raw materials rose somewhat. Unfortunately, no exactly similar calculation for that year has been made. But, by employing rough data available from an inquiry into the level of tariffs, I obtain a European index for 1925 for foodstuffs and raw materials of about 148 and for semi-manufactured and manufactured goods of about 164. These results are based on export prices in dollars of different lists of commodities as obtained from the official trade returns. The working data are open to criticism both on account of changes in the character and quality of the goods and on account of the fact that the pre-war prices were in a number of cases official valuations. These two facts may have worked in opposite directions to some extent ; but it is probable, nevertheless, that the index for manufactured goods is somewhat too high, at any rate, as compared with the other, as the quality of manufactured products has changed more than has that of the materials from which they are made. The raw materials and foodstuffs index obtained by this method is in good agreement with that for 1924 derived from the other data, and may be accepted as being of about the right order of magnitude.

This first result may be checked by what is perhaps a still rougher test. The imports of the United Kingdom, Germany, and Switzerland are mainly raw materials and foodstuffs and the exports of these countries mainly manufactured articles. If the average price of imports is to-day, compared with 1913, relatively higher than that of exports, there is an *a priori* ground for believing,

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though no absolute proof, that these countries are selling their manufactured goods at relatively higher prices than they are paying for their supplies from abroad. For 1925 the indices were :

		Import	Export
United Kingdom	.. ..	155	184
Germany	.. ..	137	133
Switzerland	.. ..	154	162

Here the evidence is contradictory, the German exports being extraordinarily low-priced. But this was during the period of Germany's stabilisation crisis, when every effort was being made to maintain the export trade. Actually, according to the *Frankfurter Zeitung* domestic price index, which shows a special group of finished manufactured products, they averaged slightly and, according to the new official index, considerably higher than raw materials, etc. Further, in 1926, the German import index lay about 6 per cent. below the export. The presumption that the British and Swiss trade indices are more typical than the German of conditions—at any rate, in countries with stable currencies—is confirmed by the fact that the import indices of the Argentine and India, consumers of manufactured goods, rank very much higher than their export indices.

For Sweden group indices of domestic prices useful in this connection have also been calculated. At the end of 1925 the raw materials group index stood at 148, semi-manufactured products at 154, and finished products at 161. These figures are in remarkably close agreement with those I have just quoted, derived from the tariff inquiry, which cover, of course, a much wider area.

All the converging lines of evidence which have been

traced point to the fact that Europe is actually obtaining rather a greater quantity of raw materials and foodstuffs for a given quantity of manufactured goods. But it would, in my opinion, be most unsafe to argue that the change which has taken place since 1913 in the relative value of what she buys and what she sells amounts to as much as 10 per cent., though the indices quoted seem to point to some such figure (*i.e.*, 148 : 162 \pm). It so happens that the most extensive and reliable information is available for countries such as England, Germany, Sweden, and Switzerland, with high general price levels and, by the middle of 1925, effective gold currencies. I have, it is true, taken France, Belgium, and Italy also into consideration, but my figures do not cover by any means the whole of Europe, and it may well be that if they did the manufactured products index would be lowered.

My personal conclusion, therefore, is that in Europe, even if Russia is excluded, industrial production is not quite up to the maximum pre-war standard, but that it is not below the average of the last pre-war quinquennium. This view is, of course, nothing more than a personal impression derived partly from the particular facts which have been considered above and partly from all those indirect scraps of evidence which, passing half observed before one's vision in the course of one's daily work, inevitably largely determine the opinions finally reached on any subject.

Secondly, I think it possible that the real value of industrial production in Europe to-day is greater than might be presumed from a study simply of the quantities of raw materials used. The prices of manufactured products are higher than those of raw materials and food-

stuffs, not simply because there has been a change in relative supply, but because the quality or the type of the goods manufactured has changed.

But at the end of 1925 there were over two and a half million unemployed in England, Germany, Austria, Italy, and Poland, and at the end of 1926 there were more. These unemployed are mainly industrial workers. They constitute part of the cost of industrial production. At a lower scale of wages a very large proportion of them, at any rate, would be reabsorbed into industry. The price of industrial products would then fall and that of raw materials rise. A high index of prices for manufactured products is not incompatible with relatively low output. Output is limited in part because the supply of one of the essential factors of production, labour, is largely controlled.

Output may likewise be controlled directly when not labour, but the conduct of industry, is effectively monopolised. In such a case unemployment is caused, not by the effort of the worker to maintain rates of wages, but by the effort of the employer to maintain prices. In fact, both causes have operated in Europe in recent years.

If it is true that European production as a whole apart from Russia was about up to the standard of the last five years before the war, some explanation of the general feeling that conditions are definitely unsatisfactory is required.

In the first place, as we have seen, the population has grown, and if the production of wealth has not increased the production per head has diminished. But not only has the population grown, but its average age is higher. The number of persons of working age has increased

more rapidly than the total population, and, what is equally important, the number of what are sometimes called consumption units has also increased more. A fully grown person requires more than a child.

In the second place, such depression as still exists is of course very unevenly spread over the different countries of Europe.

Thirdly, certain industries, as we have seen, have not recovered their old markets. This inability to sell in a world which as a whole is undoubtedly richer is due to the facts that some of the industries which have developed in economically younger countries are directly competitive with European undertakings, and that new industries have grown up during and since the war in older countries, so that there exists to-day a superabundance of plant. Surplus productive capacity, whatever its cause, is in fact one of the most serious features of the present-day economic situation of Europe. Europe is suffering, therefore, at once from lack of fresh capital and an excess of fixed capital in certain industries. Excess productive capacity may be due, of course, either to an absolute contraction of demand or to an increase of equipment beyond the requirements of a demand which has only failed to grow equally rapidly.

The consumption of steel in Europe has not fallen off, though that of wrought and cast iron has. But during the war the capacity of steelworks and rolling mills was very rapidly increased—in the United Kingdom by at least 50 per cent., and the present equipment is excessive. The difficulty of obtaining coal during the war and the excessive prices charged in certain post-war years induced Sweden, Norway, Italy, and other countries

to develop hydro-electric power, Germany to substitute lignite for coal in several industries, and most countries, where there was room for it, to effect permanent economies in domestic use. In consequence of these measures, and partly too of the development of the internal combustion engine, Europe's consumption of coal has dropped. But the production of all the importing countries which have mines, save Russia, has increased.

The world's shipbuilding capacity before the war has been roughly estimated at about 5,000,000 tons per annum. To this were added some 500,000 tons in both the United Kingdom and Japan and 3,750,000 in the United States. In Italy and other countries there has been a similar development on a smaller scale. Not the whole of these docks are utilisable for shipbuilding to-day. But the liquidation of surplus equipment is a long and painful process which demands both imagination and courage.

Large undertakings for the manufacture of aniline dyes were established during the war in the United States, the United Kingdom, France, Italy, and Japan. But the world demand has not increased, and Germany used to supply four-fifths of the world's requirements.

The cotton industry affords the best example of new industries in Europe's former markets rendering European plant superabundant. Japan and the United States between them are consuming nearly 2,000,000 bales more raw cotton than in the last year before the war and Europe nearly 2,000,000 bales less. In 1913 China imported over 160,000 metric tons of cotton yarn and in 1924 only 25,000 tons. Her demand and that of

India for cotton piece goods have fallen off to the extent of 186,000 tons, while Japan's exports have risen by 100,000 tons and British exports have fallen off by over 200,000 tons. The Far East is meeting, and more than meeting, its own requirements in manufactured cotton goods. South America is relying to an increasing extent upon petroleum obtained from one part or another of the American continent. India is supplying a larger proportion of her requirements of heavy metal products and exporting more to Japan. Australia is spinning and weaving and knitting more of her own wool and buying less manufactured products from Europe.

But these new industries are not wholly competitive. The growing wealth of the Far East and Oceania, South Africa, and other parts of the world is ultimately the most favourable omen for the future of Europe. As these countries grow richer their capacity to buy is increased. Though Japan has developed her production of steel, her imports of iron and steel products have increased; she and India and Australia are buying greater quantities of machinery and electrical equipment.

A further cause of excessive plant has operated in certain countries, more especially in Germany. Under violent inflation the domestic demand for every type of commodity is enormously increased because every individual prefers goods to money which rapidly and automatically loses its value. The normal balance of demand is thus upset. In addition to this, firms are compelled to convert their funds and accumulating profits as rapidly as possible into goods or buildings, and there is a strong incentive to extend existing plant.

Once the currency has been stabilised, a large amount of this new plant is found to be quite superfluous to the normal needs of the population.

Finally, in more recent years economic nationalism has played its part. European States whose economic equilibrium was upset by new frontiers dividing industries from their sources of raw materials or their markets have tried to find employment for workers formerly engaged in industries which have been ruined by building up new industries behind high tariff walls. From the war a wholly natural belief was inherited that success in war depended largely on the degree of industrialisation achieved.

But the excess of plant constitutes only one of the many difficulties with which European production is and has been faced. While Europe's production does not appear to have been much short of the pre-war standard, her trade in 1925 was about 9 per cent. lower than in 1913 and her exports were 14 per cent. lower. These facts alone indicate where the main troubles lie.

It is estimated that in the year 1925 the quantum of world trade—that is to say, its value after eliminating price changes—was about 8 per cent. greater than in 1913.

In trade, as in production, there has been a shift of the centre of gravity from Europe and the Atlantic to America, Asia and Oceania, and the Pacific Ocean. The trade of North America and Asia has grown by well over a third, that of Oceania by nearly a third, that of Central America, including Mexico, by between a third and a quarter. But European trade in 1925 was short of the pre-war level by about 9 per cent., or, if Russia be

excluded, by 5 per cent., and that of the Eastern and Central European countries has shrunk to three-quarters of the 1913 amount, although the number of trading countries in this part of the world has doubled.

These figures make it clear that the world's commerce has not increased at all in proportion to the world's wealth. We saw before that the world index of raw material and foodstuffs production in 1925 was about 118, 10 points higher than the trade index, and further that, whatever the truth about Europe may be, in the United States of America, Oceania, South Africa, and Canada industrial production is undoubtedly well in advance of raw material production. There are, it is true, a certain number of exceptions to the general rule that a smaller percentage of the goods produced are entering international trade. It does not apply to countries largely dependent on the export of a single commodity when the demand for that commodity has greatly increased. But, despite these exceptions, the rule holds good, and it is in the poorer parts of the world and the poorer parts of Europe that the phenomenon is most striking.

Within Europe, however, there has been recently a change in the distribution of economic activity which is in some respects reassuring. A rapid improvement has taken place in the last two and a half years in the general economic conditions of the Central and Eastern territories. An exceptionally good harvest in 1925 helped to raise the standard of production in that year. But the progress achieved was by no means confined to agricultural products.

The well-being of all countries of Europe is essentially dependent on a restoration of the equilibrium of production, and the point which I want to emphasise is worth illustrating.

	Production of raw materials and foodstuffs.		Production of raw materials and Colonial Produce.		Trade.	
	1924.	1925.	1924.	1925.	1924.	1925.
			(1913 = 100)			
Eastern and Central Europe—						
Excluding Russia ..	85	97	88	99	71	85
Including Russia ..	83	100	80	93	62	75
Rest of Europe ..	103	109	108	109	97	101
Europe	91	103	94	102	89	91

Though this gradual recovery in Central and Eastern Europe is reassuring, the fact that seven or eight years after the restoration of peace the trade of Europe should still be appreciably less than in 1913 is disconcerting.

But the student of world economic conditions, after studying all this evidence concerning the comparative prosperity of the several continents, may easily commit the error of holding too pessimistic a view of the present European situation. It is indeed dangerous to study the facts of to-day without their historical background. Europe was left at the end of 1918 with an industrial equipment partly war-worn, partly demolished, with a population of which the most industrially competent were economically demolished, with undecided frontiers and indeterminate ideals. The Treaties of Peace cut large parts of the economic fabric of the continent into morsels. Industrial centres were divided from their sources of raw materials and their markets, and former trade routes were hastily barricaded by tariffs and prohibitions. A new economic mechanism has

gradually been built up ; but the machine has hardly yet had time to start running.

To losses incurred during the war and the difficulties of reconstruction and readaptation were added a host of new evils resulting from post-war financial pusillanimity. In 1920 the budget of only one European State, namely, the United Kingdom, was balanced ; no single European currency, save that of Albania, was on a gold basis ; and Albania had no ambitions as a teacher of currency theory. The European exchanges for seven years danced and jumped with spasmodic and tireless energy. Europe has been passing through what is vaguely dubbed a period of monetary instability. That instability has not only rendered the transaction of business from day to day extraordinarily difficult and risky, but has for years excluded the possibility of laying down any elaborate economic programme for the future. The word ' unstable ' is indeed inadequate as an epithet. Values have been mobile and agitated like a choppy sea ; for the changes in relative purchasing power which have taken place have been due to distinguishable and individual, if not wholly independent, causes. Each country has had its period and rates of inflation, and those periods and rates have not coincided. At certain stages of inflation the paper exchanges of this or that country, because they are scarcely subject to direct control and are largely determined by foreign market conditions, have outrun the domestic price movement. When as a result domestic prices became lower than prices abroad, the country in question obtained a temporary premium on export, its industries were stimulated, and competitors elsewhere suffered. In all inflationary countries the curve of the discrepancy between internal and external purchas-

ing power upon which the export premium depends has oscillated above and below zero and rendered business calculations a question of speculative guess-work.

Cutting across these individual fluctuations of the prices and exchanges of separate States was the more general movement which reached its summit in the summer of 1920 and descended thence with the deflationary policy adopted in the United States of America to touch its nadir in 1921.

Since 1922, when Sweden stabilised her krona,¹ one country after another has returned to a gold standard—some, like the United Kingdom, by a policy of painful and protracted deflation, some, like Germany and Austria, after suffering all the ruinous uncertainties of hyperinflation, by devalorisation, and others again, like Denmark, by violent and uncontrolled deflation. Whether deflation be gradual or brief and violent, its broad effects are the same. Business with falling prices contracts, confidence in the possibility of making profits is undermined, money wages have to be forced down, and to the natural shrinkage of production resulting from a slackening of demand is added the loss from labour disputes. More especially when the deflation is rapid and is caused by exchange speculation *à la hausse*, as it was in Denmark and Norway, the internal price level is liable to be left above the world level and the quantum of exports shrinks. Stabilisation and devalorisation, as the experience of Germany and Poland has shown, likewise involve a stoppage of business, though recovery may be more rapid than under deflation.

Meanwhile, during this whole period, and still in a few countries, over and across the bigger waves of these

¹ *De facto*; *de jure* in 1924.

changes in national and international values have passed the ripples of the day-to-day irregularities of paper exchanges.

The conduct of business in Europe under these conditions has been extraordinarily difficult. As we have seen, the relative strength of the demand for different commodities in inflationary countries was rendered abnormal; international market connections were broken by the constant changes in relative costs resulting from purely monetary causes; accurate estimates of the costs of production became impossible; the organisation of business suffered owing to the waste of time on almost insoluble problems of accountancy; savings dried up and were diverted either to useless ends or from the very countries in which they were least to those in which the conditions for saving were most favourable.

Since 1918 there has been no year in which the economic revival of Europe has not been checked by some event or series of events which has dammed back the deeper flowing currents of economic progress—the slump in trade in 1920 and 1921, which spread east from the United States and Japan; the uncontrolled inflation in Germany, Austria, and Poland in 1922; the occupation of the Ruhr in 1923; the stabilisation crises of 1924 in Germany and Poland; the slump of the French and Belgian currencies in 1925, which almost synchronised with the deflation difficulties in the United Kingdom, Switzerland and elsewhere; the British coal dispute in 1926.

But the situation to-day is incomparably more favourable than it has been at any moment during the last thirteen years. There are now only nine countries in Europe which have not introduced legislation for the effective stabilisation of their currencies, and of these nine only

France and Italy are of sufficient industrial importance to constitute a serious danger to general European equilibrium, were their currencies to depreciate again. The threat of renewed inflation in any of these nine countries with one possible exception is not grave. The budgets in five of these States are in equilibrium, and in the whole of Europe to-day only six countries are suffering from budget deficits. Although in Eastern Europe interest rates are still extremely high, in Central Europe, as a result largely of the influx of foreign capital, the price of capital no longer constitutes one of the major obstructions to industrial recovery.

But perhaps the most reassuring fact concerning the economic situation of Europe, and indeed the world, to-day is that, if a reasonably optimistic view of the chances of permanent stabilisation in France and Italy be adopted, we have good grounds for believing that the problems which business has to face are known. Up to at any rate the end of 1925 it was impossible to foresee what the immediate predominant factor in the economic situation would prove to be, and it was accordingly impossible to seek solutions. Now, if the will to act is forthcoming, the difficulties should not prove insoluble. What, then, are the problems of to-day? What are the factors which still check economic progress? They are no longer the lack of raw materials, as in 1919 or 1920—raw material prices are low; nor the destruction of fixed capital—factory and mining equipment has been restored; nor a critical phase in a commercial cycle as in 1920-1; nor the continuous dislocation of demand through inflation, though we may expect the demand for capital goods to grow stronger. Too often we hear the word 'crisis' employed; there is no general crisis.

There is a surplus of plant, as we have seen in certain industries. England is particularly affected by the new plant in some of her former markets—in China, India, and Japan. In this connection Europe is faced by the particular danger of cheaper labour in those parts of the world on which she relies for her raw materials under-selling her in the markets in which that labour is employed and thus affecting the value of her fixed capital. This danger is enhanced by higher tariffs imposed with the special object of protecting the new industries in these countries. It is rendered the more acute by the increase in the number of customs barriers and export duties in Europe itself.

Certain of the major industries in Europe, and more especially in England, were dependent to an important extent upon the supplies of capital for export. They sold goods required for the opening up and development of new countries, and these countries themselves borrowed the money with which to pay for them in London and other European money markets. The contraction in the supply of capital has thus adversely affected both production and trade.

But in addition to these special causes, which have their roots in the conditions resulting from the war and will tend automatically to lose power, there are a number which will continue to influence economic development in the future unless action is taken to control them. They may almost all be classed under one of two general headings—lack of freedom and insecurity.

Economic theory is still based largely on the assumption that the movement of labour, of 'free capital,' of goods and of prices is unimpeded. But ever since the middle of the nineteenth century this freedom of move-

ment has tended to become more and more subjected to control either by labour and capitalist organisations or by Governments. Rates of wages, and therefore the numbers of persons employed, can be and are affected by collective bargaining by labour organisations, the relative prices of goods, and therefore the quantity produced and sold by combinations among producers—the rates of interest and hence the volume of savings by bankers' rings. This tendency towards control and concerted action has grown in force since the war, and it is essential that its importance should be recognised. I am concerned here mainly with such of these obstructions as have an international character.

Since international movement is always and necessarily more restrained than movement within a single country, the establishment of New States in Europe has automatically reduced the freedom of economic intercourse. But it is further probably true that in all fields of activity the control imposed by Governments on economic freedom is more stringent than it was at the beginning of the twentieth century. The movement of persons has been restricted by new immigration laws, by passport control, by excessive charges for passport visa, by laws restricting the freedom of foreigners to establish business or pursue their professions in foreign countries. The net immigration into the United States of America in the four years ending June, 1913, exceeded 600,000 persons per annum, of whom the majority came from Europe. The total immigrant quota is now fixed at 165,000. As the American melting-pot is thus to be allowed to simmer without the addition of more metal, surplus European population will have to find other camping grounds.

The movement of goods is impeded more seriously than it used to be because the number of customs frontiers has increased, because tariffs are on the whole higher, because trade is directly controlled by Governments either by a monopoly of trading rights, as in Russia, or by prohibitions on imports and exports, and finally because important changes have been introduced in the manner in which new tariffs are drawn up and enforced and commercial treaties negotiated.

It is by no means easy to measure the extent to which tariffs have on the average been raised or lowered. The tariff of any country consists generally of a very large number of distinct taxes on a long series of commodities, and, if an average of these rates be struck, it may be found in certain cases to have only a very restricted significance. An attempt to calculate tariff indices for a considerable number of countries has, however, recently been made,¹ and although the results should not be treated as more than generally indicative of recent tendencies and must certainly not be accepted as mathematical verities, a good deal can be learnt from them.

Two distinct methods of calculation have been employed. The first shows the averages of the various conventional and of the general schedules separately and the second the joint average of all the rates enforced. In addition, special indices have been computed according to the second method for manufactured articles only. The more important results are reproduced on page 38.

While it would be foolish to attach too much importance to a single figure, certain conclusions may be drawn

¹ *Tariff Level Indices*: League of Nations, Geneva, 1927. (Messrs. Constable & Co., London.)

with a reasonable degree of confidence from the general directions of the changes which are shown to have taken place since 1913.

INDICES OF TARIFF LEVELS¹ (average of duties).

	METHOD A. All Commodities.		METHOD B. All Commodities.		METHOD B. Manufactured Articles only.	
	1913.	1925.	1913.	1925.	1913.	1925.
Argentina ..	—	—	26	26	28	29
Australia ..	12-13	14-24				
Austria ..	18-22	13-15	18	12	18	16
Belgium ..	6	7-23	6	8	9	15
Canada ..	12-19	12-19	18	16	26	23
Czechoslovakia ..	18-22	17-24	18	19	18	27
Denmark ..	—	—	9	6	14	10
France ..	14-21	9-31	18	12	20	21
Germany ² ..	12-16	15-16	12	12	13	20
Hungary ³ ..	18-22	19-22	18	23	18	27
India ..	—	—	4	14	4	16
Italy ..	—	16-18	17	17	18	22
Poland ..	—	24-28	—	23	—	32
Spain ..	23-30	28-81	33	44	41	41
Sweden ..	—	—	16	13	20	16
Switzerland ..	—	—	7	11	9	14
Ugoslavia ..	—	20-30	—	23	—	23
U.S.A. ..	—	—	66 ⁴	29	44 ⁴	37

¹ The reader should be warned against the danger of a false interpretation of these figures. Owing to the character of the data on which they are based they are necessarily of only approximate accuracy and represent a measurement of tariff levels dependent on a somewhat special conception and definition of that term. The absolute size of the indices has little significance. Attention should be paid only to their ratios, and these ratios should be accepted only as illustrative of general tendencies. For a detailed discussion of the principles and problems involved the reader is referred to the Memorandum from which the figures are extracted, and to the paper on Tariff Level Indices at the end of this book.

² In October 1925 a new tariff was introduced which raised the duties. The indices here given are an average of the old and new rates, and are lower than those which might be calculated from the rates in force to-day.

³ Since 1925 average rates have been slightly reduced as a result of new conventions.

⁴ The 1913 Tariff. The 1914 Tariff was very much lower.

In Central Europe, where the number of barriers was increased by the Treaties of Peace, the general level of tariffs is higher than before the war and higher than in most of the rest of Europe. In Scandinavia rates have been reduced. In Spain they have been raised and remain, as they were in 1913, amongst the highest, if not the highest, in the world. In France they were lower in 1925 than in 1913, but are now considerably higher than is shown in the table opposite.

Most of these facts are of course well known. The extent to which the duties on manufactured products have run away from the average of all duties is, however, not perhaps so generally recognised. This is due not simply to the facts that raw materials are generally admitted free and average rates have risen, but to a change in agricultural policy. Agricultural products to-day are as a rule—Spain is an exception—admitted for import at rates of duty which have been increased appreciably less than those which have to be paid on manufactured articles. The new duties have, therefore, raised prices and the cost of living in a manner detrimental to agricultural interests. Special studies which have been made in a number of countries into agricultural prices and costs seem likewise to point to the conclusion that the agriculturist is obtaining less remuneration for his labour than formerly. The new duties constitute, therefore, not only an obstruction to trade, but an impediment to the production of certain raw materials and foodstuffs.

I have omitted the United Kingdom and the Netherlands from the table for technical reasons. In both countries the average rates of duty are higher than before the war—though still lower than in any of the

others. They are higher, however, for quite different causes : in the United Kingdom because a few highly protective duties have been imposed, in the Netherlands because the small administrative duty has been raised from 5 to 8 per cent.

Outside Europe Parliaments have been no less busy with erecting tariff walls, not, it is true, on the American continent except in the United States, but in Australia, in India, and in Japan and elsewhere. The newer industrial nations build these walls to foster their young industries, and the older nations build them to protect the fixed capital invested in existing industries.

In addition to tariffs being in most countries generally higher than they were before the war, recent changes in commercial policy have also tended to reduce the business man's freedom of action and power to forecast the probable course of events. Immediately after the Armistice the general feeling of insecurity, the price chaos, the idea engendered by poverty that each nation should conserve such riches as it possessed, the blind groping after some means for employing demobilised armies, the ultra-nationalistic aspirations of the very young, the animosities which the war bequeathed, all combined to induce States to insulate themselves and to prohibit all imports and exports save by special permit. The policy of general prohibition and specific free lists gradually gave way to one of general freedom and specific prohibition lists, and that second expedient in its turn to the system of contingents. As economic conditions gradually improved and the fear of a shortage of raw materials disappeared, contingents were abandoned in favour of the more normal and indirect control of trade through custom duties. But so long as currencies

were unstable these duties were subject to continual modification, with the object either of checking imports when the exchange of the country in question depreciated, in the hope that by so doing the balance of trade might be righted and the value of the domestic currency upheld, or of preventing what is called 'exchange dumping.' With the economic fallacies on which much of this policy was based I am not concerned here, though they were largely responsible for the slow economic recovery of Europe; but it is important both to appreciate the progress in ideas which has been achieved since 1919 and the extent to which Government commercial practice to-day still remains more restrictive than it was in the opening years of the present century. Export prohibitions have been greatly reduced in number, but they are far from being wholly abolished. The German-Polish commercial war is still being waged and reciprocal and specific prohibition lists are still in force. In many cases for direct prohibition were substituted export or import duties which were so high as to be prohibitive in fact. The majority of the prohibitive export duties have been done away with, but the number of duties imposed on goods sold abroad is still much greater than before the war. There are, first, the historic export duties, which are preserved apparently as possessing archæological interest, like the almost universal duty on bones; secondly, those which have been imposed on raw materials with the special object of benefiting the connected industries of those countries in which the raw materials are found or grown; thirdly, those, as in Roumania, which were intended to keep down the general level of domestic prices and the cost of living; and finally, revenue duties.

Export prohibitions and export duties, however, may as a general rule be looked upon to-day as the slowly decaying residue of a policy which is generally abandoned. More important than export duties are certain characteristics of the last phase of European commercial policy.

The practice of binding tariff rates by commercial treaties for a decade at a time, which was common before the war, has given way to a system of conventions which are subject to cancellation on six months' or a year's notice. Of the 180 odd commercial treaties published in the *Board of Trade Journal* between January, 1920, and August, 1926, all excepting twenty-seven can be altered before the expiration of one year,¹ a period quite inadequate to permit of trade adjustments being made. Further, in contrast with the old system of enforcing new tariff rates after the conclusion of special conventions, the habit to-day is to enforce at once what is known as a fighting tariff for bargaining purposes and reduce the rates little by little subsequently by means of a series of independent negotiations. The result is that, until the new conventions are signed, rates much higher than was ever intended should ultimately be applied are in force, and trade is hampered. Further, although the conventions, once concluded, can be terminated at brief notice, their negotiation, sometimes owing to national jealousies and disputes which have little connection with economic interests, is frequently painfully slow, and during the period of discussion new vested interests grow up behind what were intended to be temporary barricades, and those barricades are converted into a permanent rampart.

¹ See *Methods of Economic Rapprochement*: Professor Grossmann, Geneva, 1927. (Messrs. Constable & Co., London.)

Tariffs, moreover, are not only higher—they are infinitely more complex than they were at the end of the last century. This is due largely to the gradual abandonment of *ad valorem* duties. When duties are imposed on the weight of the goods traded in, as they are in most European countries to-day, those goods must be classified in great detail, for otherwise the cheaper and coarser qualities would be disproportionately taxed. These new tariffs have grown up independently of each other, the systems of classification differ from country to country, and, since production is largely influenced by tariffs, costs are increased by the existing lack of uniformity and the constant changes which are introduced. Commercial opinion is, however, generally distinctly in favour of specific tariffs, and the solution of these difficulties is sought, not in a return to *ad valorem* duties, but in some international agreement concerning tariff classification, and the prolongation of the periods during which rates are enforced. I am, however, not concerned here with the solutions proposed, but only with the character of the present obstructions to trade and with the causes which have tended to restrict the international exchange of goods.

Though much still remains to be done if trade is to be revived, the progress which has been achieved in the last few years towards commercial sanity is much greater than many writers—especially in England—are willing to admit. The situation to-day is similar in certain respects to the conditions which obtained during the four years 1902-6 when new conventions were being negotiated and gradually enforced, though the present negotiations do not promise to produce the same degree either of freedom or of security as was reached by 1906.

The initial rates of duty and the conventional rates are generally higher, less scope is allowed to the most-favoured-nation clause, and the currency of the conventions signed is briefer and too brief. But, for all that, there is a steady improvement year by year. There are even a few brightly-lit breaks in the clouds. Estonia and Latvia, for instance, have quite recently signed a treaty intended to bring about a complete customs union between the two countries. They propose to effect a unification of legislation concerning customs and excise duties, monopolies and labour, to render transport tariffs uniform, to co-ordinate the discount and monetary policies of their central banks.

Deliberate restrictions on the free flow of capital are to-day far rarer than hindrances to the movements of persons and goods. Most inflationary countries have at one time or another endeavoured to stop the export of capital—and failed. But as currencies became stabilised these restrictions were abolished, and few countries—Roumania was an interesting exception for a time—have objected to the import of capital. The accumulation of capital has been checked by inflation, and after stabilisation in certain cases by Government action—in Poland, for instance, by Governmental interference with the market rate of interest and in Austria by special taxes on monetary transactions—the distribution of capital has left much to be desired in countries where the money market was disorganised; but there can be but little doubt that, if during the last three years the movement of goods had been as untrammelled as that of capital, Europe would be more prosperous to-day than she is.

All these factors which we have been considering—

the excess of plant, the acuter overseas competition, the new territorial divisions in Europe, the legal restrictions on free intercourse—have stimulated the pre-war tendency towards national and international industrial combinations, and these combinations in their turn have in certain cases further restricted the production of goods and limited markets. In the face of the difficulties which exist, concerted action is not only inevitable but indispensable. But when industrial agreements are confined to an allocation of markets or rationing of production, though they may steady prices and protect the weaker producers until more favourable conditions arise, they may equally well extend unnecessarily the life of the unfit, victimise the consumer, and maintain prices at a level which is opposed to the wider economic interests of the countries concerned. In many cases, however, their object is more general or wholly different and is directed towards the exchange of information, the technical development of the industry and the promotion of its general interests, whether in connection with the provision of raw material or the modification of economic legislation.

If Europe is to compete successfully with the younger industrial nations of the world she must produce cheaply—she must produce scientifically; and, as the British inquiry into industrial conditions in America has just shown, that scientific production ‘has undoubtedly been made easier by the power of the large combinations of industry.’ What on the continent of Europe is called ‘rationalisation’—the standardisation of raw materials and products, the simplification of processes, the scientific study of economic tendencies—necessarily demands the active co-operation of the leaders of industry, an exchange

of information and of ideas and a joint endeavour to solve the problems of production and sale. The tendency in business to-day is clearly towards such co-operation. It remains to be seen to what extent industrialists will by this means be able to overcome such hindrances to economical production as legal restrictions on the movement of persons or goods may involve, or to what extent economic conditions in Europe in the near future will prove sufficiently stable to render the elaboration and execution of a long-sighted policy possible. But the economic prosperity of Europe cannot be secured by private action alone. Collective Government action is required both in order to remove obstructions to economic freedom and to protect the consumer from the dangers which lurk in all forms of monopolistic control.

A RECORD OF PROGRESS, 1925-29¹

PRODUCTION OF RAW MATERIALS AND FOODSTUFFS.

IN the preceding article written in the early spring of 1927, it was remarked that "too often we hear the word 'crisis' employed; there is no general crisis." That article dealt with the situation in 1925 and the events which led up to it. The year 1925 marks almost the end of the period during which Europe was devoting her major efforts to construction or reconstruction. It was followed not by the crackling of a crisis, but by almost four years of extraordinarily rapid, if not uniform, progress and development. It is true that several of the major difficulties derived directly from the war and the first few years of economic agnosticism after the Armistice were still unsettled. The Italian lira was not legally stabilised until December, 1927, or the French franc until June, 1928. Only in 1929 was a solution of the reparations problem found; and even to-day the currencies of the Iberian Peninsula are on a paper basis. But after 1925 currency fluctuations and unsettled international debts ceased to dominate the situation. Real progress began to take the place of a painful struggle to regain a plateau of prosperity which had been lost, and, as one by one each nation established a new order at home, thought began to be gradually directed towards the possibility of concerted international planning and action.

¹ Written in July, 1930.

With the slow awakening of Europe to a sense of its own unity I do not propose to deal here. But the change which has taken place in the last four years is so great and the problems which that change involves are so important that it may be useful to endeavour to trace with rough lines the course of recent development. With the new problems which have arisen the next article is concerned. I propose to confine myself here to the simple record of a great achievement.

In order to maintain the sequence of thought I shall employ in large measure the same indices of economic activity as were employed above. But in recent years new sources of information have become available which must not be ignored.

The most important characteristic of this period has been the extraordinary increase in the production of wealth, an increase rendered possible by the reorganisation and re-equipment of industry, by the gradual correction of mistakes made when currencies were inflated, and by the steady percolation of capital into those areas where lack of capital had most seriously arrested progress. The pressure to reorganise was felt most by those countries whose economy had been most profoundly affected by the war—and as the necessary capital became available the task was undertaken and brought its own reward. The laggards in the race towards a new and better economic status have gained steadily on their leaders. All have advanced, but where the need was greatest the response has been most ready.

These tendencies—the changes of position on the course—may be depicted by the indices of the production of foodstuffs and raw materials which have already been utilised :

	All Products.			Raw materials and Colonial products.			Foodstuffs.		
	1925 as % of 1913	1928 as % of '23	1928 as % of '23	1925 as % of 1913	1928 as % of 1913	1928 as % of '25	1925 as % of 1913	1928 as % of '23	1928 as % of '23
Eastern and Cent. Europe excluding U.S.S.R. ..	97	111	114	99	124	123	97	106	109
Ditto including U.S.S.R. . .	100	112	112	93	118	127	102	109	107
Rest of Europe	109	116	106	109	126	116	109	107	98
Europe excluding U.S.S.R.	103	114	111	105	125	119	102	106	104
Europe including U.S.S.R.	103	113	110	102	122	120	104	109	105
N. America	127	137	108	137	147	107	117	127	109
S. America	130	155	119	132	181	137	129	139	108
Africa	143	153	107	170	180	106	124	134	108
Asia excl. Asiatic Russia..	127	136	107	171	194	113	109	112	103
Oceania	118	136	115	114	126	111	121	146	121
World	118	129	109	130	148	114	111	117	105

Each figure recalls its individual story—the uneasy awakening of the orient—the unrestrained fertility of the peoples of South America—the growing dependence of North America, where productivity has increased the most, on the raw materials of other continents—the past sufferings of Europe. But it is to the changed position since 1925 that I want to draw attention now. In Europe the East has gained over the West. Eastern Europe with Russia has advanced more rapidly than Eastern Europe without Russia,¹ the whole or the part of Eastern Europe more rapidly than the countries to the West and North, and Europe as a whole more rapidly than most of the rest of the world. Moreover, the real rate of European progress has been more rapid than even these figures suggest, for it so happened that the harvest of 1925 was unusually good. Between 1924 and 1928 the quantitative increase in the production of all the 66 commodities embraced by the general

¹ In raw material production.

index amounted to 20 per cent. ; and in the six-year period ending 1929 according to the provisional results available to about one-third or by nearly 5 per cent. per annum. In the whole of the rest of the area covered by the figures—that is almost the whole world apart from China and a few outlying regions of primitive culture—the rate of growth would appear to have been just over 2 per cent. per annum during these six years.

Such a development as that which took place in Europe in the last five years is of course exceptional, is rather recovery than normal growth. Indeed were it to continue our asylums might well be fuller than they are to-day. It is by no means easy to conceive the results which its duration would imply. If the production of wealth in all its forms—of all goods and all services—kept pace with these special forms of wealth, then even were population to increase at 1 per cent. per annum—and to-day it does not—within ten years the income we enjoy and share would be half as great again : in twenty years it would be more than doubled. We are all naturally inclined to imagine that we could double our own incomes with comfort and to doubt whether our neighbours—all our neighbours—could do the same, at least with comfort to ourselves. Perhaps both that confidence and that doubt are justified, for it is rather for society as a whole than for the single individual that the readjustments demanded by a sudden and considerable alteration of the national income involve almost insoluble problems. The individual can save and invest what he does not require to spend, but society must maintain an optimum balance between saving, investment and expenditure. If it fails to do so the growth of income will be arrested. It has been arrested. Society has failed to

make the required adjustments. In the last ten years discovery after discovery has been made in the science of production—whole new chapters have been written. But of the art of directing effort into the right channels we remain almost pathetically ignorant. The real problem of the future is not how to produce but what to produce.

As wealth per head increases, demand shifts, and behind that shifting demand manufacturers move lumberingly, too often refusing to contribute their share to the common knowledge of market conditions in the mediæval belief that in the ignorance of others lies their profit. But while for them adjustments are difficult to make, for the agriculturalist they may be impossible. The greatest change which has become apparent is the relative weakening in the demand for agricultural products, more especially for foodstuffs.

Since 1913 the production of foodstuffs¹ may have increased by one-fifth or more, and of raw materials and colonial products by certainly over 40 per cent.² The population of the world may be 10 per cent. greater than it was then, or, if China be excluded, perhaps somewhat more. Even concerning the growth of population, however, certitude is impossible; frequently the apparent increase in this country or in that reflects not so much fertility as better census administration or a change in the guesses which, when official, are called estimates. But it is at least clear that wealth per head of population is substantially greater than it was and that a richer world is spending its additional wealth, not on eating more, but on the multitude of needs which arise when hunger is satisfied.

¹ After allowing for eggs, dairy produce, etc., not included in the table given above.

² See note to page 49.

It is of course primarily to industry, therefore, that the more recent and dramatic development in Europe has been due. Between 1925 and 1928 her production of raw materials increased by nearly 20 per cent., and by 1929 by 30 per cent. In the longer period, although the harvest of 1929, like that of 1925, was unusually abundant, the output of foodstuffs did not rise by one-tenth.

For a number of reasons these rates of growth afford little or no criterion for framing an opinion concerning the probable course of events in the future. For important areas of the world the whole period of 15 years was a combination of retrogression and recovery, capped here and there at the end by a real advance; and the later years of that real recovery and advance coincided with the upward slope of a cycle of economic activity. The crest of that cycle has been passed and no measurement which covers part only of the whole can be employed to gauge the general trend of development. But the discrepancy between the growth of raw materials and of population is so great that no passing depression need shake our confidence in the reality of the growth in the wealth per head of the world's population. That growth has been mainly due to industry rather than agriculture and is likely to depend on industry in the future—the prosperity of the farmer will be determined not so much by the growth of wealth but of population and the demand of industry not for foodstuffs but for such raw materials as he can produce.

To no small degree Europe has lost her position as workshop of the world, but she is still to a very large extent dependent on raw materials from overseas and year by year the United States is becoming more depend-

ent. The evidence of industrial growth considered up to now is therefore for each separate continent only partial and indirect, and requires to be supplemented by such indirect measurement as can be made.

INDUSTRIAL PRODUCTION.

In the latter half of the nineteenth century and early years of the twentieth the output of pig iron was frequently taken as a rough index of industrial activity. In recent years it has become less suitable for this purpose. The development of the lighter industries has probably, except in the last year or two, been more rapid than that of the heavy industries; pig iron production tends to reflect rather capital expenditure than general activity and to-day more is spent and less is saved; moreover, larger quantities of steel are produced now from scrap iron than was customary in the past, so that the consumption of iron and steel exceeds the smelting of new ore. But starting with the figures of the production of pig iron and crude steel it is possible to gauge—not accurately but sufficiently closely for present purposes—the progress which has been made in the heavy metal industries.

I have shown already that in 1925 the world was producing slightly less pig iron and about 20 per cent. more steel than in 1913. Europe, where savings were scant and borrowed capital was dear, was producing about 20 per cent. less pig iron and 5 per cent. less steel than before the war. With currency stabilisation, savings began again and, with the reduction in risks and the substitution of speculation by business that that stabilisation brought about, the cost of foreign capital sank.

Private construction, equipment and re-equipment, as distinguished from the restoration of devastated areas or gutted plant with government aid, really began; in the four years ending 1929 Europe's production of pig iron rose by 38 per cent. and of crude steel by 42 per cent.—the world's by 28 and 30 per cent.

The figures for Europe reflect at once the general progress made and the growth of savings. They exaggerate both, for there was a swing over to capital outlay and part of that outlay was rendered possible not by domestic savings, but by borrowed capital. But notwithstanding this, the achievement was real and remarkable and to-day, with the growth of the motor industry, steel products are used to a greater extent for goods intended for direct use than was formerly the case. North America, it is true, manufactures nearly nine-tenths of the motor vehicles placed on the market, but in Europe output increased by almost 30 per cent. between 1925 and 1928. In North America a million more motor vehicles were produced in 1929 than in 1928 and a million more in 1928 than in the preceding year when the Ford Works were closed down for a time. During these same four years the tonnage of ships launched increased by about 27 per cent., and the value of the exports of machinery by the six most important trading countries, of which five are European, by 30 per cent. Information about the building industry is partial and scattered, but it is known that cement production in the majority of larger producing countries rose by between one-fifth and one-quarter. Details concerning electrical engineering with its multitude of minor products are likewise difficult to obtain. But the Reichsverband der deutschen Industrie has estimated

that the total value of production increased by about 14 per cent. in the two years ending 1927 and the value of the exports of the seven countries with the most highly developed industry were, according to the provisional information available, nearly 50 per cent. greater in 1929 than in 1925. The growth of production was certainly less than of trade, owing largely to the state of the German domestic market, but it is improbable that it was under 30 per cent. A fairly uniform and remarkably rapid development was thus experienced by all these major consumers of iron and steel.

In certain other branches of industry for which relatively complete information is available, a rate of development, if not so dramatic as that which has characterised those considered, still exceptionally rapid, would appear to have been maintained. Thus between 1925 and 1928 the production of wood pulp, of heavy chemicals, and of aluminium increased in each case by over 20 per cent., and in each case further progress was made in 1929. In others again, such as the manufacture of rubber-tyres, aircraft, telephones, gramophones, articles of sport, etc. for which only scattered returns are available, the rate of development would seem to have been still greater. We know that the production of crude rubber increased between 1925 and 1929 by nearly one-half and the consumption by some 90 per cent. The value of gramophone records exported from the United States and the United Kingdom more than doubled in these four years. The mileage of airways in operation in the United States exactly doubled in the two years ending 1928 and the air miles flown more than trebled. According to the estimates of the British Air Ministry the route

mileage in Europe including the whole of Soviet Russia and extra-European sections of routes emanating in Europe increased by about 140 per cent. and the miles flown by 100 per cent.

There was thus an unusually rapid development both of certain classes of industry manufacturing capital goods and also of industries producing those products on which income is spent to-day as income increases.

But this prosperity was not shared either by agriculturalists producing the absolute necessities nor by industries producing the decencies of life such as those weaving cotton or woollen goods. The demand for these articles was inelastic; it responded but slightly to the general advance in well-being. Thus the consumption of raw cotton by cotton mills was only 12 per cent. greater in 1928-9 than in 1924-5, and it remained practically unchanged during the last three years; the whole gain was made between 1925 and 1927. The consumption of wool rose by perhaps 13 per cent. in the same quinquennium; that of flax diminished, and of hemp, which falls rather within the category of utilities than decencies, likewise diminished. But the consumption of silk increased by over 20 per cent.; that of artificial silk more than doubled. These higher priced textiles, however, still only constitute a small fraction of the industry as a whole and the growth of the textile industry has been slight in comparison with those which have been considered—slight but still greater than the growth of population.

In one other major industry—apart from agriculture—progress has been slow. That industry is coalmining. The world was left after the war, as we have seen, with

an excessive productive capacity in some industries and a derelict equipment in others. Slowly and painfully the surplus has been scrapped and the lacking made good. The process is not yet completed. Some countries have acted more promptly and more thoroughly than others. Of the great industrial countries, England, with neither a devastated area nor a shattered currency to jostle the imagination, has been the most dilatory. Some industries have combined to oppose and end their troubles, and others have hoped that their troubles would end themselves. In the coal industry this hope has not been realised.

As was stated in the report issued by the Economic Committee of the League of Nations, "between 1886 and 1913 the world consumption of coal advanced at rather more than 4 per cent. per annum. . . . In 1928 it was only 4 per cent. greater than in 1913."¹ In 1925 it was slightly lower than in 1913, so that between that year and 1928 the increase was greater than 4 per cent. In 1929 there was a further improvement. But in no other industry of first-class importance has so little advance been made either in the last five or the last 16 years. This fact is not due primarily to any slackening in the demand for heat and power, but to the better conservation of heat and the discovery of cheaper and more efficient means of generating both. Since 1925 the production of crude petroleum has increased by 30 per cent.; the generation of electrical energy by public stations in the United States, and in Italy and Switzerland by between 40 and 50 per cent., and in Canada by nearly 75 per cent. In the United Kingdom where coal is cheap and water power scarce

¹ *The Problem of the Coal Industry*. Geneva, 1929, p. 6.

not only the production and export of coal, but also the consumption have dropped.

	M. TONS (000,000's).		
	<i>Production.</i>	<i>Exports.</i>	<i>Consumption.</i>
1913	292	100	192
1924	271	85	186
1925	247	72	175
1927	255	70	185
1928	241	72	169
1929	261	83	178

But between 1925 and 1929 the consumption of electrical power increased by some 15 per cent.

On England, with its relatively high costs and its lack of organisation, the brunt of the depression has fallen. World production, as has been seen, is not lower but slightly higher than it was either in 1913 or 1925.

The depression in this single industry represents no net world loss. It results from the application of more scientific methods to industry and hence more efficient and cheaper production. But when considering the general growth of wealth there must be set against the prosperity of electrical engineering, the production of petroleum, and the utilisation of water power, the small measure of growth in the output of coal. In the indices of raw material production discussed above the coal factor has of course not been omitted. In the five years ending 1929 the fuel index rose by 17 per cent. If power, not fuel, could be measured and electrical energy generated and water power used direct be added to the computation, that figure would no doubt be considerably raised. Just as there is a tendency to underrate the growth of industrial production in general, because there

has been a shift from the major branches of industry for which records are kept to other and younger branches for which they are not, so too there is a risk of under-rating the power employed to-day because that power is drawn less from one source, the activity of which is eagerly watched from month to month or from week to week. In the employment of both heat and power direct economies have been and continue to be effected. Industrial production owes its development during the last few years not primarily to an automatic increase in demand arising from the growth of population or to the additional man power thus rendered available, but to greater efficiency of production—to economies in the use of all the factors of production, rendered possible by the more efficient use of more efficient machinery.

In this general industrial progress all countries have not shared alike—but almost all have shared. There is, unfortunately, no means of measuring the extent to which each has improved its industrial organisation or renovated its plant. But the relative magnitude of the changes in the productivity of national industry is roughly indicated by the censuses and indices of industrial output now published. The methods adopted in the compilation of these figures vary from country to country and in some cases the range of activity covered is wider than in others. But allowance can be made for these facts and the conclusions to which the evidence points, checked by the more uniform statistics of international trade.

INDICES OF INDUSTRIAL PRODUCTION.

1925 = 100

Monthly or quarterly indices of industrial production.	1927	1928	1929
Europe.			
France	102	118	130
Germany	120	120	122
Poland	122	138	138
Sweden	108	104	127
United Kingdom. 1924 = 100	(107)	(106)	(112)
U.S.S.R.	172	208	
North America.			
U.S.A.—Monthly index of industrial production	102	107	113
Production of minerals	108	107	117
Total national income (fixed values)	109	112	—
Canada.—Monthly index of industrial production	125	138	154
Census of added value of industrial production: added value (fixed values)	125	—	—
Africa.			
Union of South Africa.—Factory production. 1924/5 = 100. Gross value in 1926/27	116	—	—
1924/5 = 100. Added value in 1926/7	113	—	—
Oceania.			
Australia.—Manufacturing Production 1924/5 = 100. Gross value in 1926/7 and 1927/8	107	109	—
1924/5 = 100. Added value in 1926/7 and 1927/8	110	114	—
New Zealand.—Factory Production 1921/5 = 100. Added fixed values in 1926/7 and 1927/8	116	116	—

From all the figures except those for Australia and South Africa the price factor has been eliminated. But in Australia the general level of prices was almost stable during the years to which her returns relate and in South Africa they declined by less than 5 per cent.

A large proportion of the countries, scattered in far distant parts of the world, recorded the same extra-

ordinary rate of development as did certain of the industries already considered.

Canada is still in that period of industrial infancy during which rapid development is natural. Russia has been making good her losses and, to a lesser extent, that is true no doubt also of certain of the other countries of Europe. But when the magnitude of European industry as a whole—even in 1925—is taken into consideration, it is impossible not to be impressed by the importance of the recovery and progress made.

AGRICULTURE

The richer a person or a nation is the smaller the proportion of his income expended on food tends to be. The fact that in the last five years when national incomes were rising with such unusual celerity the production of foodstuffs as a whole should have lagged behind that of raw materials for industrial use or the finished products of industry, is therefore in no way surprising. Since 1925, as has been seen, the index of foodstuffs rose by less than $5\frac{1}{2}$ per cent. and that of raw materials by 14 per cent. The real difference may, however, have been less than these figures suggest, as certain classes of expensive foodstuffs are excluded from the index. For within the group of foodstuffs there has been a further shift from the cheaper to the dearer products—from cereals to meat and butter and eggs, and, again, in for instance the United States of America, from meat to fruit. In consequence of these changes the proportion of total income earned by the land in certain temperate zones where foodstuffs rather than raw materials form the most important crops has diminished, and European agrarian countries have been

further adversely affected owing to their relative inability to employ the most modern mechanical inventions, which have enabled farmers in other continents engaged upon a different system of agriculture or growing different but competitive crops, such, for example, as sugar-cane, greatly to expand their production. The major factors which are determining the condition of agriculture have not undergone any striking alteration in the last five years; but some of them have become more powerful, some new ones have been added, and, owing largely to the chance of one exceptionally good harvest, the direction in which they are forcing and are likely to continue to force agricultural development in certain areas has become more apparent. They deserve rather fuller treatment than has been given them in preceding pages.

In the agricultural year 1928-9 the area under the five main cereals, wheat, rye, barley, oats and maize, was probably round about 25 million hectares¹ greater than in the last pre-war quinquennium and of this total increase wheat was responsible for some 15 millions. Concerning the exactitude of the figures for earlier years legitimate doubts may be held. The information relating to wheat is perhaps the most complete. But the aggregate increase in the area under wheat in only four countries amounted to nearly this total of 15 million hectares.

The expansion in Canada was	..	5.7 m. ha.
U.S.A.	..	4.3
The Argentine	..	1.5
Australia	..	2.7
		<hr/>
Total	..	14.2
		<hr/>

¹ One hectare = 2.47 acres.

In the rest of the world taken as a whole, therefore, the change has been negligible. But in European and Asiatic Russia there has been a drop of perhaps two million hectares, rather more than counter-balanced by an increase in India and the Korea, the French Colonies and other parts of Asia and Africa. In Europe west of the Russian frontier there has been little change.

That is the static position at the moment; but to understand the pressure to which wheat farmers have been subjected it is necessary to consider the dynamic. Since 1922 nearly two million hectares have been diverted from wheat cultivation in the United States, while in South America the area has increased by nearly $1\frac{1}{2}$ millions,¹ and in Europe west of Russia by over $2\frac{1}{2}$ millions. From the thrust and resistance of the competition by which this change has been effected the agriculturist has inevitably suffered.

But the course of events in those parts of the world where the difficulties have been greatest has been essentially dissimilar. The area under the five main cereals—wheat, rye, barley, oats and maize—in the United States to-day is some 10 million hectares wider than in the quinquennium ending 1913; in Europe (ignoring U.S.S.R.) probably 3-4 millions more restricted. But since 1922 the United States area has shrunk by $1\frac{1}{2}$ million hectares, and that of Europe increased by very much more than this amount. North Central Europe has been further affected by the partial abandonment of rye in which she could compete with relative ease in favour of wheat. But of the two grains together slightly less is being consumed to-day than before the

¹ *A.B.C., Peru and Uruguay. 1913/27.*

war ; somewhat more is being imported and less therefore is being grown.

EUROPE EXCL. U.S.S.R. PRODUCTION AND IMPORTS OF
CEREALS QUINTALS (000,000's).

	Wheat and Rye.		Wheat, Rye, Barley & Maize.	
	1909-13	1925-28	1909-13	1925-28
Production ..	621	576	.. 927	863
Imports ¹ ..	126	167	.. 214	254
Total ..	747	744	.. 1,141	1,117

The total change in production has not been great—less than 10 per cent. But on too large a proportion of the corn grown has little or no profit been earned—and in the majority of European countries agriculture occupies a larger proportion of the population than industry. The agriculturalist has been forced by these circumstances and induced by the change in demand to alter the character of his activities. But the very causes of his weaker competitive power in the growing of wheat have to some extent restricted his ability to make the adaptations which the shift of demand and the new methods of supply elsewhere require. Each country tends to attribute the difficulties of the agriculturalists to different causes—high interest rates here, falling prices there, lower tariffs on agricultural or higher tariffs on industrial products, inflexible wages, not quite so inflexible prohibition. In fact the causes vary locally and the economic policy of some states may be specially designed for the detriment of the farmer. But the fundamental causes affecting the states where cereal production is of vital importance are few and distinct. Of these the most important is the rapid advance in the mechanisation of agriculture, more especially in North

¹ Including wheat flour converted into terms of wheat.

America which accounts for some 60 per cent. of the world's export surplus of wheat. The modern power-driven machine has been largely responsible at once for the enormous expansion of acreage in America and to a less extent in Australia and for the decrease in costs. Without it the breaking up of new land must have been slower, and the output per worker must have been less.

Simultaneously the marketing power of these countries has been increased by the development of co-operative selling agencies.

While capital has thus been devoted to farming outside Europe in the form of new mechanical devices, elevators and silos and the power to hold stocks when prices are unfavourable, in Central and Eastern Europe a new demand for capital was created by the division of the big estates into small holdings—and the capital required was not available or available at a price which was prohibitive. The old debts had been largely eliminated by inflation, but the new conditions created a double demand, for the division of estates and for improved and modern equipment; and that demand has not been fully met. Thus it is estimated that in Poland the long term loans to agriculture aggregated over \$400 million before the war and about \$150 million to-day.

The division of the large estates has not only increased the demand for capital, but it has rendered the use of modern machinery more difficult. In many districts indeed the economic use of motor ploughs and tractors will only become possible when for the individual efforts of small holders have been substituted the united efforts of a highly developed system of co-operative production.

But in spite of these difficulties the area under cereals

in Europe was gradually expanded and as a result of the application of artificial manures the output per acre has slightly—very slightly—increased.

While the capacity to produce was thus developed, demand, as has been seen, has scarcely kept pace with the growth of population. There would seem to be small grounds for believing that in the immediate future demand for cereals is likely to grow by as much as 1 per cent. per annum—unless there is a sudden improvement in the economic prosperity of some thickly populated countries whose economic status to-day is exceptionally low. How then will this demand be satisfied in the future?

Since 1925 new forces have come into play which are likely to affect the relative competitive power of different areas. In that year the average rates of duty on agricultural products in Europe were not only lower than were those on industrial goods, they were generally lower than in 1913. Between 1925 and 1928 they were gradually raised in one country after another and since the beginning of 1929 ministers of agriculture have been engaged upon a tariff marathon in which they (and also the consumer) have shown the most remarkable powers of endurance.

At the same time the rates of interest in cereal producing countries have gradually declined and may be expected to decline still further. The power of European countries to supply their domestic needs has thus been reinforced, and their power to compete on foreign markets has been artificially stimulated in certain cases by export bounties.

On the other hand the marketing power of the Canadian farmer was strengthened by the unification of

the three independent wheat pools into one organisation in 1925, and the advent of the combined reaper-and-thresher may result in a further considerable reduction of costs. The realisation of that economy is likely to be checked by the low prices and low profits obtainable at the moment. But as the increase in the size of the wheat farms in the Prairie provinces and higher earnings allow the gradual extension of the use of this and each new invention as it becomes available, further economies must be effected.

The relative strengths of these various forces—natural and volitional—it is obviously impossible to estimate. The significance of the recovery of Europe up to 1925 or 1926, when agricultural tariffs were still low, interest rates excessively high, and the proprietary reorganisation not completed is generally underrated. It remains, moreover, to be seen whether industrial states, if foreign competition increases in severity, may not abandon the pretence of pursuing an economic policy and decide to procure the protection of the agriculturalist for the sake of procuring his protection.

In the great majority of the branches of agriculture machinery directly competes with labour. Only to a limited extent does it increase demand by increasing wealth. The rural population in almost all countries is ultimately threatened by the march of science; in Europe it is immediately threatened by the application of scientific methods to virgin land elsewhere. In the end Europe will have to decide whether she prefers her countryside to be stocked with good countrymen or good machines. In the early post-war years governments endeavoured to attract people to the towns by protecting industry and allowing the defences of agriculture to decay and

simultaneously prevented the towns from being built by limiting rents. To-day they are inclined to reverse this policy; industrial tariffs are being reduced by conventions, and duties on agricultural products are being raised. A point may soon be reached after which the major problems of agriculture in industrial states cease to be regarded as economic and become and are acknowledged to be primarily social.

It is, however, easy to exaggerate the difficulties by which agriculture is faced. The cereal market is not representative of agriculture as a whole. The growth of population to-day is less rapid than it was, the advance of science is more rapid, and as wealth increases diet changes.

The world index of cereal production (excluding rice) stood in 1928 at 109, the European index at 98; but when to cereals are added potatoes, sugar and rice these indices are raised to 114 and 104 while the production of meat has increased on an average by 23 per cent. in all countries for which estimates can be made and by 18 per cent. in Europe, and colonial products in the world by 50 per cent. These figures are approximate; but there is little reason to doubt that they accurately represent modern tendencies; tendencies for the full understanding of which similar estimates for dairy products, fruit, vegetables, etc., would be required.

There is no doubt that the production of foodstuffs as a whole is increasing but that increase is probably at only slightly over 1 per cent. per annum and in Europe less than 1 per cent.

The changes in food and drink have favoured the hotter climates rather than the colder and the tendencies perceptible before 1925 have continued since, except

when arrested by artificial barriers to trade. Thus the production of coffee, cocoa, and tea has enormously increased since 1913, while one-fifth less hops for beer are grown; the production of cane-sugar has increased by 75 per cent. or more, that of beet even with the aid of bounties and duties constantly renewed and advanced, by only 20 per cent. The trade in fruit generally has expanded and the scarcity of domestic servants has widened the area of the markets for vegetables no longer fresh. The Southern Littoral of Europe has benefited from the growing demand for oranges but new sources of supply are being created in South Africa, Palestine and elsewhere.

Europe has not been so favourably affected as certain other regions by the new demand which has sprung up. But she has responded to the change, and where conditions are favourable to dairy farming, stock raising and poultry keeping and energy has not been lacking, she has prospered. Thus the factory butter production of the Scandinavian and Baltic States has increased by about one-half since 1913, and according to the scattered information available, cheese manufacture by still more. These figures may exaggerate the net increase in these dairy products for with the industrial organisation of agriculture the factory is gradually replacing the farm. It is characteristic of the whole course of recent development that in Europe for a time impoverished by the war, and in Oceania, which relies so largely on the European market, the progress should have been most rapid in the last five years. It is since 1923 that Europe has begun seriously to adapt herself at once to the force of external competition and the recent change in domestic demand.

The pastoral countries in Europe, such as Denmark and Holland, and possibly even England, have been less affected by the competition of younger agricultural countries than have been the producers and more especially the exporters of cereals. They have suffered, as has agriculture everywhere, from falling prices, but they have only suffered in their competitive power to the extent that their fixed charges are heavier than in other lands and to the extent that wages have entered into that category of expense.

TRADE

It has already been shown that in 1925 the trade of the world had dropped behind production, that the trade of Europe had failed to regain its pre-war standard, and that from West to East of the Continent it shrank and tapered. In the following three years those conditions were radically transformed. Trade expanded more rapidly than did the production of foodstuffs and raw materials. By 1928 the old balance was not fully, but nearly restored; Europe began, like a young frog, to absorb its tail; the exports of the eastern regions increased by over a third—of the whole by under one-fifth.

In these three years the quantum of the trade of the world grew by 14 per cent.—by nearly 4½ per cent. per annum. Exports rose by approximately £150 millions. European exports rose, not by £150, but by over £190 millions. The abnormal rate of development was primarily due to European recovery and advance.

QUANTUM OF TRADE.

	IMPORTS.		EXPORTS.		TOTAL.	
	1928 as % of 1913	1928 as % of 1925	1928 as % of 1913	1928 as % of 1925	1928 as % of 1913	1928 as % of 1925
Central and Eastern Europe :						
(a) incl. U.S.S.R.	105	126	90	136	98	130
(b) excl. U.S.S.R.	116	126	104	136	110	130
Rest	113	111	109	110	112	111
Europe excl. U.S.S.R.	114	115	107	118	111	117
Europe	111	115	102	118	107	117
N. America	161	115	160	115	160	115
S. America	124	121	129	126	126	124
Africa	140	126	125	123	132	124
Asia	144	109	154	96	149	102
Oceania	135	104	138	103	137	104
World	124	114	122	113	123	114

Asia lost ground ; the trade of the Pacific which in previous years had outpaced the Atlantic, slackened and slipped back ; Europe—but not England—began to regain her distant markets ; and China, India and Japan, all, for different reasons, lost in importance. Australia sacrificed foreign trade on a home manufactured altar. Thus are domestic industries supported ; but in spite of this support, it was to the finished products of industry that the expansion of world trade was mainly due. The rate of expansion was clearly abnormal. But the change in the composition of the trade was inevitable and is of far greater significance for the future, than was the temporary slackening of commercial activity in earlier years.

The fact that up to about the year 1925 the trade of the world failed to keep pace with the production of

foodstuffs and raw materials, while since that date it has rather led than lagged, demands consideration. It forces and should force on the attention the lesson that international trade becomes more and more imperative as income increases. The great commercial nations are not only rich because they trade, they trade because they are rich. Impediments to trade impede progress the more the greater the progress already achieved. It is the rich who cannot afford the privilege of high tariffs, not the poor. The growth of wealth not the existence of poverty must give in the end the real incentive towards greater freedom.

To what is the reversion of tendencies since 1925 in fact due? Of the total trade of the world foodstuffs constitute a minor, but the most indispensable portion. Most countries—Spitzbergen and the United Kingdom are exceptions—produce the greater proportion of their food requirements. But when prosperity wanes they forgo other goods more readily than such foreign foodstuffs as they normally purchase. When prosperity revives the quantity of foodstuffs bought and sold is not likely to be greatly modified—but total trade will expand as a result of the increased demand for raw materials or offer of manufactured goods. The fluctuations in world trade, therefore, are likely to be greater than in the production of foodstuffs and raw materials taken together. During the period under review the force of this general rule was intensified. Europe, as I tried to show in the previous article, suffered not only from poverty but from lack of freedom and from instability. She gradually brought her soil back into cultivation and thus lessened her demand for foreign corn, and each individual nation, with but few

exceptions, endeavoured to meet as large a proportion of its domestic demand for manufactured goods as, with the aid of prohibitions and tariffs, it was able. Freedom has not been restored—though for industrial products, owing to bilateral conventions and the cancellation of the more foolish regulations, it has been increased. With the readoption of the gold standard, exchange, if not currency stability was gradually secured. But these changes, though they were an essential preliminary to the growth of trade, do not give the ultimate explanation of the extent or nature of the development actually achieved. However general and however elevated protective duties may be, some national industrial specialisation must continue to exist—not even the United States of America, with their great raw material resources, variety of climate and uniformity of taste, can produce all they require. As each country grows in wealth new needs arise, and the demand for exotic goods becomes more active. It so happens that on the average the goods first required—simple textiles, foodstuffs, boots and shoes—are relatively easy to manufacture. On these, States in their ambitious industrial youth specialise—and with these their inhabitants, as their incomes increase, rapidly cease to be satisfied. As demand simmers and gradually bubbles over the national frontiers, trade develops.

On the side of supply a similar process takes place—the very manufacturers who were at first most exigent in asserting their right to the protection of their home market against foreign competition become ultimately the most vociferous—because they were born vociferous—in their claim to free access elsewhere; and because national wants are not identical and some specialisation

always exists, dovetailing is possible and access, free or impeded, is finally secured. Hence we find that it is the trade in manufactured goods to which the recent expansion has been due. Foodstuffs are inevitably constituting a smaller proportion of the total exports of food-exporters and of the total imports of industrial states.

This fact and the whole process that I have endeavoured to trace, by which industry contributes a constantly increasing share to the world's income obviously implies that, if trade is to be maintained, it must consist to a no less constantly increasing extent of the exchange of manufactured goods between industrial states. The market requirements of modern industry with large scale production cannot be met by the simple exchange of raw materials against their made-up products.

In recent years the industrialist has tended to attribute his difficulties in finding a market for his wares to the depression in agriculture, and to believe that once this depression was past his problems would be solved. In certain European countries where labour does not move rapidly and freely from one occupation to another the effects of intense and efficient foreign competition in agricultural products may have caused a real net reduction in domestic demand. But until quite recently, although its progress has not been so rapid as that of industry, agriculture in the world as a whole has not been depressed—the topography of its prosperity has changed. Up to at any rate the end of 1928 the prices of agricultural products ruled on the average higher than those of other crude materials. The momentary depression is incidental. But what is not incidental—what is likely

to prove itself a lasting phenomenon—is the diminishing importance of the agriculturalist's demand relatively to total demand. That change cannot be countered by the economic ingenuity of enlightened legislators. It will continue to make itself increasingly felt unless industrial progress is arrested by some widespread catastrophe, until the pressure of increasing population outstrips the inventive genius of the mechanical engineer and the biologist. Then rents may rise and the whole community contribute to those rents.

But the exceptional rate at which trade has expanded in recent years has been due also in part to financial causes. In countries which were really impoverished by the war or by inflation, the first effect which made itself apparent after the exchanges and the speculators in exchange had ceased to dance, was a general increase in the demand for the necessities of life. When these first needs were satisfied the common capital of the household—reserves of clothes, linen and furniture—was gradually restored, saving began again: after this followed expenditure on secondary needs—what an age which put more faith in the austerity of life than the standard of living would have called luxury expenditure—and finally, after some satisfaction of these wants and with the renewed confidence in the value of money came real saving. Thus the capital issues floated on six of the most important markets in Europe were 50 per cent. greater in 1928 than in 1925. European savings deposits increased by well over one-third between 1926 and 1928. These savings of the people helped to increase the demand for capital goods, and hence the exports of the great producers of machinery and all forms of equipment, and that demand was

further augmented by the growth of international lending and borrowing which the greater security rendered possible. The expansion of the trade in capital goods was the most striking characteristic in Europe of the year 1928. Until the power of economic prognosis is much greater than it is to-day, marked changes in the composition of trade from time to time are inevitable, and indeed it is not simply a question of foresight on the part of those responsible for the conduct of industry. For during a period of increasing prosperity the aggregate of individuals will tend to save a larger proportion of their income and their savings are the necessary preliminary to capital expenditure. The change in the composition of international demand, therefore, was the natural outcome of that rapid growth in wealth which has been roughly traced above; to the growing demand for consumption goods was added a rapidly developing demand for capital goods.

These changes in the composition of trade are of fundamental importance in connection with the study of the commercial cycle. But with it I am not concerned here. The point which I desire to emphasize is that with the return to prosperity and the growth of wealth, more especially in industrial states, international trade becomes an ever more important condition of further growth. After a certain average income has been reached demand becomes not so much more intense as wider spread—its range rather than its depth is affected. Indeed its depth tends to vary with population and its range with wealth per head of population.

There is thus no mystery in the change which took place about 1925. But if the depression of 1930 is

followed by an era of prosperity in which the forces of growth prove as strong and vital as they have been during the last five years, the great problems of commercial policy will assume a significance which is but faintly conceived to-day. Barriers to trade are sometimes a protection to the young, a luxury for the poor and a consolation for the lazy ; but to the adult whose income is increasing with his energy they are direct impediments to progress.

It does not of course follow from this that the trade per head of each country is proportionate to the wealth per head or that the extent to which impediments to international trade restrict the growth of wealth is in all cases proportionate to the wealth of nations. A really great domestic market as, for instance, that of the United States, may be largely self-sufficing ; to a country which is forced by natural conditions to specialise on a single product international exchange is of more importance than to another. But for each nation as wealth increases, the need for trade increases too.

THE EXPANSION OF CURRENCY AND THE GROWTH OF INCOME.

The expansion of production and the growth of trade have naturally led to an increase in the media of payment by which wealth is exchanged. If the forms of currency remained unchanged, monetary habits were stable, and the volume of payments always varied with the volume of production, it would be possible to measure changes in national income indirectly but with reasonable accuracy by means of monetary statistics. In fact, however, the composition of currency has been

profoundly modified by the withdrawal of gold from active circulation almost throughout the world and it is probable that the circulation of notes by which it has mainly been replaced is more rapid than was that of gold. The total volume of currency should, therefore, be more efficient than it was before the war. On the other hand, with the gradual industrialisation of agriculture and with the spread of the network of means of transport over less developed areas, the use of money for all forms of exchange has probably become more generalised; and with the growth of national debts and of the practice of transferring income from those who were or might have been rich to those who were or might have been poor the demand for currency for purposes not directly connected with the creation or consumption of the national dividend has been increased. It is impossible to ascertain to what extent these factors counterbalance each other and the conclusions which can be drawn from the evidence of currency data alone are restricted and hypothetical. But that evidence is of interest and of value for checking conclusions drawn from independent sources.

The exact amount of gold in circulation before the war is unknown and for this and other reasons the expansion of currency cannot be measured with absolute accuracy. But gold probably did not constitute one-tenth of the total means of payment, so that the influence of any error in the estimate of its amount on the total will not be very serious. To-day nearly all the monetary gold lies in the vaults of banks of issue; the media of exchange consist of notes and sight deposits. From the monetary and banking statistics which have been assembled it would appear that the expansion of cur-

rency between 1913 and 1928 amounted to about 159/164 per cent. in Europe, 253/73 per cent. in North America, 208/13 per cent. in South America, 176 per cent. in Oceania and 204/13 per cent. in the totality of gold-using countries for which information is available.¹

Real income has obviously not increased proportionately, as prices have risen. It is necessary, therefore, to eliminate the influence of price changes. Prices, however, have not risen equally throughout the world and opinions differ concerning the type of price index which should be used for such purposes of elimination. It is not necessary to discuss here the arguments by which these varying opinions are supported.

Dr. W. I. King uses a price factor for the United States of 165, which is, of course, very considerably higher than that which would be proper for the greater part of the rest of the world. On the basis of such evidence concerning wholesale and retail prices as exist I shall assume that in 1928 prices averaged about 63 per cent. higher than in 1913 in North America, about 43 per cent. higher in Oceania, 40 per cent. higher in Europe and 38 per cent. in South America. This would give an index for the world of probably about 150.

The results obtained by the employment of these

¹ Two figures are given in each case. The one includes and the other excludes the sight liabilities of Central Banks. Neither is quite correct as in fact only that part of these liabilities which represent deposits of commercial banks should be excluded. The truth therefore lies between the extremes given. Coin, other than gold, is also excluded. The effect of this exclusion may be slightly to raise the figures given for Europe and some other continents; but the error on this account cannot be great.

factors afford the following comparison with those already given for production and trade :

	Money.	Raw materials and foodstuffs production. ¹	Raw materials production. ¹	Trade Imports and Exports.
Europe ..	114/17	111	119	107
N America ..	155/67	135	145	160
S. America ..	150/54	156	185	126
Oceania ..	123	133	127	137
Total ..	136/42	125	140	123

¹ These figures are slightly different and the totals somewhat lower than those given in the table on p. 49 above, though not lower than those used in the text. This is due to a technical reason, namely that these production indices are weighted by prices ruling in 1928, while for the others 1913 prices were employed. For comparison with currency data the later weights are clearly preferable. In the table on p. 49 the 1913 weights had to be employed in order to allow comparison with the figures for 1925.

The currency figures tend on the average to lie slightly higher than the other indices. Does this mean that wealth has increased more than the economic indices suggest or less than the currency figures suggest ?

The areas covered by the various groups of figures are not exactly the same so that identity of results would in no case be expected. The growth of real income in the United States is very slightly less than the lower of the two currency figures for North America (151 : 155).

According to the estimates available it would appear that the increase in national income has been even more rapid in Canada than in the United States. For this Continent, therefore, the currency figures would seem to give the best indication of general progress and that progress has been greater than is suggested by the increase in the production of raw materials. It would be unwise to presume, however, that the currency index

is the best in all cases or necessarily reflects with accuracy the progress of human society.

The United States are steadily becoming more and more dependent on foreign sources of supply for raw materials. It is natural, therefore, that the indices of her currency and her trade should lie above that for raw materials. But with the refinement of production a greater quantity of wealth is on the average produced to-day with a given value of raw materials than was possible a decade and a half ago.

This latter fact applies not only to North America but to all advanced industrial states and we might expect the world and perhaps the European currency indices to lie well above those for raw materials. But of Europe it is difficult to judge, as on the one hand currency has certainly become much more efficient—notes are not hoarded to the same extent as was gold, the mechanism of clearings has been greatly improved; on the other hand the demand for money arising out of transfers of wealth disconnected with the exchange of goods or current services has grown more than elsewhere.

In South America the price factor employed may be too high. The evidence on which to estimate the average rise in prices is quite inadequate. But in any case income has probably increased more rapidly than currency, as with the expansion of banking facilities, the efficiency of the currency systems has been very appreciably improved.

The same is doubtless also true of Oceania, where, in 1913, an extraordinarily high proportion of the total means of payment was constituted by gold coin.

The exact proportion by which the income of the world or the income per head may have increased since

1913 it is not possible to judge from these figures. But that very real progress has been made there can be no doubt. The Dresdner Bank, after a careful study of recent estimates of national income, reaches a similar conclusion as that to which all the data considered above point :

“Nach einer zeitweise sehr starken Verminderung während des Krieges, die verhältnismässig bedeutend grösser gewesen ist als der Verlust an Volksvermögen, hat es sich in den letzten Jahren schneller als dieses erhöht und liegt jetzt bei nahezu allen europäischen Ländern, auch auf Vorkriegsgoldmark berechnet, höher als vor 1914, was besonders für die früheren Neutralen zutrifft. Die aussereuropäischen Staaten weisen durchweg bedeutende Steigerungen auf, die bei den angelsächsischen Ländern, wie den Vereinigten Staaten und Canada, sogar unter Berücksichtigung der Goldentwertung nicht weniger als 50%-100% pro Kopf der Bevölkerung ausmachen! Das Volkseinkommen der Vereinigten Staaten, das vor dem Kriege mit etwa 150 Milliarden Mark nur ungefähr zwei Drittel des gesamten Volkseinkommens Europas betrug, dürfte dieses gegenwärtig übertreffen.”¹

In addition to this general finding a courageous attempt is made to estimate the increase in the income of the whole world—and the conclusion reached that it may have risen by round about 90 per cent.—which would be equal to an increase in real income, if the same price factor is employed as above, of somewhat over

¹ *Die wirtschaftlichen Kräfte der Welt. 1930.*

“The income per head, after very great reduction during the war period, far greater indeed in proportion than the reduction in national income, has risen more rapidly than the latter during recent years. In almost all the countries of Europe, and this is specially true of those that were neutral, it is higher than before 1914, even when calculated in pre-war gold marks. The states outside Europe shew without exception considerable increases, amounting in Anglo-Saxon countries such as the United States and Canada to as much as 50-100%, allowing for the depreciation of gold. The national income of the United States, which at 150 milliard marks before the war formed only about two-thirds of the total national income of Europe, must now exceed that proportion.”

26 per cent. This is obviously and confessedly a conjectural result to which we should not attach more importance than do its authors. That it should be substantially lower than the total currency index (i.e., 126 : 136/142) is due in part to the fact that it includes China, India and other countries with a relatively primitive economy which are not included in the currency statistics ; but it is also probably in part due to the fact that the majority of European States are debtors, and many of the estimates of national income were made before the service of their debts was finally regulated. It is not the habit of public debtors to overestimate their assets ; however excellent their intentions, the debt weighs upon their minds and influences their judgment.

All the evidence which has been presented, whether drawn from the production of raw materials and food-stuffs, or from such information concerning industrial production as is vouchsafed by those responsible for the conduct of industry, or from the statistics of international trade or of savings and deposits, points to a rate of growth in the production and exchange of wealth during the last few years of quite exceptional rapidity. Obviously that rate could not continue indefinitely ; a reaction was inevitable and has occurred. But the growth of wealth as such involves special problems which are distinct from those related to the see-saw of industrial activity. With certain of those problems the next article is concerned. In the essay which follows it some reference is made to questions connected, not with increasing prosperity, but with the temporary checks to which that prosperity is subject, and the danger of a more permanent check.

QUO VADIMUS?¹

Two years ago I published an article under the title "Recent World Economic Tendencies,"² in which I endeavoured to estimate roughly the post-war economic development of the world and to elucidate certain of the causes which had determined the varying degrees of prosperity in different continents. In this article I confined myself to the period ending 1925 and drew the conclusion from the evidence available that by that year the world was undoubtedly richer than in pre-war times and that industrial production in Europe, if not quite up to the level of the boom year 1913, was not below the average of the last pre-war quinquennium. In 1925, however, Central Europe suffered from a brief though severe industrial depression and in the four years which have elapsed since then very rapid progress has been made. This progress is bringing with it new problems on the successful solution of which its continuance is likely to depend. It is certain of these problems that I wish to consider now. In my previous article I was concerned mainly with hindrances to prosperity—such as lack of freedom and certain forms of insecurity—which were due mainly to conscious and

¹ First published in *Index*, Vol. V, No. 49, Jan. 1930. Svenska Handelsbanken. Stockholm.

² *The Nineteenth Century*, Vol. CI. April and May, 1927. See first essay in this series.

concerted human action. In this present analysis I propose to devote attention more to those forces which arise from dissociated action and from those economic and social changes which are rather spontaneous than designed.

At all times it is extraordinarily difficult when reviewing the events of the immediate past to separate the relatively permanent forces and tendencies from the fortuitous and ephemeral. But in the turmoil and jumble of the events of the last ten years, in which attention has been now directed to one crisis now distracted by another, in which towns laid waste by the war have been slowly rebuilt, claims created by the war have more slowly dwindled, and currencies debauched by inflation have been gradually stabilized, in which new States have come into being and in many areas the whole fabric of business reconstructed, the difficulty of apprehending the real progress achieved and the direction of that progress has been vastly augmented. Indeed, only now after two or three years of what seem relatively stable conditions is the world beginning to understand that in attempting to repair the old it has made something new and distinct, that the problems of the future are essentially different from those of the past, and that those problems emerge not from a failure to recover from the immediate effects of the war, but from the success with which the efforts made have been crowned. It is true that in some countries, and in England perhaps in particular, there has been a failure to adapt the old mechanism to the new requirements and to appreciate the changes which are taking place. But the changes are none the less real—and adaptation sooner or later is inevitable. What are those changes?

THE CHANGE IN DEMAND

ITS CHARACTER

In the ultimate analysis, all business consists of the satisfaction of needs. Its character is determined by the nature of those needs, and the character of those needs at any moment is determined not primarily by fashion or by taste, but by a complex of causes over which the human will has but little control.

The fact of real importance which is now emerging from the stress and welter of the immediate past is that a radical change has taken place in the world demand for different types of goods and services. There has been a shift in relative demand from the prime necessities of life, food and clothing, and house-room, towards goods and services satisfying secondary needs. There has been a shift in each category of goods from the coarser to the finer qualities. There has been a shift from the commodities consumed in the course of production, whether capital goods strictly defined or our workaday sustenance and apparel, to those required in hours of leisure. Rye bread is being replaced by wheaten bread, and all cereals by vegetables, sugar and fruit, by butter or margarine, eggs and cheese and meat. Less clothing is being worn and a greater proportion of the whole consists of more expensive tissues. The wool production of the world is but little greater to-day than it was fifteen years ago, but that of silk has nearly doubled and of artificial silk increased tenfold. The finer counts of cotton, the finer qualities of wool, are more and more sought after. Not only in Europe but in the United States also, the major branches of the textile industry have suffered. In some countries, and more especially

in England, they have been adversely affected by the competition of new producing areas, but change in territorial distribution has affected certain countries only; the world cause of the slackened progress or arrest in the spinning and weaving of cotton, wool and linen, is to be found in the change which is taking place in the distribution of expenditure. While the proportion of income devoted to necessities of life has diminished there has been a reciprocal increase in the demand for what are rapidly becoming necessities of modern social existence, such as motor vehicles, newspapers, telephones, electric light, etc.

There has been a parallel increase in the demand for goods consumed during hours of leisure: gramophones and wireless apparatus, books and works of art, photographic and garden requisites, articles of sport, and such services as travelling demands or the cinematograph provides.

ITS MAJOR CAUSES

To some extent these changes are the result of fashion and may be temporary in character. The hosiery industry and manufacturers of ladies' shoes have gained while others have lost; that gain may not be permanent. But if the causes which have brought about this revolution in demand be considered they will be found themselves to be the outcome of the radical changes which society is undergoing.

The population of the world to-day is growing at a very much slower rate than during the latter half of the nineteenth century or the first decade of the twentieth. This drop, moreover, has been most marked in the wealthier countries. If migration be ignored and the

excess of births over deaths taken as a measure of the trend of events, it will be found that by 1927 as compared with the quinquennium ending 1909 the rate of growth per mille in England had dropped from 11.6 to 4.3, in Germany from 14.0 to 6.3, in Belgium from 8.9 to 4.8, in Sweden from 11.0 to 3.4. The tendency is not confined to Europe, nor has it ceased to operate. Thus the net birth-rate in Canada was 16 ‰ in the period 1921-5 and 13.5 in 1927, in Australia 14.2 and 12.2, in New Zealand 13.0 and 11.8; it dropped in the United States from 10.6 ‰ in 1922 to 9 ‰ in 1927. Meanwhile the production of wealth, arrested in Europe during the war, has resumed a normal, indeed in the last few years an exceptional, rate of growth. During the four years ending 1928 the output of raw materials and foodstuffs increased by about 7 per cent. per annum in Europe, and in the world as a whole by just over 3½ per cent. per annum. But foodstuffs have been losing and raw materials gaining in importance. The League of Nations has published a series of indices which show that in 1927 the population of the world was about 9 per cent. greater than in 1913, while the production of foodstuffs had increased by about 12 per cent. and the production of raw materials and colonial products by over 43 per cent. No doubt the total production of foodstuffs was actually somewhat greater, as dairy produce, vegetables and fruit do not enter into these calculations, and some of the oils and fats classed as raw materials are used for human consumption. But the figures quoted are accurate enough to bring out the facts with which we are here concerned: the decline in the rate of the growth of the world's population, the rapid increase in total wealth, and hence the increase

in wealth per head of population. How much richer per head the world may be to-day than it was before the war it is impossible to ascertain ; but it is at least certain that the difference is greater than the figures just quoted indicate. Indeed, it is characteristic of industry to-day that raw materials constitute a relatively small proportion of the total costs of exactly those classes of goods the demand for which has increased the most. The manufacturer of gramophone records, of cinematograph films, or even of aeroplanes, is not primarily concerned in the market fluctuations of the prices of his crude products. The quantum of industrial output has increased more than that of raw materials. The censuses of production show that the ratio of the cost of raw materials to value added in manufacture fell in Great Britain from 146 per cent. in 1907 to 127 per cent. in 1924, in the United States of America from 146 per cent. in 1914 to 134 per cent. in 1925, and in New Zealand from 209 per cent. in 1911 to 153 per cent. in 1926-7.¹

The world is richer to-day than it has ever been before and that fact is not due simply to the proud prosperity of North America. Of China and Russia it may be impossible to judge ; but if we ignore these two countries, which for all their vast population have never greatly affected economic developments beyond their frontiers, of all continents is it true that they are richer to-day and richer per head of population than they have been in the past.

Some countries have made more rapid advance than others—in Europe : Sweden, Finland, Switzerland, Denmark, Holland—in America : Canada, the United

¹ A number of causes other than the one under immediate consideration have contributed to the change in these ratios. But that fact is not such as to detract from the truth of the general thesis of this paragraph.

States, the Argentine, Columbia, Venezuela—in Asia: the Dutch East Indies, Japan. But both in these countries and elsewhere, where losses have been grave or adaptation has been slow—in Germany, in England, in Austria—there has been a change in the distribution of the national income which has had an influence on demand in many ways similar to that exercised by greater wealth per head. Almost throughout the world the wages of the less skilled workers have increased. In many countries, real wages as a whole are higher, and the share of income going to the wage-earner greater. Thus in the United States it is estimated that the share of national income earned by them rose from 37 per cent. in 1913 to 38 per cent. in 1925; the proportion distributed in salaries from 15 to 18 per cent. The share of rents and royalties fell from 15 to 13 per cent., and of profits from 22 to 20 per cent. In the United Kingdom the proportion of home-produced, social income going in wages (after allowing for employers' contributions to insurance funds but not for help and relief from taxation), is estimated to have risen, between 1911 and 1924, from 43 per cent. to about 45 per cent., and the proportion of earned income to unearned, from 75½ per cent. to 78. Those proportions, however, have probably been affected by the fall in prices since 1924 in a manner unfavourable to earned incomes. In Germany the salaried and wage earning classes together are estimated to have increased their share in the national dividend from a bare 50 to 65 per cent. In some cases higher wages have been secured in part by keeping, through one means or another, a large number of potential wage-earners off the market unemployed. In the majority of European countries the ren-

tier class is receiving a smaller proportion of the total national dividend, and the agriculturist, whether he is working his own farm or not, has suffered from the relative weakening of the demand for his major products. Thus, the power to spend has been diverted to those sections of the population—the wage-earners, the lower salaried classes, the town-dwellers, which are inclined to spend rather than to save. The demand for consumption goods has tended to increase, the proportion of national income devoted to further production, to the exploitation of new productive areas, has tended to decrease. These tendencies vary in force as prosperity waxes and wanes; as incomes increase the proportion available for saving increases too; they are, moreover, not universal. Over large areas in Eastern Europe, there has been a redistribution of capital and income through the division of big estates into small holdings, which, although it has profoundly affected the character of both consumption and production, has produced results widely different from those which characterize the more industrialized parts of the world.

The demand for goods and service has further been affected by the change in the age composition of the population. Owing to the decline in the net birth-rate the average age of the economically more advanced countries of the world is steadily increasing. The proportion of children to the total is lower, and in countries which participated in the war the proportion of males who have reached or just passed maximum earning capacity has increased and that of those who should be on the threshold of that period of life has decreased. In consequence, the expenditure per head of children has risen, while the total expenditure devoted

to the young has probably fallen. The importance of this change is too often overlooked. In fact, it is of real significance. Before the war, about one-third of the population of the countries of western and northern Europe was under 15 years of age; to-day, despite the hollow in the curve of age distribution caused by war losses, that proportion has dropped to about 25-28 per cent. In most industrial countries more are earning and fewer are dependent; of total income less is required for the prime necessities, more is available for secondary comforts.¹

More are earning and earning more, and in most countries that higher income is earned in a briefer working day. There are thus more hours available for leisure and for the spending which that leisure permits. With the growth of education the desire to spend is expressing itself in new ways, is becoming more complex and less stable.

ITS EFFECTS ON PRODUCTION

All these causes which we have been considering, the greater wealth per head, the changes in age and in wealth distribution, the increase in leisure and advance in culture, tend to the same result—instability of demand. Food we must have and clothing and a minimum of houseroom, but once these needs are satisfied demand becomes optional. Once a certain income is reached, all demand becomes optional—for one form of diet may be chosen in place of another, and within the limits

¹ This is probably untrue of England with its large number of unemployed. But it is true of the majority of advanced States, particularly of those which have abolished or substantially reduced the period of military service. The increase in the percentage of old persons does not at present offset the decrease in percentage of children.

of fashion one textile for clothing for another. The essential characteristic of demand to-day is not simply that it is changing, but that it is becoming more and more fluid. That fact already dominates the economy of the United States, and it is inevitable that before long it will dominate, as it is already profoundly influencing, the economy of Europe. The surplus of income, once certain instinctive needs have been satisfied, may be spent, and may be spent by all classes of society, in a thousand different ways. The manner in which it will be spent will be determined in part by a changing conception of comfort, in part by a fickle fashion, in part by individual taste and in part by the influence which the producer by advertisement can exercise on the mind of his victims. Year by year the problem of anticipating demand will become more difficult and year by year the functions of sale and of advertisement—at its best of informing the public of the goods and services which are available—will become more important.

If we examine the change in the character of demand again in the light of these major phenomena of social life to-day, we shall find it is mainly the result of these phenomena and of the new facilities for spending which scientific discovery and progress in the technique of production have offered. Fashion may determine the final choice between one commodity or service and another, but it has not determined the general direction of recent tendencies. In most advanced countries an older and a richer population, less burdened by the upbringing of the future generation, with an income more equally distributed, with a stronger desire to raise its standard of living and with more decided—if not

saner—views on how to achieve that object, with less instinct to save and more to spend, requiring a smaller proportion of its income for the satisfaction of its primary needs, has more available for the purchase of comforts and amusements—and concentrating largely in towns or suburbs seeks those comforts and amusements in the miscellaneous products of a multitude of minor industries or in moving from village to village, town to town, or country to country.

PRODUCTION

INDUSTRIAL

While the consumer's demand and the social organization have thus been profoundly modified, the art and mechanics of production are undergoing a metamorphosis which in its turn has affected the demand for the products of certain basic industries. The mining of coal and the development of railway transport have been checked by the competition of hydro-electric power and the internal combustion engine, and the total requirements of fuel have been further reduced by the development of the technique of heat conservation. The demand for ships has been reduced owing to the greater efficiency of the ships built. The arable farmer in Europe has been affected not simply by the fact that the demand for cereals fails to increase in the same proportion as spending-power, but by the greater efficiency of agriculture elsewhere, by the mechanisation of production and the increased output per unit of labour.

With the greater mechanical control over matter and the better mechanical organisation of business, all industry is being revolutionised. The tendency towards

mass production in certain industries, towards larger producing units in others, towards a more elaborate and more scientific technique, is ultimately irresistible. The old family business is doomed and will decay in the 20th century, despite all its vested powers, as the cottage industry and the great landlords decayed in the nineteenth century. Where it survives it has its roots just in those basic industries such as coal or cotton or wool which have been most affected by the change in demand or the development of alternative products. The difficulties which the new conditions have entailed have driven the leaders of industry to rationalise their production, to amalgamate and eliminate, to replace old plant by new and individual competition by concerted action. In many cases the number of independent undertakings and often the total number of workers engaged have been reduced, while output and output per head have risen. Thus, in Germany the output of potash was increased between 1921 and 1925 by one-third and the number of workers reduced by one-third; the number of cement undertakings has fallen from 157 in 1913 to 150 in 1928, the persons employed from 25,000 to 18,335, while the output has risen from 6.8 to 7.6 million tons; the number of firms producing pig iron has dropped within the same period from 70 to 48, the number of employees from 27,000 to 21,500, while the tonnage rose from 10,916,000 to 13,089,000. It is unnecessary to multiply examples. The tendencies which these figures indicate are not peculiar to Germany. Though they may be more marked in one country than another, they are the natural and inevitable result of the conditions which exist. The days are past when the old major industries developed almost automatically

year by year to meet the needs of a rapidly increasing population. Social changes have forced reorganization on them, and the economies in production which have resulted from that reorganisation have freed capital and labour for occupation in the younger industries the demand for whose products is active.

But those younger industries—largely the outcome of new inventions which are constantly being perfected—are themselves threatened by an instability which, often through a somewhat different process, has resulted in concentration or amalgamation. They are threatened by the natural instability and mobility of secondary demand and they are threatened by the very inventions to which they owe their origin. It is infinitely more difficult to foresee the absorbing capacity of a market which has in the first instance to be created by an elaborate advertisement campaign than the probable world demand for a product inevitably required by the great masses of the population. Each new idea or important new invention is likely to be followed by a crop of new companies and a final harvest of bankruptcies. The possibility of change in fashion or of the elaboration of a superior technique has cut down the financial life of plant far short of its physical duration. To an official enquiry conducted in the United States concerning the period in which it was considered financially necessary for new plant to cover its cost through savings effected, 43·6 per cent. of the two hundred firms circularised replied “within two years or less” and 64·1 per cent. “within three years or less.”¹ In North America, where changes take place more rapidly, the problem of obsolescence has already become, and in Europe it is

¹ *Recent Economic Changes*. Vol. I p. 139.

rapidly becoming, one of the major problems of industry. Indeed, when we review the forces at play it is clear that those countries which in their industrial policy or fiscal systems fail to face this question must ultimately lose ground in the markets of the world.

The leaders of business have endeavoured to secure themselves to some extent against the dangers of the greater fluidity and uncertainty of demand and the rapid changes in the technique of production brought about by the advance of science, not simply by the rationalisation of individual plants but by the centralized control of whole industries. To optional demand they have opposed monopoly of supply. How complete that monopoly is to-day is known to no one and it may never be possible to ascertain. But control of output, of price and of market by one means or another—whether by mergers, associations, cartels, gentlemen's agreements or still less precise understandings—constitutes perhaps the most important single characteristic of modern business. In one country or another almost every article of common use is produced under conditions of eliminated competition. Agreements are not, as is often presumed, confined to crude products, although control is facilitated by uniformity of type. There is no reason to believe that they are the passing result of the exceptional conditions created by the war, although the excess plant built during the war by certain industries has given a special incentive to national and international understandings. They are to be found equally in the newer industries, which at one date or another have over-estimated the public's needs, and in the older, whose markets have failed to develop. They have spread beyond political frontiers—have absorbed

and built into their own structure the tariff walls intended to isolate markets. If we examine the international field alone we shall find that the bottles in which we buy our drinks, the enamel ware and aluminium we employ in our kitchens, the linoleum on which we walk, the mirrors in which our wives admire themselves, the electric bulbs which facilitate that task, even the Glauber salts or the bismuth which, according to their dispositions, others take in the morning, are subject to international control or agreement in one group of countries or another.

The specific objects of these agreements may vary widely—the reservation or allocation of markets, the control of output, the fixation of price, the centralized purchase of raw materials, the exchanges of patents or of information—but in the ultimate analysis they all represent an endeavour to afford an element of stability to essentially unstable business conditions or to render the scientific conduct of business possible by pooling knowledge and reconciling interests. Despite hostile legislation, which has given it a special form, the policy of concentration has gone farther in the United States than elsewhere. Indeed as long ago as 1923 one half of the wage earners in the country were employed by less than 4 per cent. of all the industrial establishments.¹ But Europe is beginning to understand that profits are more likely to be secured with the aid of a shared knowledge of facts and a common direction of policy than from the ignorance of competitors and the uncertain offerings of chance.

In Europe, however, the characteristic American “merger” finds its counterpart largely, not in trusts,

¹ *Recent Economic Changes*. Vol. I p. 169

but cartels. When companies constitute a trust they sacrifice or combine all their individual rights and powers ; when they constitute a cartel they sign in the plenitude of their independence a common agreement to act or refrain from acting in the defined manner. A trust is a compound, not a mixture. A cartel is a contract with an agreed validity. Both forms of organisation may avoid weak selling, but the latter does not necessarily involve the economies of large-scale production, the avoidance of unnecessary duplication of types, the experiment and research which it is as a rule the object of the former to secure.

A new economy is thus evolving under which competition between individual producers of similar articles is gradually diminishing and competition between alternative and quite distinct commodities is becoming more acute. Advertisement by competing industries is gradually replacing advertisement by individual firms. We are told in America to "say it with flowers," in England to "join the Mustard Club." Price is no longer free but fixed, though it may be forced in jerks from one level to another ; but in the case of highly finished products it is rarely a true monopoly price—for what remains free, as choice increases with income and with the constantly growing range of available objects of expenditure, is demand.

Thus does optional demand set limits to mass production. Against the risk of demand moving from one type of commodity to another trusts and cartels only afford a guarantee if their activities are sufficiently widespread. That risk may be lessened by an endeavour, such as is made in the United States, to hypnotise demand by advertisement and to make it act with marionette

movements according to the will of the producer ; or by concentrating under a single control plants producing different goods. The investor is spreading his risks by means of investment trusts. We may find that the producer will tend to cover his to an increasing extent by means of holding companies with widespread and mixed interests or by gradually extending the range of the activity of single firms.

AGRICULTURAL

The social changes which we have been considering have affected agriculture more adversely than they have affected industry, and agriculture has reacted differently towards them. But the fundamental causes of the difficulties with which agriculture in many countries is faced to-day are the same as those which are revolutionising industry. There has been a shift in relative demand from the major agricultural products of temperate zones—and a simultaneous mechanisation of agriculture in the most productive regions. The area under wheat in Canada, South America and Australia has increased as compared with the last pre-war quinquennium by about 14 million hectares. In the United States, where agriculture is far from prosperous, it has increased by 4 millions. On the other hand, despite the gradual abandonment of rye for wheaten bread, the consumption of wheat per head of world population is but little greater than it was. It has increased in Japan and in Russia, in the poorer countries of South and Eastern Europe, but in the wealthier countries of the world, in the United States, in Canada and in Australia, and in industrialised Europe, the consumption of

all bread corn has diminished. This falling off in the consumption of bread as the standard of living rises is no new or post-war phenomenon. It is estimated that in the United States it fell by 10 per cent. between 1904 and 1919 and by a further 12 per cent. by 1923. Agriculture in temperate regions has been more adversely affected than industry because purchasing power has been diverted not simply, as in industry, from one type of product to another, but to some extent from the whole group of the agricultural products of these regions to tropical goods and to manufactured articles. But the narrower change has been equally important. Cereals, as we have seen, are being replaced in diet by butter and margarine, milk and eggs, fruit and vegetables and sugar. Thus in 1927 the production index was—

for cereals	..	..	..	..	104
„ cereals and other foodstuffs	..			..	111
„ meat	..	..	..	..	117
„ Colonial produce	..	..	..	..	157
„ vegetable oils	..	..	..	..	153

(1913 = 100)

On the American continent, and to some extent in Australia, these changes have been accompanied by a rapid mechanisation of agriculture, which has greatly reduced the costs of production, more especially in arable farming, and hence depressed the prices against which agriculturists elsewhere have had to compete. In the United States alone the tractors in use on farms increased from 80,000 in 1918 to over 850,000 at the beginning of last year.¹ In Europe, more especially in Central and Eastern Europe, these changes have been accompanied by a revolution in the proprietary basis of agriculture—the division of the big estates into small

¹ i.e., 1928.

holdings or peasants' farms. This change in proprietorship has largely determined the manner in which Europe has attempted to meet the new situation. To a limited extent, and that mainly in the more advanced countries, she has attempted to meet the competition of mechanical production by mechanical production—but she has sought rather to circumvent a competition she has been unable to resist. Thus, in Roumania the new peasant proprietors have largely abandoned the cultivation of wheat in favour of maize, vegetables and other products they consume themselves; Yugoslavia has developed her cattle-breeding; Poland cattle breeding and the production of potatoes; Bulgaria and Greece the tobacco industry; Estonia and Latvia dairy farming; and almost all countries horticulture and fruit-farming. On the one hand products for home consumption have increased, on the other the direction of demand has been followed and more attention is being paid to higher value produce, butter and cheese in the north, tobacco in the south-east, cotton in Spain, silk in Italy and olives in both these Mediterranean peninsulas.

At first sight the trends of development in European industry and agriculture appear to be in striking contrast. While industry has been combining, agriculture has been divided, while industry has been organizing behind and beyond higher tariff walls, agricultural tariffs were for long and are still in some countries somewhat lower than they were before the war. But the contrast is perhaps more apparent than real and is due in part at least to the slower response of the agriculturist to changing conditions. Co-ordination in agriculture is being born of division. The large farmer may survive alone, but the small peasant can only survive through co-

operation, and in the branches of agriculture which are at present most successful co-operation is already highly developed. If agricultural tariffs were lower, they have risen in recent years, and trade has been restricted in the absence of tariffs by a change in habits, which has increased the demand for and the supply of perishable goods. Agriculture lags behind industry, and at the moment when industrial development is awakening the leaders of business to the need for larger markets, the agriculturalist has become vociferous in his claim for more protection.

But outside Europe in the great exporting countries co-operation in agriculture has sprung from the pressure of competition in world markets. There it is the large farms specialising on a uniform product for export that have endeavoured to strengthen their bargaining power by a common control of a united selling policy.

COMMERCIAL POLICY

ITS RECENT TENDENCIES

It is the custom when referring to recent commercial policy to emphasize the fact that tariffs are higher, that they are more complex, that they close in smaller territorial units, that they are more unstable than they were. All this is true; but it may well be that, when the economic history of the immediate past and the immediate future comes to be written, attention will be drawn rather to the reverse tendency towards greater freedom and more effective concerted action. During the last ten years there have, in fact, been two distinct sets of forces operating in opposite directions. It still remains to be seen whether the forces that compel

towards freedom will not prove to be the stronger, and to derive their energy from sources which will grow in volume as the years advance. As the report of the World Economic Conference in 1927 said :

“ The new obstructions to trade were largely due to a desire to meet the abnormal conditions arising out of the war. For example, many duties have been raised as a protection against an influx of goods from countries with a depreciating currency. Experience has proved that even the most rapid manipulation of tariffs is not an effective method of dealing with the still more rapid changes which are caused by monetary instability. Such attempts are a source of new difficulties for commerce and are themselves a source of uncertainty. Again, in the countries themselves whose currency has been depreciating, tariffs have been raised in order to check imports in the hope of stopping the depreciation. Finally, it has sometimes happened that, where depreciation has been followed by appreciation, Customs duties payable in paper money which had been raised during the inflation have not been correspondingly reduced when revalorization occurred. These unstable currency conditions have to a considerable extent passed away ; but the tariff and other measures which have been specially employed to deal with them have not yet wholly disappeared.”

Other factors of a less temporary character have also contributed to the restriction and uncertainties of trade. In Europe the new system of “tarifs de combat,” under which high rates are imposed as a basis for pugnacious negotiation, results, at the points where those negotiations fail, in certain duties being left which are higher than was intended or was ever pretended would prove beneficial. The general adoption of specific tariffs simultaneously with the rapid increase in the types of articles manufactured has made the tariff schedules vastly more complex ; the fear of future wars has strengthened the desire for partial industrial independence, the displacement of agricultural labour

by labour-saving machinery in certain countries has strengthened the belief that that military desideratum was an economic necessity. Finally, the creation of new States in Europe has added some 11,000 kilometres of frontiers for the modern Balbus.

But, if we examine commercial policy as a whole and not tariff policy alone, we shall find that there has been a steady and indeed rapid progress towards greater freedom through concerted action—and if we attempt to gauge the strength of the forces which are still at play, we shall find that those on which further progress in the same direction are likely to depend are of no mean importance.

In the years immediately succeeding the armistice many European States prohibited all imports and exports save by special permit. This system of general prohibition and specific licence or detailed free lists gradually gave way to one of general freedom and specific prohibition lists, which in its turn was elaborated into a system of simple or reciprocal contingents. Reciprocal contingents involved a process of inter-State bargaining which proved extremely cumbersome, and as confidence began to revive and the scramble for raw materials became less acute one article after another was removed from the prohibition lists and subjected instead to import or export duties. These duties were often confessedly prohibitive in nature and were imposed in a random fashion without any general overhauling of the tariff schedules. Moreover, the executive did not at first abandon its power to impose prohibitions or the so-called anti-exchange dumping measures. The effective rates of duty tended in most European countries to change from day to day as prices fluctuated and the

confusion thus created was rendered still more intense by the institution of special exchange rates or coefficients for customs purposes, which were not identical with the current rates of the day. When currencies finally became stabilised, new tariff schedules were elaborated for those which had been worn out by inflation and patched by subsequent decrees into a formless crazy work. The new tariffs imposed rates of duty on industrial products which were generally higher, and in some countries, as for instance in Poland, Hungary and Spain, very appreciably higher, than those in force before the war—in certain cases even higher than the effective duties ruling immediately before stabilisation. But for all their defects they did represent a step forward in commercial policy towards greater stability and greater clarity. On the basis of these new tariffs, approved by Parliaments, innumerable bilateral conventions—recognizing more uniformly than before the war the most-favoured-nation principle—have been and are being negotiated. International negotiation was thus substituted for spasmodic and haphazard offensive or defensive action, duties, which are gradually becoming consolidated, for prohibitions, Parliamentary decisions for executive decrees, the most-favoured-nation clause for bilateral agreements concerning single commodities. But more important perhaps than all these changes is the steady growth of multilateral agreements. To-day the refuse which the gradual melting of the post-war trade glacier has left behind it is being cleaned up by co-operative effort, by the conventions relating to customs formalities, to arbitral awards, to hides and skins, to prohibitions.

These international conventions may be looked upon,

and rightly, as representing primarily an effort to do away with the anomalies which have remained over from the period of immediate post-war disorder. But their more profound significance consists in the concerted action by which they have been reached. Concerted international action, whether between groups of business men or between Governments, is the outcome of the same causes which have led to concerted action at home ; it has been aided and not hampered by the new territorial divisions, by the fact that a national of one State may have had his business before the war in what is now a foreign country. The whole development of industry in recent years, and the causes underlying that development considered above, have rendered such action inevitable, and the most recent events in the history of commercial policy—the proposed tariff truce, the contemplated European pact, the recrudescence of the Pan-Europa movement, are the logical consequences of those underlying causes. In no way are they in contradiction to the past ; in no way do they represent a deviation from existing tendencies.

ITS PRESENT PROPOSALS

At first sight it may seem that the international cartel movement and the agreements made to reserve home or allocate foreign markets, to fix prices or maintain the *status quo*, while dependent on concerted action, are ultimately a negation of all activity and hence obstructive to this development of commercial policy. But in fact the *status quo* can never be maintained, and behind and beneath the cartels is going on the steady rationalisation of industry, the gradual absorption or elimination of the less profitable enterprises, the sub-

stitution of hand by mechanical processes. It is that development, coupled with the change in the character of demand and of markets, that is the ultimate cause determining the direction of commercial policy to-day. The new products of industry are not, and many never will be, required by all members of the population, as are food and raiment, boots and shoes. All cannot purchase—nor would if they could—motor-cars, or wireless or electric washtubs. The market for an increasing proportion of the total output of industry is selective and is not concomitant with population. How can this selective market be reconciled with large-scale production? That is the conundrum the solution to which business-men and statesmen are seeking in a tariff policy which, though it may seem new, is, in fact, the logical sequence of the policy of the last eight years.

But the facts that this policy has its roots in the past and that it is engendered by forces scarcely subject to conscious communal control afford no sure guarantee of its immediate or subsequent success. Against it are pitted certain of the influences that have led to the imposition of higher rates of duty in recent years, fear of dependence in war time, and nationalism and the national desire to become industrialised, the wish to avoid the consequences of an unstable world economy—but more important than all these when capital is scarce and interest rates are high, the solid phalanx of invested interests. All that is certain to-day and all that it is necessary to recognise is that the forces tending towards greater freedom and wider markets are strong and spring naturally from that complex of social changes which I have endeavoured to describe and analyse.

SOME RESERVATIONS

GENERAL

In this description and analysis it has been necessary to generalise and to throw into relief certain factors which, perhaps of relatively little importance to-day, are thought likely to prove themselves significant to-morrow. Attention has been paid to world, not national, phenomena, and these world phenomena are never truly universal in their distribution. The tendencies traced are more dominant in some countries or continents than in others ; necessarily the description of them given is not wholly applicable to any country, is definitely inexact for others. But they are, it is believed, those which are likely to determine to a large extent the course of events in the more advanced countries of the world in the near future. The ways in which they will exercise their influence on the different national economic organisms will necessarily not be identical, and they will be diverted here and twisted there by all those local forces of action and inertia to which the idiosyncrasies of those organisms are due.

They are to-day no doubt more clearly discernible and have had freer play in the United States and Canada than elsewhere. But, as Northern and Central Europe becomes richer and the rate of population growth declines, her form of economy is likely to approach closer and closer to that which the United States has evolved from a restricted labour supply and abundant capital. The extent and rapidity of that approach must be determined in part by her power to widen her domestic markets. Moreover, where, as in Eastern Europe, other tendencies exist and the birth rate is

maintained, the balance is to some extent being righted by the influx of foreign capital. The immigration laws have prevented cheap labour from migrating to work American capital, have forced American capital to seek out that cheap labour—and have thus expedited the industrialisation and economic development of Europe.

North America has adapted herself more fully than other continents to the new conditions, and partly on that account, partly for fortuitous reasons, her economic development during the last decade has been the greatest. Her share in world exports has risen from under 16 per cent. in 1913 to about 20 per cent., her share in the production of raw materials and foodstuffs by less (26-28), for it is her industries which have prospered the most. It is estimated that since 1922 production as a whole in the United States has grown at a rate of about 2.5 per cent. per annum, and manufacturing production at 4 per cent. But Europe, with the reorganization of her industry and the slower adaptation of her agriculture, is rapidly regaining the ground she lost. The volume both of world and of her production and trade are greater than before the war; her share is somewhat smaller, but that share is steadily increasing.

CONCERNING THE SPECIAL POSITION OF ENGLAND

What is true of Europe as a whole is, however, untrue or but partially true of the United Kingdom. Her share in world trade has declined and continues to decline. She claimed 13.9 per cent. of all exports in 1913, 12.2 per cent. in 1925, 11.4 per cent. in 1927, and 11.2 per cent. in 1928; her share in the production of coal dropped from 23 per cent. in 1913 to 20 per cent. in

1925, to 19 per cent. in 1928; in the tonnage of vessels launched from 58 per cent. in 1913 to 54 per cent. in 1928; in the production of pig iron and steel from 13 per cent. and 10 per cent. in 1913 respectively to 7.6 per cent. and 7.9 per cent. in 1928. These declines are not simply the reciprocals of American advance; her share not only in world but in European trade and production of capital goods has diminished.

The forces which are determining economic development to-day demand a revision of industrial methods and a modification of industrial technique which have perhaps been less fully accomplished in the United Kingdom than in other countries. It remains to be seen whether the causes of this slow adaptation to changing conditions are casual or profound. The mobility of demand and the rapid progress of science render a suppleness of industrial mechanism more necessary than ever before. They render necessary, moreover, an efficient system of technical and scientific training for both workers and leaders. But labour is far from mobile, is tied by a multitude of restrictions physical and moral; of the approximately 700,000 children leaving elementary schools each year only about 12 per cent. pass to institutions of higher education and of those of the remainder who attend continuation, technical and commercial evening schools, the average number of hours worked per student enrolled seldom exceeds 100, and is more often between 80 and 90 per annum. The rigidity of the mechanism of industry is made apparent by the manner in which it has been warped and twisted by the sheltered and unsheltered industries and the sheltered and unsheltered wage rates.

"We live to-day," said a witness quoted by the Committee on Industry and Trade, "in a world infinitely more technical than 20 years ago, and the old-fashioned type of more or less self-made man who had grown up as a practical man inside a factory and reached the position of works manager is now definitely out of date. His continuance in this position is in my opinion largely responsible for the parlous condition of many of our industries . . . speaking generally, I believe industry wants leaders with scientific knowledge even more than it requires highly-trained chemists."¹

It is significant that the Committee, from the mass of evidence before it, should have chosen for quotation a reference to this particular point. This analysis of world tendencies is only indirectly concerned with the special problems of the United Kingdom. But if leaders with adequate knowledge are scarce, if the training of her rank and file is as it is, and mobility is lacking, the forces that are determining the course of economic development to-day cannot leave her unscathed.

¹ Op. cit.

GOLD AND PRICES¹

THREE DEFECTS IN OUR ECONOMIC SYSTEM

IN the preceding essay I tried to lay bare certain forces and tendencies which owe their existence mainly, not to conscious and concerted human effort, but to uncoordinated changes in individual action and to the natural growth of wealth in years of peace. Those tendencies and forces are likely to prove permanent unless they are sapped by war. They are the companions of prosperity. They will be checked and arrested from time to time when productive activity temporarily wavers or declines; and they have been so arrested. But the depression of 1930-31, which had in fact already begun to make itself felt when the article was written, does not, I think, modify the conclusions which I drew—nor does it lessen the importance of the forces which I endeavoured to describe. On the contrary the depression is being shaped, if it was not caused by those forces, and successful recovery will not be made by countries whose economic policy runs counter to them.

Many and varying explanations of the reaction which has taken place have been given. Some attribute it wholly to speculation on the New York Stock Exchange, some to general over-production, some to under-consumption, some to the discrepancy between wholesale and retail prices, some to the 'crisis' in agriculture and others again, who like to beautify the landscape of their minds by cutting arterial roads to truth, attribute it and all variations in economic activity to defective currency

¹ Written in September, 1930.

policy. I do not propose to consider the value of these views in detail or to attempt any independent and exhaustive analysis of the causes of recent events. The depression will pass and be succeeded by another span of prosperous years, unless some factor of quite unusual power exercises a restraining influence. But certain of the events which immediately preceded it and certain of the effects of the recent fall in prices have thrown into relief defects in present-day economy which are of importance because they involve dangers which may not rapidly pass away. Of these defects and dangers there are three which, though varying in ultimate importance, are likely to have a predominant influence on the course of future events. They are closely inter-related and may prove permanent or demand drastic measures for their eradication. The first is obvious to all to-day and lies in the fact that society has devised no means for counteracting these violent alternations between economic prosperity and adversity. It floats like a cork on a sea—now rising in frothy jubilation and now sinking into some void trough. In the space of a few months five or ten or fifteen million persons may be suddenly rendered incapable of earning their livelihood and at present no one can help them. Numerous means by which society might increase its control over its own destinies have been proposed, but none accepted—indeed no general and concerted endeavour to apply any one of them has yet been made.

Meanwhile, in some countries society is becoming less and not more naturally immune to the effects of economic depression. It adapts itself less readily to changes—it recovers less rapidly; it is losing its resilience. When prosperity wanes prices fall—but other values are becoming more rigid. Therein lies the second danger and it is

the graver because society is threatened by the third—by the probability that prices in the future may be depressed not by causes directly due to those ups and downs in economic activity which a helpless world has come to accept as inevitable, but by the single fact that the gold mines of South Africa are likely to become exhausted.

THE PROBLEM OF THE BUSINESS CYCLE

The business cycle, as it is called, and the adequacy of the world's gold supply constitute probably the two most important economic problems which the world has to face to-day. The first is, however, infinitely the more difficult of the two. Many books have been written on the subject and permanent scientific study of the phenomena of the cycle is being conducted by the National Bureau of Economic Research in America, the Konjunktur Institut in Berlin and in Vienna and a number of similar organisations elsewhere. But for such research to lead to fruitful results it is essential that the facts should be ascertainable and that adequate provision should be made for their study. There is, however, only one industrial country in the world—the United States of America—where adequate measures for collating the facts are taken to-day. Elsewhere the interests vested in ignorance have proved too strong for an apathetic public to resist.

Until the work which is now being conducted is co-ordinated and additional research is rendered possible by the collection of data and the provision of staff, and until certain proposals for lessening the effects or decreasing the amplitude of business cycles have been put to practical test, there is little hope that society will acquire control over its own economic destiny.

But it may be well to remember when conditions are bad, men are without work, and children short of food, that the malady from which it is suffering will prove, when correctly diagnosed, to be ignorance.

How difficult the problem is the briefest consideration of recent events must render apparent.

The rate at which industrial production was increasing in most parts of the world during the years and months immediately prior to the Autumn of 1929 was, as has been seen, exceptionally rapid. Even if such an increase in production involved no change in the distribution of the national income or in the manner in which the use of income was divided between saving, investment and spending, the difficulties of anticipating demand in such circumstances would be formidable. Most of us do not know ourselves how we should spend our income if that income increased; but if manufacturers incorrectly guess for all the decisions which few, if any, have made, they fail to sell their produce at a profit and business activity is arrested. Obviously the more rapid the rate of growth the greater the chance of a change in the composition of expenditure and the greater, therefore, the risk of error. This risk becomes the more grave when the average income is such that a large part of production is devoted to satisfying a demand which is essentially optional. But in fact when real income increases the proportion saved tends to increase too. More capital is available to be spent on machinery, plant and other capital goods and the manufacturer has a second and far more obscure a conundrum added to the first. He has to guess—not what will be wanted next year, if incomes increase—but what will be wanted in two or three years' time if incomes increase—or do not. He has

to lay down plant to meet that demand, and scrap it, or be himself scrapped, if the demand fails to materialise. Further he and all those ultimately responsible for investment must keep pace with savings—neither lag behind or outrun them.

But increasing income leads to a still further complication. National income is the sum of the goods and services produced during the period in which that income is measured. If that income increases and the money by which its exchange is effected is not increased in proportion, prices may tend to fall. If the money supply is not allowed to lag behind, prices may keep stable. But by the maintenance or movement of prices the distribution of the national income will be influenced; stable prices and increasing individual income will benefit in the first instance and probably to the greatest extent the recipient of profits: secondly, and probably to a less extent the wage earner. They are likely to tend therefore to increase savings, for it is those who are actively earning and engaged on productive enterprise who save the most. But, if investments through savings are increased, demand, as has just been seen, is diverted from consumption to capital goods and the manufacturer must follow that change in immediate demand and at the same time foresee what articles for direct consumption will be wanted at some indeterminate date in the future and what particular capital goods he should purchase with the savings placed at his disposal.

Stable prices accompanied by increasing individual income, if they prove specially favourable, as is suggested, to profits, must also raise the value of ordinary shares in industrial concerns and therefore tend to divert savings to that form of capital investment and to give an incentive

to speculation. In the United States of America events have run this course. Between 1922 and 1928 real income in the United States is estimated to have increased by very nearly 20 per cent.—that is by $3\frac{3}{4}$ per cent. per annum. Wholesale prices of goods were only 3 points lower in the last year of the period than the first and were fractionally higher than in 1922.¹ The index of the prices of industrial shares rose by 130 per cent. But bond prices only rose by 17 per cent.

The economic development of the United States during these years was exceptional. But it was not unique. Between 1925 and 1928 the German national income is believed to have risen by 15-19 per cent.—a rate of growth which easily outstrips the American. In fact over great areas of the world the pace was too hot—the necessary readjustments could not be made.

It is perhaps not probable that so rapid an advance will be made again in the near future. As has been stated above, in Europe it represented largely not real development but recovery. But there is every reason for presuming that the momentary depression will be followed by years of industrial activity. If this happens the same difficulties of foreseeing demand, of avoiding speculation and of general adaptation to changing conditions will present themselves. Those difficulties can only be met by a better knowledge of the character and relative forces of the changes which are taking place.

In the above deliberately crude description I have

¹ Between 1922 and 1928 income rose by one third. The figures for national income refer to "realized income", which includes an estimate of the changes in the values of stocks and property. The values, however, are measured in 1913 dollars, that is, the price factor is eliminated.

See *The National Income and its Purchasing Power*. Dr. W. I. King.

confined attention to but a small selection of the problems that a boom in trade presents, and taken by way of illustration a situation under which prices are kept relatively stable while productivity increases. In fact, however, prices generally tend to rise over the upward slope and drop after the crest of a boom has been reached, although in many countries they declined steadily during the whole or the major part of the cycle which is now just completed. A rapid fall in prices necessarily involves difficulties from which certain countries are, as I have stated, becoming ill-adapted to extricate themselves. In order to form a judgment concerning the probable influence of falling prices on the status of different countries in the future, it is necessary to recall certain of the more important facts of the last ten years and with those facts in mind to consider what form of national economic organisation is best fitted to respond rapidly and correctly to changes in values.

RECENT PRICE MOVEMENTS

There is a habit amongst publicists in certain countries to assume that the whole of the period since the collapse of the boom of 1920 was characterised by a constant and general decline in prices. In fact that assumption is false. Prices averaged higher in the United States in 1928 than in 1921 or 1922. They rose steadily in France and Germany through 1926-27 and 1928 and in Italy between 1924 and 1927. On the other hand they fell in the British Empire, in Holland, Switzerland, Sweden and other countries which, by a policy of deflation, restored the pre-war parities of their respective currencies.

Thus between 1924, just before the decision to restore

the sterling value of the pound was made and 1928 wholesale prices in England and also Switzerland which pursued a similar policy, fell by 16-18 per cent. In the United States the change on balance was quite negligible. There prices rose somewhat rapidly in 1925 and descended again about 7 per cent. to approximately their previous level. The United States dollar was the only currency which, during the whole of this period, was on a gold basis. What happened, therefore, between 1921 or 1922 and 1928 or the summer of 1929 was that gold prices see-sawed about an unchanged plane while some paper prices, which proved to be too high when that paper was reattached to gold, fell and others which were too low rose.

By the autumn of 1929 complete international equilibrium had not been restored; but the discrepancies were appreciably less than they had been seven or eight years earlier. Then, suddenly, if not unexpectedly, with the bursting of the Stock Exchange boom in New York, values slumped and in the first six months dollar prices sank 7 per cent. Others sooner or later, to a less or greater extent, shrivelled in sympathy.

These changes in the level of wholesale prices in different countries are of importance for any reasoned opinion concerning the probable future course of events, because they help to an appreciation of the stresses which have had to be borne in the immediate past. Scarcely less important are the changes which have taken place in the average level of prices of different groups of commodities. In the beginning of the last decade manufactured articles ruled relatively high in price and industrial countries for a time were able to obtain the agricultural products and other raw materials they

required at advantageous rates of exchange. Gradually the margin between the average prices of these two classes of commodities was narrowed, though it has widened again since the last depression began; but to a large extent it is still true that, for many classes of goods, at each stage from the crude product, be it of agricultural or mineral origin, to the finished article, there is a continuous gradation in the ratios of price increase.

Partly on this account and partly owing to the better service demanded and increased cost of service, retail prices in most countries rule relatively higher than wholesale. But more important than the relationship between retail and wholesale prices at any moment of time, when the dynamics of economic development are being considered, is the fact that in whatever direction values may change retail prices are habitually more sluggish than wholesale. They drag behind lumberingly, and when wholesale prices slump and the producer is forced to accept smaller returns, the consumer fails to receive at once a fully reciprocating benefit. Professor Bowley has shown that in England four-fifths of a movement in wholesale prices is carried forward to affect retail prices two months later.¹ When wages are governed by a cost of living scale the dilatory movement of retail prices is inevitable. The price index is largely dependent on the rate of wages and the rate of wages dependent on the price index. The latter will only change as, despite high wages, the falling costs of raw materials slowly exercise their partial effect on the prices of goods ready for consumption. When attempts are made to keep wages stable in the face of any downward movement of other

¹ *Lloyds Bank Review*, June 1930.

values the discrepancy between retail and wholesale prices will be still greater. That discrepancy is not due to wages alone but to all the fixed charges which are incorporated in costs to the consumer and do not fall on the crude products ready for treatment by the manufacturer. In most countries rent and interest on long-term loans, taxes and often transport costs change at relatively rare intervals; wages, however, probably more than any other single factor determine the national differences in the rapidity with which the cost of living, and hence the cost of production, responds to changes in wholesale prices. They tend therefore largely to determine the relatively competitive efficiency of different countries during periods of instability.

For a number of reasons all these facts concerning the last ten years are of importance and of great significance for the future. In the first place they suggest (though they do not prove) that the sudden collapse in prices which began in the autumn of 1929 was not due to a shortage of gold. For gold prices, as has been seen, were at almost the same level in 1923 and 1928, and the change which may have taken place in the course of a few months in either the absolute supply of monetary gold or the relationship of that supply to demand cannot have been great. If the supplies of gold, therefore, were adequate to maintain prices and prices collapsed, the provision of adequate supplies in the future will not itself constitute any guarantee against subsequent wide variations. The problem of the trade cycle and the problem of gold supply are distinct though here and there they may touch. It does not necessarily follow from this, however, that the scramble for gold which has taken place in the last two or three years has had no

influence on prices. It has already been observed that as a rule prices rise somewhat during a boom and during the last they failed to do so.

Secondly, it is significant that during this period great prosperity was enjoyed or great progress was achieved alike in countries where prices were relatively stable such as the United States, in those in which they were rising in recent years, such as Germany and France, and in those in which they were falling, such as Sweden or Holland. But in England the progress was small. If, therefore, that lack of progress was to any large extent caused by falling prices, the effect of such variations in value must differ widely from one country to another.

Finally, owing to the changes which have taken place during the last ten years, the present situation differs from the past and each point of difference is likely to exercise its influence on the future. The discrepancies between the prices of similar commodities in different countries are less than they were, and trade is less likely in the future to be temporarily twisted or diverted by such discrepancies; the special price advantage enjoyed by producers of industrial goods in the early years of the last decade has diminished if not disappeared¹; the recent fall in prices has been not only extremely severe but, unlike the previous slower decline, almost universal; owing to its severity retail prices and, in consequence, the costs of production, have in some countries been left floating in the air; owing to its universality its effects on national competitive power may be less than the

¹ The depression has increased it. But that increase will almost certainly prove to be a passing phenomenon, whereas the earlier discrepancy between industrial and raw material prices lasted for a series of years—years of both depression and revival. Indeed it never completely disappeared in certain European countries.

effects of the earlier divergent movements. Between 1924 and 1928 England, Holland and Switzerland had to force down their domestic prices, as we have seen, by 16-18 per cent., while their competitors enjoyed the advantages of slowly rising values or almost stable conditions.

THE EFFECTS OF PRICE CHANGES

If prices continue to decline in the future the incidence of such burdens as that decline may bring will be more equally distributed. The extent to which they will adversely affect different countries will depend more than in the past on the power of each country to respond to the pressure and less on inequality of the pressure itself.¹ The industrial states of Europe and also the British Empire as a whole should, therefore, be somewhat more advantageously placed than they have been in recent years so far as the effects of currency policy are concerned. But the importance of this point may easily be exaggerated. As I try to show in the following article, certain of the countries which have pursued a policy similar to that of the United Kingdom have made very remarkable progress during the years of deflation. The power of response has, in fact, proved to be of much greater importance than the relative degree of pressure.

How then may we expect the different countries to respond to the new pressure? Will it affect more the young or the old, the agricultural or the industrial nations? Will England rebound or will she fail to do so? Obviously the answer to these questions must depend in

¹The equality will not be perfect, for perfect equilibrium of international price levels has not been reached.

the first place upon the nature and duration of that pressure. If the present decline in values is merely the passing effect of a temporary depression in trade, from which a complete recovery is made without too great delay, the effects will be relatively slight and the problem presents no great permanent interest. But if, when the decline ceases, stability is re-established at a lower level, or if, for instance, on account of a shortage of gold prices continue to wane slowly over a series of years, then the consequences to one country or another may be serious.

(a) On Agriculture

Farmers instinctively believe that prices and the weather are always bad, and their representatives have quite sincerely maintained that during the whole period since 1920 the exchange value of agricultural products has been abnormally low. In fact there is little evidence to support this view. Cereal prices have been low, and some countries have suffered from wages or interest rates so high as seriously to restrict their competitive power. Thus in England during 1928 wholesale prices in general averaged about 141, the prices of agricultural produce as a whole 147, of livestock 151, of cereals and farm crops 134, of agricultural wages 176. But even cereals were not as low as minerals (115) or as the fertilisers which the farmer requires (98). In France, in Germany, in Holland, in the United States, the same general phenomenon was to be found—the prices of farm products tended to rule higher than those of minerals and frequently also of other classes of raw materials. But there is evidence to support the view that

at any rate in Europe and perhaps also in countries largely dependent on European markets the farmer has had to give more of his produce in exchange for the manufactured articles he requires. The disadvantage from which he suffered in this respect was less than that of the miner and was very much less in the last few years than in 1920 and 1921.¹ Professor Cassel has expressed the view that the main causes of this change in value some years ago could "ultimately to a great extent be traced back to forces and measures counter-acting more or less consciously the great principle of the division of labour.

"Necessary complements to the division of labour are, of course, a free exchange of goods between the several branches in which the whole process of production has been divided up and also such free movement of the labourers or, more generally, of the factors of production between different places and different occupations as will ensure full employment of them. Without these complements, the division of labour is little more than an empty phrase. Every obstacle placed in the way of a free exchange of goods is therefore, ultimately, an endeavour to challenge the principle of the division of labour and to diminish its usefulness. And every policy restricting the freedom of movement of factors of production is an endeavour to leave part of such factors unemployed, or at least to put them in a particularly disadvantageous position, and thus not only lower their productivity and their income but also reduce the whole effectiveness of the social process of production."²

¹ i.e., up to the end of 1929.

² *Recent Monopolistic Tendencies in Industry and Trade*, Gustav Cassel, p. 4.

(b) On Tariffs

The main obstruction to the free movement of goods is caused by tariffs and a permanent reduction in the price level must raise the average level of tariffs. To-day three forms of duty are normally imposed; ad valorem duties which are tied to the prices of the articles and rise with their rising, with them subside, specific duties, and that curious inversion of the first class, the so-called scientific duties which rise unpoetically when prices subside, and fall when they rise. The protective effect of the first class is uninfluenced by changes in the level of prices. But when duties are specific, are imposed, that is, on the weight (or volume) of the imported goods, then every fall in price of 10 per cent. will increase the protective effect of the duty by 11 per cent. When duties are both specific and inverted the limits to the increase in their ad valorem rates which may result from a fall in price is dependent on the discretion of the law-giver or the administration. But it cannot be less than it would have been were they not inverted. In Europe at any rate the great majority of duties are specific, and as in no case does a fall in prices reduce the obstructive power of tariffs the net effect of any considerable decline in the price level may prove to be extremely serious.

The necessity for lower tariffs will become more imperative as the average income of the individual grows, but the automatic action of forces wholly disconnected with commercial policy may thrust them up. If prices continue to fall owing to shortage of gold, indeed unless they rise well above the level they have reached to-day, the world may find itself manacled by

gyves manufactured by fate. It remains indeed to be seen whether the business world has been wise in preferring specific to ad valorem duties.

The impediment to production and to enterprise which higher duties would constitute may for a time restrict the output of manufactured goods and help to keep up their prices above the prices of agricultural products. Land does not go out of cultivation so quickly as industrial workers go out of employment. In the industrial countries unemployment will be higher—in the agricultural prices will be lower. But that, unless a continual decline in prices has quite disastrous results, must be a passing phase. The technical improvement in manufacture in recent years has been so great that such restriction of output can hardly last for long. Although industrial countries cannot expect to enjoy, after the present depression is past, the special price privileges of some years ago, the rate of industrial development will inevitably continue to prove more rapid than that of agriculture. But the tariffs may hobble if they do not hamstring industry, and the need for larger markets must become more pressing as wealth increases.

We may expect, then, that a lower general level of prices may, through its influence on tariffs, until and unless the rates of duty are revised, affect most seriously countries producing those commodities which are not prime necessities. It is the industries which satisfy secondary needs to which in the long run tariffs are the most damaging. But the inverted duties in Europe are imposed on cereals. If they are raised automatically by the general decline in prices and deliberately by a change in rates, all exporters of these agricultural pro-

ducts whether in America, Oceania or Europe itself may see the doors of their former markets slowly closing. In consequence certain exporters of agricultural products may find that the automatic increase in the protective effect of their domestic tariffs on manufactured goods and resulting increase in costs, combined with the fall in the world prices of what they can offer for sale and the closing of foreign markets, will force them to abandon their farms.

Specific tariffs are typical of the most general weakness of modern economic legislation and organisation ; they are rigid while values fluctuate and demand hovers.

I tried in the previous article to show that in the unfolding of the future greater instability of demand was to be expected, and that the condition of success was flexibility. If prices continue to decline a new element of instability is added, and those countries which cannot bend may break.

(c) On countries with high fixed charges

If prices fall when the production per head of population is not increasing, the distribution of the national income must be modified. Those whose income is fixed will, with the same sum of money, be able to buy more goods, and as more goods are not being produced, those whose income varies with changing prices must buy less. What is true of the whole is true of the part and the fixed charges of every industrial firm and of every farm will constitute a greater proportion of total costs. But just because these charges are fixed and cannot be reduced, the firm or the country in which such charges are heaviest must find its competitive power most weakened. The danger of falling prices is, therefore, the

greatest to those whose fixed charges are the greatest.

But for a number of reasons the fixed charges both of states and of individual firms have in many cases increased in recent years. The most important single cause of this change lies in the enormous growth of public debts. With every fall in the prices of commodities the burden of this debt increases, unless that fall is due to increased productivity.

At the same time there would appear to have been partial failure to convert savings into long term investments so that an unusually, maybe dangerously, large amount of business is being conducted on bank loans or overdrafts, and large funds are available to take their toll of the national income by speculative processes. Great fortunes have been made (and often lost) by those who had free funds with which to speculate in exchanges, or after currency stabilisation was completed, to lend on short term where profits were highest. Great rewards for intelligence were offered to these speculators by governments which deflated their currencies, and gifts wholly gratuitous by those which announced for all to hear and some to credit their folly that deflation would continue until on a pre-determined date pre-war values had been re-established. To these rewards and gratuities were added later profits reaped from stock exchange speculation or brokers' loans, and short-term loans to business in countries where capital was scarce. The temptation to maintain large floating balances has thus been exceptional and may well disappear. But there are other forces at work in addition to these special inducements. Owing to the high rates of interest ruling, for instance, in Eastern Europe, certain types of potential borrowers on long

term have been forced to restrict their borrowings and satisfy their needs as best they can with short term credit. The most obvious example of this lack of capital adjustment is afforded by agriculture. No doubt the defect will tend to right itself in time, but the mechanism for international mortgage credit to-day is defective. Ultimately agriculture may gain by its partial failure to borrow on long term; for if prices and costs fall it will require less capital, and it can more easily reduce its short term borrowings than its mortgage bonds. But the high rates on these bonds is partly due to the fact that the market for them is badly organised, and in addition in Eastern Europe in any case there is almost no provision for intermediate credit between the six-months paper and the long-term bond. Elsewhere—in England perhaps in particular—the organisation of the capital market has not been fully adapted to other structural changes and perhaps equally important, those who to-day are in the greatest need of the facilities which that market does offer are often unfamiliar with the manner in which it functions. The partnership and the private company constituted before the war the typical unit of industrial enterprise. They are being replaced by the joint stock company—and ultimately this process of substitution will be accomplished as it is to-day in part being accomplished—not by the simple metamorphosis of each unit, but by the coalescence of many of the old cells with a larger, more complex, and it may be hoped more vital organism. But for this process of change conditions have not been favourable. Neither the company promoter nor the issue house was able to provide exactly the type of incubator required. The change in many cases has been unduly delayed and

overdrafts have accumulated. With the aid of the Bankers' Industrial Development Company the situation may gradually be improved.

Finally, confidence and the conditions necessary for the maintenance of confidence have been lacking. Investors have been timid because knowledge of investments was inadequate, risks have increased, and confidence in the stability of governments has not been fully restored. The development of investment trusts which spread risks for the investor and assist the successful issue of shares is thus of particular importance and may become of increasing importance if prices continue to decline.

The incomplete organisation of the capital market has thus had two effects. It has in certain countries led to a restriction of the issue of share capital, and in others, of debentures and mortgage bonds. In both cases a larger proportion of business is being conducted on short-term loans. This decreases the flexibility of industry, except when short term loans replace debentures only, because bank loans constitute a fixed charge as long as they are outstanding, and, if it does not decrease that of agriculture, involves an element of risk when the short-term loans are obtained from foreign countries or are liable to be withdrawn for more profitable employment elsewhere.

The recuperative power of the individual concern must be affected by the manner in which the funds on which it operates are divided between its own share capital, and obligations in the form either of debentures, overdrafts or bank loans. Debentures constitute the heaviest charge because the rate of interest which they carry is fixed, but the burden of all forms of debt

increases when prices fall. Moreover the danger is not confined to industry alone. As recent experience has shown in certain countries which have rapidly deflated their currencies, the shock of changing values may recoil with concentrated violence on the banks.

But in other ways also industry in many countries is becoming increasingly ill-adapted to meet successfully the natural effects of falling prices. The gradual substitution of one hand operation after another by mechanical processes involves an increase in overhead expenses. The concern which is running without overdrafts and without debenture obligations may avoid fixed interest charges on those debts—but it has to maintain and to amortize its plant. That maintenance and amortization is fixed, and to-day the rate of amortization depends not on wear and tear but on obsolescence. The tendency is towards an increase of overhead expenses—towards mechanization and in certain types of industry mass production. But mass production depends for its success on constancy of demand and on the absence of wide variations in economic activity. The real economy which it permits cannot be ascertained in a single year, cannot indeed be ascertained in a period much shorter than the life of the plant, or alternatively, than a whole cycle of waxing and waning demand. Where, in addition, taxation is heavy and adequate allowance is not made by taxation authorities for re-equipment reserves, the danger of falling prices is doubly grave, for part of the profits out of which reserves for new plant will have to be accumulated—profits which with falling prices it will be increasingly difficult to earn—will be appropriated by the State.

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necessary adaptation in money wages and also in the money benefits to the unemployed would perhaps not present insuperable difficulties. But to adjust wages to temporary fluctuations, to know whether such fluctuations are likely to prove temporary or not, to choose between a higher proportion of unemployed for a few months or more, and all the creaking of a cumbrous machine which widespread changes of wage rates must cause, demands an economic sagacity which, in fact, the world does not possess.

As society is at present organised other charges allow little scope for policy, though they may be lessened by improved financial machinery. Interest is fixed by contract and can only be reduced on new contracts. A fall in prices therefore may curtail the competitive power of those countries which have exceptionally heavy long-term obligations to meet—will curtail its competitive power if its debts have to be met abroad. If the debts are domestic a greater share of the national income is transferred to the nation's creditors—the holders of bonds—and taxation must be increased. If taxation is already heavy the result may be to hamper enterprise and burden industry. It should be the object of the fiscal authorities in such circumstances to take where they give. If the debts are foreign, then a thicker slice of the national income has to be cut off year by year and handed over to the foreigner. There is less income for the individuals of the debtor nation to divide and enjoy; saving will shrink, the domestic market will weaken and progress will be arrested.

(e) *On countries with increasing productivity*

But the effects of falling prices will be wholly different if that fall is due to greater productivity of labour, plant

and organisation. In such circumstances the income per head of population is larger—the quantity of goods produced has been increased and that greater quantity is sold at lower prices. It is the duty of each individual business enterprise to endeavour to produce more efficiently and more cheaply, and at least not unnatural that the success of those endeavours should be reflected in lower average prices for the aggregate of the goods produced. If prices fall exactly in proportion to this increase in efficiency the distribution of the national income is unaffected. Those who have fixed incomes will enjoy the same share of the national income—and with that share be able to purchase rather more commodities. The money income of wage earners will not be increased, but their real income will have expanded in proportion to the average expansion. The burden of the national debt will be no greater and no less. The competitive power of the country in foreign markets will have been strengthened.

With these considerations in our minds it is not difficult to guess which countries are likely to suffer the most from a general decline in the price level caused by some universal influence such as a shortage of gold.

Countries whose productivity is increasing rapidly and—the young and the adaptable—the United States, Canada, Japan, may absorb a larger part of the whole of a long trend decline in that increasing efficiency. If the rate of the price movement does not exceed the rate of their increasing productivity, the distribution of their income may, as we have just seen, be unaffected, and every individual concern which keeps pace with the average progress will avoid the danger of growing overhead costs. All countries which can adapt costs

rapidly to the changes in the prices of goods must inevitably suffer less than those whose mechanism is more rigid. They will suffer less than others from a long trend decline, and they will adapt themselves most quickly to fluctuations due to changes in general economic activity. When to rigidity of wages are added heavy fixed charges on the community arising out of domestic or international debts, the power of adaptation will be least, the power to compete will be the most seriously threatened by falling prices. It is countries such as England with its £7,600,000,000 of public debt and its endeavour to maintain or improve the standard of living of an increasing population rather by dividing than of by adding to its national dividend—such as Germany and Australia with their heavy external obligations to which a decline of prices over a long series of years will present the greatest dangers.

Australia may be doubly affected for amongst agricultural countries those are likely to suffer the most which have a large export surplus of cereals and high import duties on manufactured goods.

What then is the probability of prices declining in the future?

GOLD

Goods and services are exchanged against money, and the average prices at which they will be exchanged are likely to depend in the long run upon their quantity on the one hand and the quantity of money on the other.¹ So long as the law demands that notes, and law or custom that other means of payment must be backed by a definite proportion of gold, the supply of money

¹ Other factors such for instance as velocity of circulation will exercise an influence, but need not be considered here.

will be controlled by the supply of gold. But the amount of gold available for money cannot be changed at will; it is dependent on the quantity which is mined and the proportion of gold mined taken for non-monetary purposes. If the gold made available for money does not increase as rapidly as do goods and services its value is likely to rise and the prices of those goods and services to fall. It is always possible therefore that prices in the world may be forced down for reasons which are rather geological than economic.

No person would lightly assume the responsibility of prophesying the course of future events; but no nation dare shut its eyes to the fitting shadows by which those events suggest their form and often dupe their delineator. The shadows as we can see them to-day suggest at least that there is a danger of gold supplies proving inadequate to maintain prices during the present and subsequent decades. They have been photographed for detailed study and analysis by the Gold Delegation of the Financial Committee of the League of Nations.

The whole problem, as has been stated, is one of supply and demand, and in order to frame an opinion of the probability of the present balance being maintained it is necessary to examine the various factors separately on which supply and demand depend.

The supply of monetary gold in the future will consist of the present monetary stock, which is not likely to be eaten into, and the additions to it drawn either from new gold mined or from old gold melted. The present stock amounts to something over \$11,000 millions¹; somewhat over \$400 millions of new gold are mined

¹ At end of 1928 \$10,950 millions; at end of 1929 about \$11,180,000,000. See Interim Report of Gold Delegation, Geneva, 1930.

to-day in the course of a year. But according to the opinion of geological experts unless new deposits of unusual importance are discovered the output of mines is likely to diminish in a few years' time and sink to well under \$400 millions before 1940. How great the diminution will be it is impossible to foretell. The estimates of experts concerning the probable output in, for instance, 1940 range from \$314-370 millions. But that a considerable reduction is probable on account mainly of the exhaustion of the South African mines, which account for over half of present production—almost all agree. Of the total supplies of new gold it would appear that somewhat under one-half are purchased by India and for industrial purposes in normal times. During the recent months of depression industrial demand has weakened. India alone takes from \$70-90 millions per annum. Obviously, if gold does not go out of fashion, and it has been in fashion in all ages of history, and if India does not change her prehistoric habits, the proportion of total gold mined available for money will tend to diminish as that total diminishes. It has been concluded therefore that, on the average, somewhat over \$200 millions are now added to the monetary stock each year and that by 1940 a considerably lower sum, if industrial demand does not increase, lying possibly between \$120 and \$170 millions, will be available for this purpose.

The demand for monetary gold is dependent on the demand for money. The great majority of gold-using countries have ceased to put gold coin into circulation. But they insist that a certain amount of gold shall be held against each note issued, and in certain cases against all the sight liabilities of central banks. The total of

these sight liabilities and notes for the great majority of gold-using countries is known, and amounted at the end of 1928 to just over \$24½ milliards, against which gold reserves averaging 40·7 per cent. were held. In addition to the gold reserves, there exist scattered sums in circulation or in the vaults of commercial banks which at the end of 1928 amounted to just over 3 per cent. of the notes and sight liabilities. More important than the actual reserves held, however, when estimating future demand are the minimum reserves which by law must be held. A number of Governments allow their banks of issue the option of keeping their reserves either in gold or in other assets held in some gold standard country and readily convertible into gold. Others again insist that all notes in excess of a certain defined amount must be fully backed by gold. It is not possible therefore to state with absolute precision what the monetary demand for gold at any moment of time will be even when information concerning the amount of the circulation of notes and of sight liabilities in existence is forthcoming or for the sake of argument an aggregate for some future year is assumed. But it is possible to calculate the upper and lower limits. At the end of 1928 the law required that minimum reserves of between 29 and 34·4 per cent. should be kept against the \$24½ milliards of notes and sight liabilities then in existence. The lower of these figures would only have been possible had all banks enjoying such an option kept all the reserves they might in foreign assets and not in gold. In fact none of them did so; most divided their holdings between these two alternative forms of reserves. Had the actual division adopted by these countries been legally compulsory the

reserve ratios for all these gold-using countries would have been nearly 32 per cent.

But in practice the legal minimum reserve must be exceeded. Countries effectively on the gold standard are under an obligation to sell gold for export to any person offering legal tender domestic notes in exchange. It is obvious that, if in any country a fixed legal minimum of one-third had to be maintained, notes could only be freely converted if more than one third of their amount in gold were held. If only one third were held the reserve would become inadequate on the first occasion that gold was sold for export. Thus, if the total note circulation were 1,000 and gold 333 and merchants desired to purchase 100 of gold, the note circulation would be reduced to 900, the gold reserve to 233 and the reserve ratio to 25.9 per cent. The bank would have broken the law. In practice the reserve ratio is generally not absolutely fixed; but, if it is allowed to sink below a certain figure the bank is fined or its freedom of action in some way curtailed. A margin of gold above the legal minimum has therefore to be held. The width of this margin will vary from country to country—but is not likely to be allowed to fall lower than 7 per cent., unless foreign assets can be substituted—and many banks would consider 7 per cent. too little. The minimum reserves required in practice therefore are higher than the legal minima.

Of the three figures for the legal minima quoted above the most important as representing the practical interpretation of existing laws was that which lay between the two extremes, namely 32 per cent. But 32 plus 7 equals 39 and the actual reserves held only amounted to 41 at the end of 1928. The surplus of gold at this

date according to the system of reckoning employed was thus small.

This system, however, presumed that an average margin of 7 per cent. would be required throughout all gold-using countries. In fact a number owing to their special regulations—more especially their power to substitute foreign assets for gold—do not require a margin of 7 per cent. The surplus gold is therefore greater than the calculations given above indicate. In consequence of this certain countries can and do hold reserves well in excess both of the average and of their own legal minima plus this margin.

There is no absolute proof that supplies in 1928 or 1929 were inadequate though many writers esteemed them to be so. But if the demand for currency increases they are likely to become inadequate, unless measures of economy are adopted in the proximate future. When the strain will be felt must depend on the rapidity with which demand increases and that rate of increase itself depends on the growth of wealth. At the moment that growth has been arrested and the world is suffering from a cyclical depression of prices. But when trade revives, prices may be expected to rise again. Money is employed to exchange goods and services. The greater the quantity of goods produced or of services rendered, the greater the demand for gold is likely to be. It is scarcely to be expected that the production of wealth will rise from year to year at the rate recorded in the period between 1925 and 1929. But between 1913 and 1928 the currency of the gold-using countries after making allowance for the change in the level of prices increased by over 2 per cent. per annum. Professor Cassel has argued that in the

latter part of the nineteenth century and first decade of the twentieth the rate of progress was about 3 per cent. per annum.¹ Population is not growing to-day at the same pace as it was then, and a lower rate of economic expansion might well be expected. Moreover, the world is very much more wealthy than it was fifty or sixty years ago and to add one per cent. to a small income is an easier achievement than to add one per cent. to a great one. Even if we were certain about the records of the past—which we most assuredly are not—these records would afford an inadequate criterion for framing a judgment concerning the probable course of events in the future. But such evidence as is pertinent would seem to point to the conclusion that national income in gold using countries as a whole may well expand over a series of years at some average rate lying between 2 per cent. and 3 per cent. per annum. In point of fact, however, between 1928 and 1930 currency circulation contracted owing to the drop in prices; but I am here rather concerned with what the gold requirements would be if prices were to fluctuate round a level about the same as that which was attained towards the end of 1928, than with what might happen if prices fell or a lower level of stable prices were established. On that basis, according to the authority quoted above, if demand were to increase at 2 per cent. per annum, slightly over \$180 millions of new gold would be required in 1935 for the purposes of a 33 per cent. cover, and about \$220 millions for a 33 per cent. cover plus 7 per cent. margin. By 1940 these requirements would have risen to approximately \$200 millions and \$240 millions. But by 1940 it is estimated that the new

¹ *The Theory of Social Economy*, ch. xi.

gold forthcoming for monetary purposes will probably be appreciably less than the lower of these two figures.

In view of these facts the Gold Delegation reached the conclusion that "the inadequacy of the supply of new gold available for money is likely at no very distant date to exercise its influence in depressing prices." How immediate that result may be it is quite impossible even to guess. Prices move slowly upward or down over a protracted series of years owing to causes related to the supply of and the demand for gold. But in addition they fluctuate above and below this line of general trend owing to causes related to the cycle of business activity. It so happens that at the moment the world is passing through the trough of a business depression and demand has contracted. When that depression has passed demand is likely to advance with quick pace. But how long the depression may last no one can foresee.

Moreover, there are certain supplies of frozen monetary gold which may be drawn upon to supplement the new gold coming forward. There remained at the end of 1929 about \$750 millions of gold in the hands of commercial banks and the general public, of which a considerable part has already found its way into the reserves of central banks. World stocks exceeded 40 per cent. of all notes and sight liabilities at the end of 1928 by \$919 millions. As has been pointed out above, all countries do not require to maintain a margin of gold in excess of their legal requirements. Further, the amount of gold used for industrial purposes has diminished during the recent months of depression, so that a larger proportion of world output has become available for money.

While these facts render it impossible to foretell with any nice precision the date at which or the extent to which the factor constituted by the supplies of gold is likely to exercise a predominant influence on the general trend of prices, they in no way invalidate the conclusion which has just been quoted.

It remains to be seen whether the world will allow its economy to be profoundly modified by geological facts, whether certain countries relatively ill adapted to bend and swerve before the downward flow of prices will be content to see their status in the world decline because the supplies of a single metal are running short. Currency legislation to-day is largely the outcome of a slowly accumulating body of tradition and convention—and these have determined above all the gold reserves which the law requires should be held against notes and sight liabilities. The greatest economy in the use of gold could be accomplished by a modification of these reserve ratios and what convention has created, convention can modify.

BRITAIN AND WORLD TRADE¹

So many persons infinitely more competent than myself have written and are writing on the question of British industry and trade, so many committees have sat and are still sitting to debate this problem that an apology may well be expected for any supplement to these endeavours, an apology is all the more requisite when that is made by a person who, for ten years, has lived abroad. My excuse then must lie in the fact that viewed from without the problem may present aspects different from those which are apparent to those who live within it, and that certain of those aspects may possibly be significant and instructive.

Perhaps the analysis I propose to attempt is made too late, for attention is turned now not so much to the general economic status of England in the world, as to the more immediate problems arising out of the present general depression. But all world depressions are temporary—many are salutary—and on the measures adopted in each country during periods of adversity depend not only the rapidity but the permanence and degree of subsequent recovery. With the immediate repercussions of the present depression this article is but indirectly concerned. I want to consider the general status of British industry and trade in the world before they made themselves felt and shall, therefore, confine attention mainly, if not wholly, to the period ending in

¹ The major part of this essay appeared in the Monthly Supplement to the *Economist*, 25th October, 1930.

December, 1928. The gradual lowering of that status in recent years, however, has been due to causes which, unless vigorous action is taken, are likely to be intensified by the present fall in prices, so that a study of the changes which took place before 1929 is not without pertinence to-day.

A considerable proportion of the literature which has appeared in recent years concerning British industry and trade is somewhat puzzling to the outsider. The analysis of the situation has changed from year to year. A certain doubt and anxiety has been steadily growing since 1923 when the authors of "Is Unemployment Inevitable?" reached the considered opinion that they did not believe that "the abnormal unemployment of the last few years will become chronic or inevitable."¹

But at any rate until quite recent months writers have tended to attribute the difficulties of the United Kingdom largely to the alleged impoverishment of Europe or to the competitive advantages which certain countries have reaped from inflation. The chaos which existed in Europe during the first few years after the Armistice no doubt hampered the exports of this country and of all others to which Europe constituted an important market. But while others developed their trade outside Europe we lost a large part of our trans-oceanic markets and during the last two or three years European demand has probably been up to the pre-war standard.

I propose to endeavour to show in the first place that our failure to secure trade has been greatest—outside the British Empire—in regions which have been least affected by the war; that our markets have not been mainly captured by countries enjoying the alleged

¹ Op. cit. p. 85.

benefits of inflation ; that these favoured nations have not increased their trade by more or indeed by as much as have others which have pursued a monetary policy similar to our own. This last fact constitutes of course no proof and implies no probability that our monetary policy has not adversely affected our foreign trade and our industrial production. It implies merely that there must be some deeper lying cause which has affected us and not our neighbours—which has magnified the ill-effects or diminished the good effects of deflation. That ultimate cause probably most students of the questions would agree is lack of suppleness in the mechanism of production, and that ultimate cause has put a check, not only on our export trade, but on our whole production of wealth. We are to-day standing still or but slowly crawling forward in a progressive world. We are standing or crawling with an awkward rigidity in a world in which suppleness is becoming a constantly more imperative quality, because demand is becoming constantly more mobile.

If the alleged reduced purchasing power of Europe was the true cause of our difficulties then we might expect to find that while our trade with other parts of the world was fairly maintained our exports to Europe had suffered a substantial contraction. But this is the reverse of the truth. It is practically certain that the imports of Europe to-day are greater than they were in 1913. Europe is obtaining from the United Kingdom a slightly smaller proportion of her total purchases, and after allowing for price changes possibly a slightly smaller quantum of goods. But during the last two or three years such reduction as there may have been in the aggregate of her purchases from us was wholly due to

our enfeebled competitive power and not to any general reduction of imports by Europe. Moreover the falling off in our exports, if any, must have been relatively small. It can scarcely have amounted to 5 per cent. in 1927 or 1928. On the other hand our share in the trade of the other continents of the world has been very greatly reduced as may be seen at a glance from the following figures :

By :	Proportion of total imports obtained from U.K.			
	1913 %	1925 %	1927 %	1928 %
Europe	8.4	9.2	8.1	7.7
North America	16.8	11.2	10.3	10.1
South America	27.9	21.2	18.7	18.8
Africa	36.7	34.6	32.9	31.3
Asia	31.5	19.9	18.6	18.9
Oceania	53.4	46	43.2	44.4
World	14.5	13.3	12.1	11.7

Therefore our share in European purchases in 1928 was about 8 per cent. smaller than in 1913, our share in those of Asia, which still account for over one-fifth of our exports and of North America, was 40 per cent. lower, of South America over 30 per cent. and of Oceania and Africa some 15 per cent. lower. We have held our position better in Europe than elsewhere and better in the British Empire than in other parts of the trans-oceanic continents. We contribute about one-fifth less than we did to the total world trade viewed in this way. To attribute this loss to the weakness of European demand is definitely misleading. The figures render it abundantly clear that our loss of status has been greatest in the American continent and Asia where the effects of the war were least.

Percentages are, however, liable to be misleading and

it is worth while, therefore, to endeavour to estimate the comparative loss in absolute values. For this purpose I will take the 1927 figures which are more complete and definitive.

In Imports of	£ (000,000's omitted)		
	Share of United Kingdom according to :		
	1913	1927	Difference.
	percentages.	percentages.	
Europe	325.7	314.2	11.5
North America ..	183.3	112.4	70.9
Caribbean ..	18.9	8.8	10.1
South America ..	101.7	68.2	33.5
Africa	111.2	99.7	11.5
Asia	298.2	175.9	122.3
Oceania	112.4	91.0	21.4
World	1,005.2	839.0	166.2

The figures are necessarily rough and except in the case of the world total it is to their inter-relationship not to their amounts that attention should be paid. The percentages on which the calculations are based refer to only about 95 per cent. of total trade and owing to the manner in which trade statistics are compiled the imports from the United Kingdom by other countries cover, in addition to our exports, a large proportion of our re-exports. But the results probably afford a sufficiently accurate picture of relative magnitudes. If the share of the United Kingdom in world imports to-day were the same as in 1913 it would be between £160 and 170 millions greater than it is. Almost exactly the same result is obtained if British export and not foreign import figures are employed. I will revert to this general result, which is in part fortuitous, later.

The sum of the continental figures naturally differs from the results for total trade as the continental distribution of trade has undergone a considerable change. In

fact, if the United Kingdom had retained its share in the imports of each individual continent, its total trade would be roughly about £280 millions greater than it is.¹ It has, therefore, maintained its position best in those parts of the world which have been most unsuccessful in maintaining their position. It has shared in adversity, not in prosperity.

The individual figures for each continent are striking enough. If the 1913 proportions had been maintained, Europe, the Caribbean and Africa might each have purchased £10-12 millions more from the United Kingdom and South America might have purchased about as much more as these three together. But the difference in North America amounts to over £70 and in Asia to over £120 million. In 1927 the total imports from all sources of these two continents were twice or more than twice as great as in 1913, as were too those of Oceania, where the loss of possible purchases in the above system of reckoning amounted to £20 million.

Such, very roughly, are the general proportions of the problem. To whom has this trade been lost and to what extent have other European countries on whose recovery we have so long been waiting to bring prosperity, suffered a similar loss of status? The answer to the second question will help to an understanding of the first.

The great difference between the position of the United Kingdom and that of other leading European countries is that the former has continued to lose status quite steadily from year to year while the latter, gravely injured at first have, for the most part, made a rapid recovery in recent years.

¹ This figure and the others here given mainly refer to c.i.f. values, country of import.

The course of events may be most clearly followed if we turn from the statistics of imports to those of exports. The shares of certain selected countries in the total exports of the world in recent years have been as follows :

PERCENTAGE SHARE IN WORLD¹ EXPORTS (BY VALUE).

	1913.	1924.	1925.	1927.	1928.
United Kingdom	13·94	13·01	12·16	11·36	11·20
Germany ..	13·11	5·73	6·81	8·00	8·83
France	7·24	7·98	7·24	7·13	6·40
Italy	2·60	2·30	2·37	2·65	2·43
Sweden	1·19	1·23	1·19	1·43	1·34
Denmark	0·93	1·22	1·23	1·27	1·31
Belgium	—	2·37	2·24	2·43	2·67
Europe	55·2	45·2	44·1	46·1	46·0

Neither France, Germany nor Italy has so large a share in the trade of the world as in 1913. But since 1924 Germany and Italy, Sweden, Denmark and Belgium have improved their position—Germany very substantially—while the share of the United Kingdom has sunk from over 13 to 11·2 per cent. Germany it is true was making a partial recovery from the very low status to which inflation and political difficulties had reduced her. But the figures for the other countries show that it was not simply due to the automatic reactions of this recovery on the percentages of the remaining members of the group that the British decline is to be attributed. About half the decline in the French share in 1928 is due simply to a change in the manner of compiling the statistics. The figure for Europe includes Russia. But Europe in spite of this has suffered a smaller reduction in her share of world trade than has the United Kingdom.

The decrease in the contributions of certain of the

¹ The Netherlands are omitted owing to the fact that their pre- and post-war statistics are not comparable.

leading European nations is due to a large extent to the very rapid growth of the exports of the United States. But it is not wholly due to this fact. If the United States are eliminated the shares of France and Germany still show a contraction. On the other hand France's contribution to European trade even in 1928 was greater than in 1913, while that of the United Kingdom had dropped slightly from 25 to 24 per cent. In 1929 according to the provisional and partial statistics available, the share of the United Kingdom in European trade continued to decline, while that of Germany rose.

The manner in which other European countries have outstripped the United Kingdom in recent years may be further illustrated by the indices of the quantum of their exports—that is by indices showing the change in values after eliminating the price factor. Owing to the manner in which the calculations are made the figures of different countries are not exactly comparable, but they reflect adequately the general course of events.

QUANTUM EXPORT INDICES.

	1913	1924	1925	1927	1928	1929
United Kingdom	100	80·6	80	82·7	84·4	87·3
Germany ..	100	50·8	65·3	75·5	85·7	94·8
France	100	119	124	146	148	—
Italy	100	119	129·2	130	132·2	145·8
Sweden	100	93·3	99·6	117·2	106·8	—

The quantum of British exports in 1928 (and in 1929) was thus lower compared with 1913 than that of any other countries given—even than Germany, although Germany has lost territory which is believed to have accounted for about 11 per cent. of her pre-war national income. Actually the quantum index of British exports

is lower than in any other country in the world for which information is available, except Russia. But probably in no other highly-organised country is prosperity so dependent on exports.

It is natural to enquire, therefore, whether the figures are correct. The Balfour Committee expressed the view that the price factor employed in their computation may have been some 3 per cent. too high in the year 1923. On the other hand British exports, according to official estimates, have been artificially raised by more than 3 per cent. owing to the creation of the Irish Free State. Unless there has been a considerable augmentation of the price error in recent years therefore the quantum indices would seem to give too favourable rather than too unfavourable a picture of the situation. If this is the case, then the United Kingdom is selling smaller quantities of goods in comparison with before the war than any other country about which we can judge save Russia, and partly, but only partly, making good her loss, by selling those goods at prices which, on the average, are exceptionally high. The net result is that the value of her exports constitutes year by year a steadily decreasing proportion of the value of all exports, and in the last few years also of the value of all European exports.¹

These facts give some key to the second question put— who has taken the trade which the United Kingdom has failed to secure? Obviously, if the general level of the

¹ Owing to the manner in which the price indices of foreign trade are calculated in most countries I am not myself convinced that they accurately reflect the changes which have taken place when the composition of trade has undergone a very substantial modification. But while I desire to keep an open mind on this point I do not think the error is likely to be such as substantially to affect the broad result indicated above.

prices of her exports is abnormally high, the probability is that the captured trade has been shared as booty by any and every competitor whose prices were less "exclusive." This is in fact exactly what has happened. It has been the habit of the British press to attribute the loss of trade mainly to the irresistible competition of countries whose finances have been so lamentable that their currencies have become grossly debased. But, if this were the main cause, the share of British trade in the world in recent years, when currencies elsewhere were being stabilised and prices rising locally, should have increased, while in fact it has decreased. There can indeed be no doubt that the importance of exchange dumping has been unwittingly exaggerated. The United Kingdom has lost ground to the great and the small, to the financially pure and the financially reprobate, but primarily to the United States. Thus Germany, which is buying less from the United Kingdom, takes a larger share of her imports from Bulgaria, Denmark, Finland, Greece, Italy, Holland, Sweden, Switzerland—indeed most European states. France buys a smaller proportion from Germany and from a number of other European countries, but more from India, from the United States and above all from her own Colonies. Spain is taking more from France; Southern Europe—Bulgaria, Yugoslavia, Greece—more from Italy and the United States; Scandinavia more from the United States and miscellaneous countries of minor importance.

Outside Europe by far the most serious competitors have been the United States and Japan. In South America the pre-war position has been reversed.

Thus in 1913 South America took—

27·9%	of her imports from the	United Kingdom.
16·2%	" " "	United States.

Total .. 44·1%

In 1928 she took—

18·8%	" " "	United Kingdom.
28·8%	" " "	United States.

Total .. 47·6%

In 1913 China took 16·5 per cent. of her imports from the United Kingdom and 26·4 per cent. from Japan and the United States. In 1927, during six months of which there was a partial blockade of Japanese goods, she took 7·3 per cent. from the United Kingdom and 44·5 per cent from the other two.

It is useless to amass further examples. The successful competitors are many, but in Europe the other great trading nations, elsewhere the U.S.A. and Japan, have naturally taken the largest share.

The great trading nations of Europe have all, however, debased their currencies and it might appear at first sight that the fact that their share in the imports of neighbour states has so largely increased at the cost of British exports proves the contention that Britain has suffered particularly from a passing and abnormal competition. If the unusual nature of this competition and not some defect in British economy were the true cause of existing difficulties, then other countries whose currency policy has been similar to ours or even "saner" should have suffered in like manner. They have not done so.

The exports of all the European countries except the United Kingdom which by a process of deflation

have re-established the pre-war value of their currencies continued to expand after stabilisation had been effected in the face of the competition of neighbouring states with debased currencies.

GOLD VALUE OF EXPORTS % MOVEMENT.

	1913.	1924.	1925.	1926.	1927.	1928.	1929.
United Kingdom	100	138·4	146	<i>124</i>	135	137	136·6
Denmark ..	100	194	221	216	226	241	251
Norway ..	100	142	184	174	173	176	194
Sweden ..	100	153	167	174	198	193	221
Switzerland ..	100	146	148	133	146	154	151
Netherlands ..	—	100	114	110	120	126	126

The figure for the first year during the whole of which the exchanges of each country were at par is printed in italics. Both Switzerland and the Netherlands felt the immediate effects of deflation, but their recovery was prompt and decisive. Only the United Kingdom failed to recover. Even in 1929 the dollar value of her trade was over 5 per cent. lower than in the year she returned to the gold standard. That this was not due to a wider price movement than elsewhere is proved by the indices of the quantum of her trade given above. In Denmark and Norway the fall in prices was in fact far more serious—in Switzerland it was nearly as great. If deflation has had so comparatively little influence elsewhere, is it likely to have been the main cause of the troubles of one single country? It is not impossible, for the United Kingdom was the only belligerent country in Europe which has thought it expedient to restore the pre-war value of its currency, and its debt per head is higher than in any of the other members of this group of nations. But it is at least highly improbable that the redistribution of national income which domestic debt payments

involves is even the major cause of the protracted depression. Deflation was more detrimental in England than elsewhere, because other countries made the necessary adjustments to their whole machinery of production and we did not.

It remains to show that the trade of these countries, other than England, which have deflated their currencies, has developed more than that of the inflators about whose machiavellian competition so much has been written. The position in 1927, the most favourable year for the latter group, was as follows :

GOLD VALUE OF EXPORTS IN 1927 AS % OF EXPORTS IN 1913.

France	163	Denmark	226
Germany	101	Norway	173
Italy	169	Sweden	198
		Switzerland ..	146

The only comment which these figures demand is that the trade of Switzerland in recent years has apparently been under-estimated owing to the manner in which the statistics are compiled.¹

It may be hoped that the evidence produced has been sufficient to substantiate the three points it was intended to make—that British trade in the last few years has not been primarily affected by the unsettlement of Europe, that it has not been specially influenced by the competition of countries with debased currencies and that if domestic deflation has been unfavourable to it, the detriment suffered has been due to some inherent and peculiar defect in British economy.

¹ It should be added, however, that in a number of cases the quantum indices of the deflationary countries were lower than those of the inflationary. But the higher prices obtained more than offset this relative drop in quantity.

Another school of thought has attributed the depression in British trade largely to the coincidence of a number of fortuitous events which could neither have been foreseen nor prevented—to the stimulus the war gave to the cotton industry in the Far East and South America, to the influence of disarmament on the heavy metal industry, to the excess of subsidised tonnage, to the check which the progress in heat conservation gave to the demand for coal.

It is secondly urged that, although international trade has diminished, more of the home market is secured by British producers, and that this increase in domestic purchases to some extent offsets the loss of foreign trade.

There is no doubt much truth in these arguments. Free trade necessarily involves industrial specialisation, and if the industries on which a free trade country specialises are adversely affected by external events that country must suffer temporarily and readapt itself. It must readapt itself. Its mechanism must be sufficiently supple to permit that readaptation. It must face, recognise and cut its losses; it must turn its attention to other products. If it fails to do this, it will suffer all the losses and reap none of the profits of free trade.

To-day what is really important and significant in England is not the depression of the depressed industries, but the relatively small progress made by the relatively prosperous. It is the growing, not the decaying, which require watching.

On the second point Mr. Flux has estimated that in 1924 about 27 per cent. of production was exported compared with 30.5 per cent. in 1907.¹ In spite of this

¹ *Journal of Royal Statistical Society*, Vol. XCII. Pt. 1, p. 23.

change, England's contribution to both European and world production—as well as trade—would appear to have been sinking steadily year by year. The evidence available to substantiate this fact is miscellaneous in character—but perhaps not the less convincing on that account. First may be considered the products of certain basic industries and secondly somewhat less comparable indices of various branches of manufacturing activity.

Production of	CONTRIBUTION OF UNITED KINGDOM AS PERCENTAGE OF:							
	In Europe (excl. Russia)				In the World.			
	1913.	1924.	1927.	1928.	1913.	1924.	1927.	1928.
¹ Coal and Lignite ..	48.0	46.7	40.8	39.1	23.3	21.9	19.1	18.9
Pig Iron	25.2	22.9	17.5	16.0	13.2	10.9	8.6	7.6
Crude Steel	19.9	23.0	19.0	17.6	10.2	10.6	8.8	7.9
Copper (smelter) ..	34.1	21.2	16.3	18.5	5.1	1.6	1.5	1.5
Tin (smelter)	65.8	92.4	85.2	84.9	(18.0)	(24.5)	(26.9)	(27.3)
² Aluminium (smelter)	20.3	9.0	8.9	8.2	11.8	4.8	4.7	4.3
Zinc	—	8.7	—	8.1	—	—	—	—
Consumption of:								
Chem. Wood Pulp ..	—	3.7	3.5	—	—	—	—	—
Cement	—	15.8	—	13.7	—	—	—	—
Raw Cotton	—	38.7	35.2	33.0	19.8	15.1	12.8	12.0
Tonnage of:								
Ships launched ..	67.2	72.4	61.7	58.9	58.0	64.1	53.6	53.6
Merchant Marine ..	51.8	48.7	46.8	46.0	39.8	29.8	29.6	29.7
Ships through Suez ..	—	—	—	—	60.1	59.4	56.8	56.4

¹ Most important consuming countries.

² Estimates.

The special circumstances alluded to above which afflicted British industry were bred and nurtured by the war and had their maximum influence in the early post-war years. It is disconcerting therefore, to find that since those earlier years the British share in the aggregate activity of each one of the industries represented in this table with the single exception of tin has steadily

declined. Both European and other countries are gaining or marching by. If, then, better domestic sales to some extent compensate for loss of exports, still that compensation is not sufficient to prevent England's progress lagging behind progress elsewhere. To some extent of course the figures, more especially those giving the world percentages, involve a comparison between the rapid growth of the very young from small beginnings with the slower more solid progress of the adult. Moreover, the progress achieved during the last 4 or 5 years has been extraordinarily rapid and in certain European countries represented rather recovery than real progress. But in every case save one the British share of European production was lower in 1928 than in either 1923 or 1924. That this fact was not due to the new industrial states alone or to German recovery may be proved from a study of indices of industrial production.

INDICES OF PRODUCTION.

	1924.	1927.	1928.	1929.
United Kingdom	100	107	106	112
Germany	100	146	145	147
France	100	101	118	129
Poland	1925 = 100	122	138	138
Sweden	100	110	106	130
Canada	100	134	149	166
U.S.A.	100	112	117	124

In 1924 certain of these countries—France, Germany, Poland—were still suffering from the benefits and ills of inflation and from the disorganisation caused by the war. But Sweden and Canada and the U.S.A. were all relatively little influenced by these factors and indeed the French index of industrial production was higher in 1924 than in 1913. The fact that the rate of growth in

England was only half of that in any of the other countries given may be accepted therefore as truly significant. From the preliminary and partial information now available for 1929, however, it would appear that some lost ground was regained in that year by the heavy metal industries—the first reward for a tardy industrial reorganisation.

I showed above that if we had maintained our share in world trade our exports in 1928 would have been about £165 millions greater than they were. This figure is but slightly less than the aggregate net amount which might have been added to the national income had the unemployment in 1928 not exceeded the pre-war average. How much of this loss and this unemployment is really due to the uncontrollable external events, and how much to a simple and general failure to compete?

Some of the figures of individual products given above indicate directly or indirectly the relative position of the more prosperous industries such as artificial silk. But they mainly relate to basic industries. On the relative position of certain other branches of industry, however, some light may be thrown. Thus the British index for mechanical engineering which, like that for France, includes naval construction, was 21 per cent. higher in 1929 than in 1924; the French index 27 per cent. higher; the German machinery index 54 per cent. higher. It is estimated that the production of mechanical engineering in all the leading countries taken together increased by about 25 per cent. between 1925 and 1929, and the value of electrical engineering output between 1925 and 1927 by about 16 per cent. The increase in England for electrical engineering is given as 21 per cent., and for Europe as 29 per cent. The output of heavy

chemicals rose by 39 per cent. between 1924 and 1928; the British index of chemical production by 10 per cent.

In many cases the detailed figures on which these general results are based are not perfectly comparable. But it is unnecessary to belabour the reader with the reservations which should be made. Far more important than the precise comparability of a few series of figures is the general direction in which a mass of data, drawn from different and independent sources, points. That direction is clear enough.

With these figures of production before us we may proceed to a consideration of the trade in certain specific groups of commodities. In this connection it may help to place the problem of British trade and British economy in its true perspective if the absolute loss incurred by certain of the major export industries is compared with the indirect loss incurred by the failure of others to obtain their share of the world's expanding markets.

The exports of cotton yarn fell from an average of about 217 million lbs. in the last five pre-war years to 169 million in 1928, which may be taken as representing a loss of trade at 1928 prices of some £ 5½ millions. It is reasonable to look upon this loss as to a large extent inevitable. The trade in yarn throughout the world has contracted; Japan and India have suffered much more seriously than the United Kingdom.¹ But Belgium, Italy and Switzerland have increased their exports by 40 million lbs. in this period, which is not far short of the British loss. The gains for the most part have not been made where the most serious losses have been incurred; but the markets available have gone to others.

¹ Indian exports 1913 200 m. lbs., in 1928 19 m. lbs.
 Japan " " 180 " " 29 "

Our share in the exports of the more important producers of cotton piece goods fell from about 75 per cent. in 1913 to about 56 per cent. in 1928.¹ Had it remained unchanged our exports in 1928 would have been some £35 millions or more greater than they were. In this case again the loss may be looked upon as to some extent inevitable and as the outcome of Japanese and Indian competition in local markets. But the loss of British trade to other countries must have amounted to at least £10 millions. The loss on woollen yarn by the same process of calculation has amounted to some £12 millions. Our share in the exports of woollen piece goods on the other hand, was slightly greater in 1928 than in 1913. But it has diminished since 1924. Had the 1924 proportion been maintained in 1928 exports would have been some £2 millions higher in value; but in fact the United Kingdom was favourably affected by the disorder in Europe and since the recovery of Germany has fallen back to approximately her old position. Both quantities and values have diminished.

The trade in machinery deserves a little special attention as illustrating exceptionally well the manner in which even the more prosperous of British industries is being gradually left behind by one after another of its competitors. In 1913 British exports amounted to just under 30 per cent. of the value of the nine leading countries. By 1924 the proportion had dropped to 27.2 per cent. But by that year Germany's share had fallen from 31.8 to 18.4 per cent. Other countries—the United States, France, Switzerland, Sweden, Italy, Canada—had captured part of her and of our trade. Between 1924 and 1928 German exports have almost

¹ Excluding Czechoslovakia and Poland.

exactly doubled¹; ours have increased by under one-fourth and our share in the general total has dropped to 22.4 per cent. Had our pre-war share been maintained our exports in 1928 would have amounted to nearly £17 million more than they did. The process continued in 1929 when our loss must have amounted to over £20 million. The exports of electrical machinery and apparatus have been better maintained; indeed the British share was higher in 1928 than in 1913. But it was very much lower than in 1924, and by 1929 was less than in 1913. The figures for these two branches of industry in the years considered deserve study.

EXPORTS BY LEADING COUNTRIES OF MACHINERY
£ (000,000's).

	1913.	1924.	1927.	1928.	1929.
United Kingdom	34.7	42.5	46.2	51.5	53.3
United States ..	29.6	54.5	72.0	83.6	100.4
Germany	37.2	28.7	46.2	56.5	66.5
Other countries ..	15.5	30.2	33.5	38.5	42.8
Total ..	117.0	155.9	197.9	230.1	263.0

EXPORTS BY LEADING COUNTRIES OF ELECTRICAL MACHINERY
AND APPARATUS. £ (000,000's).

	1913.	1924.	1927.	1928.	1929.
United Kingdom	7.7	16.0	18.6	18.3	19.5
United States ..	5.6	17.5	19.3	20.0	27.0
Germany	15.9	15.6	20.1	24.3	28.5
Other countries ..	3.4	9.0	8.8	10.8	10.8
Total ..	32.6	58.1	66.8	73.4	85.8

It is the figures for the last two years which are significant. Since 1927 the American exports of machinery have risen by £28 millions, the German by £20 and the British by £7; both the German and the American exports of electrical goods have risen by £8-8.5 millions

¹ Excluding Reparations deliveries.

and the British by £1 million. Moreover it has not been a question simply of the exceptional competitive power of the United States or the restoration of Germany to her pristine position. Between 1924 and 1928 Sweden more than doubled her exports of electrical machinery and apparatus.

A still more striking example of recent decline, and of the fact that it is not to the exceptional circumstances of one or two individual competitors unusually endowed or reawakened, is afforded by the artificial silk industry. The British share in the quantity of this product exported by the leading countries was almost cut in half between 1925 and 1929. The exports of France in this period increased over 800 per cent. ; of Switzerland by over 350 per cent. ; of the Netherlands by nearly 200 per cent. ; of all other countries except Belgium by over 100 per cent., and of the United Kingdom by 13 per cent. This is a new industry, fundamentally prosperous despite over-production, with a demand unlike that for other textiles which has been rapidly growing and has been unaffected by such special circumstances as have influenced cotton or shipbuilding or heavy metals. In 1925 the Netherlands, whose currency policy has been similar to ours, exported 30.4 thousand quintals, Switzerland 18.7, and the United Kingdom 32.7 ; in 1929 the comparable figures were 88.5, 84.1 and 37.0. Meanwhile French exports rose from 6.4 to 61.8. If the United Kingdom had maintained her position the exports in 1929 might have been nearly £2 million higher.

In the export of motor-cars the United Kingdom has, in the last few years, been more successful than her continental competitors, thanks to the imperial market. But the motor trade is becoming largely the monopoly of North America. Between 1925 and 1929 the number

of vehicles exported from the United States increased by 281,000, from Canada by 28,000, from the United Kingdom by 10,500.¹

Class of Commodity.	Country.	Value of Export £ (000's).		Per cent.	
		1925	1928	incr. +	decr. —
Hosiery	United Kingdom	7,751	6,574		— 15·2
	Switzerland	1,615	1,301		— 19·4
	United States	6,393	4,612		— 27·9
Pottery and clay products.	United Kingdom	6,645	5,874		— 11·6
	Czechoslovakia	2,381	3,279	+ 37·7	
Boots and shoes (mainly leather).	United Kingdom	4,638	5,072	+ 9·4	
	Switzerland	1,098	1,350	+ 23·0	
	United States	3,219	2,331		— 27·6
	Czechoslovakia	1,455	5,479	+ 276·6	
	Canada	63	78	+ 23·8	
Paper and cardboard (unprinted)	United Kingdom	6,594	5,934		— 10·0
	Sweden	6,906	7,002	+ 1·4	
	Netherlands	2,783	3,135	+ 11·4	
	Canada	22,560	30,216	+ 33·9	
Agricultural machinery.	United Kingdom	1,694	1,726	+ 1·9	
	Canada	2,349	3,259	+ 38·7	
	United States	16,020	23,971	+ 49·6	
Cutlery	United Kingdom	945	1,054	+ 11·5	
	Canada	263	364	+ 38·4	
	Sweden	63	76	+ 20·6	
Scientific instruments.	United Kingdom	1,163	1,262	+ 8·5	
	Sweden	118	151	+ 27·9	
	United States	2,070	2,283	+ 10·3	
	Netherlands	155	338	+ 117·6	
	Switzerland	169	220	+ 29·7	
Wireless apparatus	United Kingdom	1,290	1,130		— 12·4
	Sweden	24·5	114	+ 366·1	
	Netherlands	73·1	1,887	+ 2,482	
	United States	2,051	2,479	+ 20·9	
Gramophones, records, etc.	United Kingdom	1,443	2,785	+ 93·0	
	United States	827	2,258	+ 173·0	
Photographic cameras and projection apparatus.	United Kingdom	50·5	53	+ 5·0	
	United States	464	875	+ 85·3	

¹ I exclude motor cycles.

Of the industries of minor importance a few examples may be selected at random, and random—not selected—comparison made with certain countries whose currencies since 1925 have been stable or almost stable (see p. 168).

From this table have been eliminated all those countries which are alleged to have derived special advantages in international competition from the weakness of their currencies. Of the ten industries some are new and some are old. But in only two of these ten has the British share in the total value of the exports been maintained and in one—hosiery—the trade of all the countries considered has declined. In eight out of the ten examples given either the value of British exports has fallen while that of other countries has risen, or all exports have risen and the British least. The competitive weakness of the United Kingdom is not confined to the basic industries.

The trade of the world has increased; the share of the United Kingdom has decreased and is decreasing. It is decreasing in the world; it is decreasing in Europe, and as we examine one group of industries after another the same phenomenon presents itself. It is due neither to inflation here, nor to deflation there, nor to poverty nor to tariffs. If high tariffs were the cause of our difficulties they should have curtailed the trade of other nations more than ours. For the United Kingdom receives most-favoured-nation treatment wherever it is granted, and, in addition, imperial preference. Relatively to other countries her position is more and not less favourable than it was in 1913.

In the report of the British Mission to the Argentine it is remarked "that in South America, while in some departments—particularly old-established businesses—

we have retained our original position, in new departments of trade we have been completely outdistanced. In new forms of transport it is the same. We have excelled in railroad construction and shipbuilding; others have taken the place which might have been ours in aviation, road construction and motor transport.”¹

Likewise others have taken the place which might have been ours in, for instance, the markets for wireless or photographic apparatus, scientific instruments and agricultural machinery, etc. It is on these new and growing industries that the prosperity of highly industrialised countries must ultimately depend. But between 1925 and 1928 the Netherlands increased her exports of wireless apparatus by over £1½ millions, while British exports declined; Sweden, Switzerland and the Netherlands, whose total sales of scientific instruments aggregated less than one-half of the British in the earlier of these two years, raised that total by over £250,000, against £100,000 or less.

It is unnecessary further to multiply examples. The evidence is, it may be hoped, adequate at least to suggest that the difficulties are confined to no particular type of industry, major or minor, new or old, that they are due primarily neither to the special prosperity in the Far East (or West) nor to the chaos in Europe which is past, neither to inflation nor to deflation, that our successful competitors are drawn from all quarters of the globe and have pursued currency policies wholly dissimilar. Disorder and prosperity, depreciating and appreciating exchanges, tariffs, and dumping, subsidies and prohibitions may all in fact have proved damaging; but there must surely have been some special reason connected

¹ *Report of British Economic Mission to Argentine*, p. 6.

with our internal economy which rendered them more disastrous to the United Kingdom than to other countries. But this view is too rarely expressed.

"Lancashire," wrote Professor Siegfried in 1924, "is perfectly sanguine of success once normal conditions have been restored."¹ She "asks for no assistance from the State so long as she is buoyed up by the prosperity of the world"—by a prosperous world requiring in 1928, for instance, exactly the same products from exactly the same markets as fifteen years earlier. But in the process of being restored to prosperity the world changed its tastes. Lancashire waited, like Sir Richard Strachan, and the new markets were supplied by others. Similarly, Professor Pigou, writing in 1927, found "it improbable that the weakness of the post-war trend is due to circumstances peculiar to this country."² The analysis made by, at any rate a very large proportion of the business men in the country, was similar to that of these economists, and, like a famous recent Committee, they substituted for constructive proposals or constructive action, "earnest hope."

Professor Clay, in a recent and very careful and illuminating analysis of the situation, which contains many constructive proposals, notes that "improvement in one industry has been cancelled out by deterioration in another, and underneath the general up and downward movement of industrial activity there are these divergent and compensating movements of particular industries."³ From these facts he draws the conclusion that "no single general explanation . . . will account for the changes in industrial activity that the unemployment

¹ *Post-War Britain*, p. 110. ² *The Economic Position of Great Britain*, p. 52.

³ *The Post-War Unemployment*, p. 28.

figures reflect. There are general influences that affect all industries ; but each industry also is subject to special and peculiar influences. . . ." This is no doubt true, and, if we study the movements of any composite phenomena, we shall find that the general tendency is the outcome of an infinite number of thrusts and pulls in diverse directions. If we watch the individual with too close a scrutiny we shall never see the mass movement. But are not the facts that the general loss of status in production and in trade has been accompanied by such ups and downs in individual industries, that now one competitor, now another has taken possession of our markets, the best possible proof that some general cause is predominant, that the individual oscillations are of secondary significance ?

All mass movements are more easily perceptible from without and it is perhaps not surprising, therefore, that it should have been a French economist who first drew attention to the striking parallelism which exists between the fluctuations in unemployment on the one hand and the ratio of wholesale prices to wages on the other.¹ Professor Rueff has calculated for the period 1919-1925 the relationship between the number of unemployed and the relationship of wholesale prices to average salaries and produced the following result (see p. 174) :

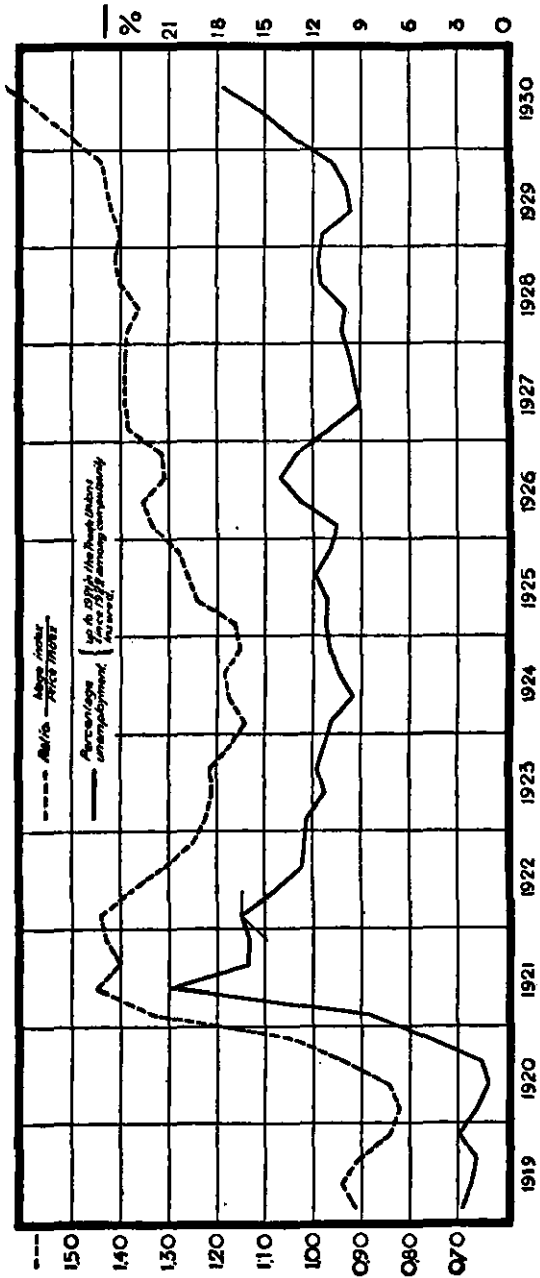
I have extended his curves up to the middle of this year and slightly modified one by taking more recent

¹ It should be noted that Professor Rueff does not take the ratio of money wages to cost of living which gives what is normally considered as real wages, but of money wages to wholesale prices. Professor Pigou has shown that both ratios give roughly similar results—so that the point need not be elaborated. But there are sound theoretical reasons for Professor Rueff's choice. (See *Revue Politique et Parlementaire*—10/31/25 and *Economic Journal* 15/27.)

corrected data. If the year 1926 and part of 1927, when all other factors were subordinate to the coal dispute and its effects, be ignored, the concilience of the two curves is very remarkable. "On est par là fondé à penser," says Professor Rueff, "que la cause immédiate du chômage généralisé—non la cause profonde—consiste dans le défaut d'adaptation des salaires au niveau général des prix." This view has frequently been attacked on the ground that the unemployment in 1920 was not caused by falling prices, but that the fall both in prices and in employment was due to a common cause, be it deflation or the natural bursting of a turgid boom. In fact the causes which put men out of employment may well be different from those which prevented them finding new employment subsequently. It is the latter—even to-day when unemployment is increasing—which are ultimately important; for if Professor Rueff is correct in his analysis and if wages remain as rigidly inflexible after the price fall of 1929-30 as they have in recent years, then unless prices rise once more, the numbers permanently unemployed may increase from an average of some one million or more to an average of two.

The curve conceals no mystery and illustrates no new theory. If the price of apples is too high some will remain unsold or of labour and some will remain unhired. Professor Pigou has expressed the view that there is "at least 5 per cent. of extra unemployment which it is reasonable to attribute to the maintenance of rates of real wages above the level that would establish equilibrium between the demand for and the supply of labour."¹ Since he wrote prices have fallen by 13 per cent., the index of

¹ *The Economic Journal*, Vol. XXXVII, No. 147, p. 356.



wages by 2½ per cent., while unemployment has increased by 50 per cent.¹ But, it is sometimes urged, wages are higher in the United States and the trade and exports of that country have expanded; in England wages are lowest in the most depressed industries. Between 1923 and 1928 the United States maintained relatively stable prices while the national productivity rapidly increased; wages had to rise. Between 1923 and 1928 the United Kingdom allowed prices to fall while national productivity per head has remained almost unchanged; wages had to fall—and actually rose. Unemployment increased.

Wages are lowest where the pressure is greatest; but the total costs of any particular industry depend not only on the rates paid by it, but on those paid in all other industries whose products or services it requires. Hence the importance that is attached to the high rates ruling in sheltered industries—in transport and public services, in building, etc. But the contrast between the sheltered and the depressed may be over-emphasized. The maladjustment which exists is damaging to the one and to the other and it is equally damaging to those industries which are neither sheltered nor shrivelling. Unemployment is as great as it is to-day because the ‘prosperous’ industries are not sufficiently prosperous, because the industries whose exports are increasing are not maintaining their share either in world production or in world trade. It is our successes, not simply our failures, which demand attention.

Professor Clay presses the view that “the expanding industries offer no adequate substitute for the loss of older trades. . . . The 48 per cent. increase in the num-

¹ Taking September 1927 and March 1930.

bers engaged in silk and artificial silk between 1923 and 1927 was insufficient to compensate for the $7\frac{1}{2}$ per cent. decline in woollen and worsted, while the 38 per cent. increase in the key industries of scientific instruments and photographic apparatus would not balance the closing of a couple of good-sized mines."¹ His statement contains much truth, if a short period only is considered. But, for example, between 1925 and 1928 British exports of artificial silk rose by 13 per cent., and those of other European countries by 150 per cent.; British exports of agricultural machinery by 2 per cent., and those of the United States by 50 per cent. (i.e., £8 million); British exports of wireless apparatus by £90,000 and those of the Netherlands by £1,800,000. Since 1924 British exports of machinery have increased by about £10 millions and total exports by over £100 millions. Is not this whole process of reasoning, however, open to criticism? The world is not a shelf on which so many platters may be put and no more. With every reduction in prices new strata of demand are reached; demand and wants are mobile, and responsive—responsive to low prices. Moreover, in the ultimate analysis it is the national dividend and not employment which is the test of success; the national dividend will increase with the growth of the new and vital industries.

"Her whole history," says Professor Siegfried, speaking of Lancashire, "has been a continual adaptation, from one decade to another, to meet the changing requirements of the world situation."² Is this true

¹ *Op. cit.* p. 110.

² *Op. cit.* p. 110. I trust this quotation will not be misinterpreted as implying any criticism of Prof. Siegfried's brilliant book. When he wrote, as I have indicated above, not half of the last decade had passed.

of Lancashire or any other part of England during the last decade? Is not the essential defect lack of mobility and lack of adaptation? It is inevitable in a world that is growing richer year by year and richer per head of population that the basic industries supplying the primary needs of the people should constitute an ever diminishing proportion of the national dividend; that the industries satisfying secondary needs—the smaller and the new industries—those which exist to-day and those which will come into being to-morrow—should constitute an ever increasing proportion. The future lies with the countries whose whole economic organisation is the most mobile, with those which have the imagination to foresee future needs, the courage to scrap obsolete plant and the skill to adopt and adapt new inventions.

But in England “the recorded number of insured persons unemployed does not represent the number of persons unable to find any kind of remunerative work, but the number unable to find work more or less of a kind to which they have been accustomed, at rates of pay not substantially reduced.” “We are convinced,” says the Committee on Industry and Trade, “that no scheme of compulsory insurance . . . would be acceptable or workable, if framed on any other basis.”¹ The sociologist or the politician may further be convinced that this basis is desirable, and the economist that so long as it is adopted, as the rate of change in the world increases, and increase it must, unemployment may be expected to increase likewise.

But the lack of mobility and adaptability is not a characteristic of wages and labour alone. The height

¹ *Committee on Industry and Trade. Summary Vol. p. 131.*

of wages is not absolute but is relative to the productivity of labour, and the productivity of labour depends not on labour only, but upon the whole organisation of production—and taxation.

In all the industrial countries of Europe and America industry has been largely re-equipped and reorganised during the last ten years. In some cases this re-equipment was necessitated by war damage, in others stimulated by inflation, in others as in Sweden or in Switzerland, the result of a simple recognition of the necessity for change. To one inflation, to another deflation gave the required pressure. To such pressure all responded in varying degrees, and in England too no doubt much reorganisation is now being undertaken. But the view sometimes expressed on the Continent of Europe that the world swept by while the British industrialist sat in hope and the banker in contemplation of the overdrafts he had granted is perhaps not simply picturesque. In the contest between hope and contemplation contemplation won because, as prices fell, the value of the overdrafts increased.

The Balfour Committee "after looking at their six volumes as a whole" found "the outstanding feature on which there was good reason for satisfaction"¹ lay in their unanimity and then decided to draw no formal conclusions. But this same Committee thought "it abundantly clear that the first step towards putting British industry in a position to compete successfully in overseas markets is to subject their organisation and equipment to a thorough process of reconditioning."¹ If this conclusion is not formal, it is at least forceful.

¹ *Committee on Industry and Trade. Summary Vol. pp. 5 and 296 and 297.*

About the necessity for reorganisation only those can judge who are in constant touch with the daily facts of business. The point is raised here because in so far as the necessity exists the question of the height of wages is not one which should be solved by changes in wage rates alone. The deductions to be drawn from Professor Rueff's diagram are complex, not simple.

But the need for reorganisation and readaptation is constant and as the world grows richer per head of population and secondary, shifting wants grow in importance, this need must become the more imperative. It is not simply to the success of the effort which is being made at the moment, therefore, that attention should be turned, but to the general adaptability of the whole machine. The demand for capital to-day for the opening up of new countries, for the laying of railway lines, for the cutting of canals or the irrigation of land may be relatively less than it was in the nineteenth century; but the life of capital is likely to be shorter. It will depend less on its physical durability and more on new inventions and changing demand. Not the old but the out of date must be scrapped. Obsolescence receives a new significance—almost a new meaning. All plant is obsolete which cannot compete successfully and all labour is crippled whose power or willingness to work is limited to one job. The future lies with those who have the courage to scrap and the courage to move and change. But before plant can be scrapped it must be written off; and gross profits must be earned and allocated, not to dividends or the fisc, but to reserves. To the extent to which amortization and re-equipment is prevented by the taxation of gross profits may it be expected that unemployment and the demand for

revenue on account of unemployment benefits will increase; but the source of revenue—the wealth produced—must decrease.

Scrapping demands the courage to scrap, and re-organisation the courage possibly even to sacrifice overdrafts. England in the nineteenth century evolved an economy of maximum profits derived from maximum risks. She can scarcely feed four persons in ten of her population; she is dependent on foreign sources for a very large proportion of her raw material requirements. Her imports of foodstuffs in 1928 amounted to £531 millions and of raw materials to £335 millions, a total of £866 millions—while the value of her total exports was only £724 million. She is dependent, not for her prosperity but for her existence on the sales of her manufactures abroad. She is dependent, therefore, on a changing foreign demand, over which she can have no control, for which she can find no substitute.

Is it a paradox or a consequence that in this economy of national risk so much pains should have been taken during the last ten years to insure each individual, rich and poor, against all the manifold hazards of life? Against the national risk the only insurance possible is production. But more attention is paid to-day to the distribution of the national income than to its creation. Some urge on the country safety first, but safety lies only in enterprise—others inflation, to be taken, like cocktails, in small doses. But by such inflation the worker is relieved of part of his wages and the *entrepreneur* of the obligation to reorganise and re-equip. Inflation and cocktails may both stimulate for the moment—but the one leads to cirrhosis of the liver and the other prevents the cure of a gouty economic

system. However serious the position at the moment may be, it is never the momentary situation which ultimately matters. The real problem is that of restoring elasticity to the whole organism. To-day is anything free excepting the importation of commodities and is a solution more likely to be found in the restoration of freedom or in placing a coping-stone to false logic?

“Her whole history has been a continual adaptation from one decade to another”—except the last. Is it really impossible to restore the fluidity of labour and wages, to cut losses, to “subject the organisation and equipment of industry to a thorough process of reconditioning”? Is it not by these methods and the courage they demand that the status of British industry and trade can best be restored? Is it not certain that whatever may be achieved by the measures now being adopted, in the ultimate test of time the most adaptable will prove the most progressive?

THE MEASUREMENT OF TARIFF LEVELS¹

THE World Economic Conference, which met in Geneva in the early summer of 1927, devoted much of its energies to questions connected with commercial policy, to customs duties, import prohibitions and other obstructions to the free flow of goods from country to country. Certain members of the Committee which was appointed to prepare the agenda of the Conference and determine the character and scope of its documentation felt the need of some measure, however rough, of the relative height of the dams by which the flow of goods was in fact checked at this frontier or at that. They believed, and no doubt rightly, that the delegates at the Conference would be aided in their deliberations could they come to them with some knowledge of the general order of the magnitude of these obstructions in their mind. After protracted debates, this Preparatory Committee asked the Chairman of the Commission to determine the documentation relating to commercial matters. The Chairman, the late Professor Allyn Young, finally decided to request the Secretariat of the League of Nations to make a statistical enquiry into the level of tariffs.

The Secretariat in its turn proceeded to submit certain proposals concerning the methods to be employed to Prof. Allyn Young himself and Mr. W. T. Layton which were approved by them and ultimately applied

¹ Paper read before the Royal Statistical Society in 1929. First published in *Journal of R.S.S.*, Vol. XCII, Part IV, 1929.

in the document circulated to the Conference, entitled "Memorandum on Tariff Level Indices." That memorandum, which was distributed before publication to certain members of the Preparatory Committee for their observations, and printed together with the observations received, gave rise to lively discussions at the time of the Conference and is still not infrequently debated at Committees and meetings of persons concerned with problems of commercial policy. Persons concerned with problems of commercial policy are not, however, necessarily either expert economists or scientific statisticians, and although these debates have given birth to some suggestions and criticisms of great value and pertinence, the arguments most frequently heard are rather interested than interesting.

I have myself often been reminded, when listening to this piping of national horns, of the "Three Jovial Huntsmen" rendered immortal by Randolph Caldecott :

" One said it was an index, but another he said ' nay ' ;
It's nothing but a free-trade squib to blast our walls away.
Look ye there ! "

But Geneva, which lies somewhere between Manchester and Moscow, believes, I understand, not in free, but in " freer trade," so that this accusation, fortunately, does not receive serious support.

My intention is to submit certain abstract and practical considerations, and to endeavour to ascertain within what limits and by what methods it may in fact be possible to devise some measure of what for the moment I shall call tariff levels.

All problems of measurement involve two initial

difficulties : (a) the isolation of the phenomena, (b) the selection of an appropriate instrument of measurement.

PHENOMENA TO BE MEASURED

A customs tariff consists of a list (or lists) of duties imposed on goods entering into a customs area on certain defined conditions, and expressed either as absolute sums of money or as percentages of the prices at which those goods are valued for customs purposes. These duties are severally applied to defined commodities or groups of commodities specified in the same list. Against each particular commodity (or group) one, two, or more rates of duty may be indicated to be applied in accordance with the terms of the legislation and international conventions actually in force.

An average of these duties, weighted or unweighted, can obviously be computed. Such an average might be expressed either as an average amount or as an average rate. If the former system be employed, all ad valorem duties must be converted into specific; if the latter, all specific duties must be converted into ad valorem.

If the lists of commodities taxed were identical in all countries and remained unchanged from year to year, the computation, on the principles normally employed for gauging price movements, of indices capable of measuring differences between areas and variations over periods of time, would present much less serious difficulties than is in fact the case. Actually the number of items of which customs schedules are composed covers a range stretching from a hundred or less to several thousands.

It is necessary, therefore, to link these diverse pheno-

mena to some common basis, to project the conception of the tariff beyond the list of the goods actually taxed. What should that common basis be?

I believe that the first attempt to measure tariffs by means of indices was that made by the Board of Trade in 1904.¹ Various methods of measurement are discussed in the introductory paragraphs of this memorandum, which is a model of lucidity, and the following conclusion is finally reached. "There only remains one method to be considered, viz., to calculate approximately the mean ad valorem equivalent of the import duties imposed by each country on the main classes of manufactures which are exported from the United Kingdom *to all destinations* (original italics) and not solely to the particular market under consideration." The common basis here adopted was thus the main classes of British manufactures, and this basis was applied to all the countries considered without reference to the purchases each actually effected in the United Kingdom. A similar procedure was adopted in the more recent enquiry published in the *Survey of Overseas Markets* made by the Committee on Industry and Trade in 1925.

The results of these enquiries, although interesting and important from the point of view of British trade, are not, however, subject to a wider interpretation than was originally intended, and there is no reason to believe that were another country with a different group of exports to make a similar enquiry its indices would be the same. On the contrary, it is easy to prove that they would, in certain cases, be widely different.

¹ Second Series, Cd. 2337 of 1905.

The conception of the problem which underlies these two British investigations is, however, one which can in theory be automatically extended to indices intended to be of world and not only of national significance. Such indices would show the extent to which, not British goods, but all goods constituting international trade were subjected to import duties when entering this or that customs area. The common basis would then be the whole list of commodities of which international trade is composed. The League of Nations, in the Memorandum on Tariff Level Indices to which I have already referred, employs exactly this basis. "The expression 'tariff level' may be taken to mean a magnitude which is equal to the average of the percentages which the duties imposed by any given country constitute of the values of the commodities which go to compose the whole catena of goods normally entering into international trade."¹

In practice it is, of course, quite impossible to take into account all goods internationally exchanged and, for reasons which I shall state later, it is clear that, even were such a course practicable, a certain amount of paring would be theoretically justifiable. Further, the above quotation—when placed in its present context—begs the question to which it will be necessary to revert—whether the average should be shown as an absolute figure or as an average of ad valorem rates. But, apart from this point, it presents, I believe, a correct, though not necessarily the only, definition of the term tariff level.

The exact significance of the underlying conception of the problem can perhaps be most easily brought

¹ *Op. cit.*, pp. 11-12.

out by a consideration of certain other proposals which have been made in this connection.

It is sometimes contended that a uniform list of goods is not only not required but is definitely misleading, as it fails to take account of the fact that the relative importance of each individual commodity to the economy of different countries varies. Those who hold this view suggest as a rule that the correct procedure is to take for each country whose tariff is being measured either the imports of that country or the production less exports plus imports, which, if variations in stocks be ignored, equals consumption.

This import list theory is obviously liable to the logical *reductio ad absurdum* that, if any country imposed a duty on any commodity so high as to be completely prohibitive, that commodity would not appear among its imports, and the duty in question would likewise necessarily be excluded from the calculation.

The proposal that the various national lists should be composed of the commodities actually consumed by each country is open to a similar objection. In this case any commodity subjected to a prohibitive duty and not produced in the country would be excluded from the list, and the duty would again necessarily be excluded from the calculation. Such extreme cases may be rare in fact, but since the theory that import or consumption lists should be employed is based on the idea that it is necessary to take account of the relative importance of each commodity to the economy of each country, it implies that the goods composing those lists should be "weighted" in accordance with the amount of each imported or consumed. Some such

weighting is, in fact, always urged, and that perfectly logical suggestion brings out clearly the fallacy which underlies the whole argument. The goods are to be selected and to be given importance in proportion to the demand for them—when that demand is itself largely determined by the duties which it is proposed to measure.

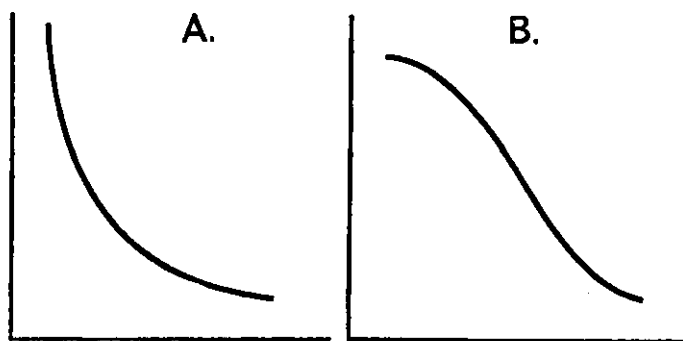
The reason why this particular theory can claim so many advocates is to be found, I think, in the fact that there is a general desire to measure by tariff indices the “degree of protection” enjoyed or achieved by different countries. This desire has given birth to the belief that existing indices have been computed in order to achieve this object or to the doctrine that, if they have not been so computed, they should be in future. All these desires, beliefs, and doctrines are, it seems to me, forlorn.

A strict disciple of the gospel of free trade might argue, wrongly or rightly, that the extent to which a country had effectively protected its industry might be measured in most cases by the extent to which it had reduced its international trade or flattened the trend of its growth by imposing duties; but I can imagine no other method by which the comparative degree of protection can be gauged.

The insuperable difficulties which such a measurement presents are obvious enough. There is clearly no reason to believe that because two countries show equal tariff indices (however they may be computed), they have protected their industries to an equal extent. The rate of duty which it is necessary to impose on the importation of any particular commodity in order to prevent that commodity being imported in the future will depend on

the amount by which the price has to be raised in order either (a) to render the return on the application of given units of land, labour, and capital for the production of that commodity within the country in question equivalent to the return obtained on the production of other commodities (after the legislative change), or (b) to destroy domestic demand altogether when that demand succumbs at a price lower than that required to produce the conditions envisaged under (a). If we ignore for the moment the second alternative, then the rates of duty required in any given country to protect completely any selected list of commodities (or all commodities) will constitute a series, each item of which will be equal to the difference between the return to be obtained from the production of the particular commodity to which it applies and the return obtained from the production of some commodity which it is just more profitable to produce at home than to purchase abroad. These rates (or differences) for each individual country may be shown as a curve, the shape of which will depend in the first instance on the natural conditions and resources of the country, and in the second on its existing economic organisation. Thus it is obvious that the United States of America could make herself almost wholly self-sufficing by a series of rates of duty which, however measured, would give a very much lower average than the rates which would be required by Italy to achieve a similar or comparable result. The one country is rich in minerals and has a large territory spreading over many degrees of latitude and many dissimilar climatic zones; the other is poor in mineral deposits and has throughout almost the whole of its area a temperate climate. We might imagine the curves

of these two countries taking some such form as the following :



Both curves are intended to represent the scale of minimum duties required to prevent the importation of the goods on which these duties are imposed. The average of the ordinates of curve B—which gives the scale for a country where the differences on the returns from the activities considered are naturally great—is obviously far higher than is the average of the ordinates of curve A. But *ex hypothesi* they are equally “protective.”

The rate of duty required in order to prevent the importation of goods which cannot be produced in the country imposing them is similarly dependent on fortuitous circumstances. It will be very high when the commodity or commodities in question are of vital importance to the industry or agriculture of the country in question ; it will, other things being equal, be higher in the case of a rich than of a poor country.

A German writer¹ has recently suggested that the difficulty of measuring the “degree of protection” might be overcome if distinction is made between what

¹ Dr. Friedrich Lütz in the *Magasin der Wirtschaft*, August 2nd, 1928.

he calls *ausnutzbare* und *nichtausnutzbare* Zöllen (fully utilizable or not fully utilizable duties). He considers that a duty is not fully utilizable, if (a) in the case of a non-cartelized industry there is an export surplus, for in such a case the domestic price is determined by world conditions, or (b) there is an import surplus. He considers that a duty is fully utilizable when the industry is cartelized and there is an export surplus. But neither the average of the *ausnutzbare* nor that of the *nichtausnutzbare* rates will help to measure the "degree of protection" (*der Grad des Protectionismus*) which appears to be the author's object. The *ausnutzbare* rates cannot, because as they are *ex hypothesi* absolutely effective it is quite immaterial if their average is 10 or 100 or 1,000. If the average of these rates for two countries were 10 and 20 respectively and the rates yielding the lower average were all doubled, the "degree of protection" would remain unchanged. The *nichtausnutzbare* rates cannot perform the miracle desired for the reasons I have already given. No, "degree of protection" is a will-o'-the-wisp which has already lured too many writers on this subject into its wordy swamps.

It is interesting in this connection to recall that attention was drawn to the danger of presuming that tariff indices measured the degree of protection so long ago as 1904 in the note on the comparative incidence of foreign and colonial import tariffs to which I have already referred.

"It would not, however, be justifiable to conclude from the above figures that the customs tariffs of the various countries are ranged in the same order as regards their comparative *protective efficiency*. The protective effect of a tariff is not necessarily proportionate to the

average level of the duties, but also depends on many other factors, such as the comparatively advanced or backward state of the home industries protected."¹

If this line of temptation be abandoned, then, as I think it should be, it is necessary to visualize the problem from the standpoint of the exporting country or countries and not from that of the "protected." If, secondly, the enquiry is to be international in its scope, the list of commodities must be composed of the exports of certain selected countries—or of all countries.

But before turning to a consideration of that list there is one vital question which we must face. I have argued that the tariff index cannot measure the comparative degree of protection imposed by this country or by that because the effectiveness of a duty depends on the economic structure of a country. Equal duties may have unequal effects. But a duty is protective when it prevents foreign goods entering the country which imposes it. If, then, the index cannot measure the comparative degree of protection, what can it measure? Can it measure the comparative degree of obstruction? It is probable that the index will reflect the degree of obstruction more accurately than the degree of protection, because duties, even when they are not high enough to prevent the competition of foreign goods in domestic markets, will obstruct trade by raising price and limiting demand. Obstruction precedes protection, and practically all duties involve some obstruction. But when the duty is sufficiently high not only to affect demand but to protect, then the obstruction is suddenly magnified, and, as we have seen, the point (or the loci of the points) at which such conditions will arise must vary

¹ Second Series, Cd. 2337 of 1905.

from country to country. Although, therefore, the index may reflect better the comparative degree of obstruction, it cannot measure it with any great precision; it cannot do more than give a rough indication of the probable relative order of the magnitude of the obstruction created. The greater the resemblance between the general economic structure of any two countries, the greater the confidence with which their indices may be compared.

When the comparison to be made is not in space but in time, then, of course, many of these difficulties and limitations to the utility of the index disappear. Unless some radical and unusual change has taken place in the economic structure of a country—owing, for instance, to the discovery of coal or other important natural source of wealth—it is probable that a rise or fall in the index of its tariff level will coincide fairly closely with an increase or decrease in its degree of protection. The time- are likely to be more truly significant than the space indices.

A SAMPLE LIST OF GOODS

In practice, of course, a sample list must be compiled, and the selection of this sample presents appreciable difficulties. In the Memorandum on Tariff Level Indices two different systems were employed. Under the first of these a relatively brief list of 78 commodities of importance in international trade was drawn up with the help of the classification of goods for trade statistics agreed at the Brussels Conference of 1913. The second list was composite. Fourteen countries, some industrial, some agricultural, were first chosen. About 20 of the

most important representative articles of export of each of these countries were then selected, so that the whole list consisted of approximately 280 commodities. In certain cases these commodities were of course identical, or almost identical. I shall explain the reasons for adopting two alternative systems when I come to the question of price quotations. There are, however, one or two points concerning these lists which should be touched on now.

The average duty for any country will depend obviously both on the average rate and on the number of commodities subjected to duty. But the number of dutiable goods varies greatly from country to country. If, therefore, the sample list does not comprise all the commodities taxed in that country which imposes the greatest number of duties, the index obtained for it will be somewhat low in comparison with that of any country all of whose dutiable goods are included. Reciprocally, the index of any country imposing few duties will be too high. This difficulty renders the application of any system of measurement in the case of a country imposing few but very high duties extraordinarily difficult—if not impossible. It is doubtful, for instance, whether the tariff of the United Kingdom, with its schedule of less than 250 items, could by any device be compared with, let us say, that of countries which can boast over several thousands of items.

The fact that a sample is employed at all involves, of course, the corollary that the indices do not indicate the average duty on all goods. As is stated in the report of the Committee on Industry and Trade, "the figures have no meaning in themselves, and are purely relative. No one figure can give an absolute indication of the level

of a country's tariff."¹ But, on the other hand, the exclusion of commodities which are free from duties in all countries or in all the countries considered will have no influence at all on the comparability of the indices, and their inclusion could only be defended on the incorrect assumption that a figure could give an absolute indication of the level of a country's tariff. It is for this reason that I stated above that some paring of the complete list was justifiable, quite apart from considerations of convenience.

The method of compiling the sample list by taking the leading exports from certain selected States is open to the objection that it is difficult to apply the whole of that list in measuring the tariffs of those countries selected for this purpose. Thus, there are strong reasons for omitting the exports of the United States from the list when the tariff of that country is being measured, because the prices employed for them are United States export values. If this omission is made the sample employed is not uniform. In practice, if the sample is sufficiently large, the omission of a small fraction of it is not likely to have any considerable effect, provided the trade statistics of all the countries are reasonably valued. But cases might well arise in which a significant change of the index would result.

The danger of error on this account is greatest when the tariff of a country is being measured whose export valuations are abnormally high or low. The omission of its own export list in such a case may render its index incomparable with those for other countries. It may, indeed, be better when danger of error arising on this

¹ *Survey of Overseas Markets*, p. 544.

account occurs, to make two calculations, one including and the other excluding the measured country's export list.

Secondly, this system of constructing the sample list cannot, of course, be applied mechanically. Its advantage lies in the fact that, as I will explain later, it presents a partial solution of the extremely difficult problem of price quotations. But the total composite list must be a representative sample of the whole catena of goods composing world trade, and the selection made for each country must be rendered dependent on this final objective. This latter obligation implies that certain export countries not responsible for a very large share of world trade, but important as being the main sources of supply of some particular commodity, should be included in the list of export countries.

A problem really prior to any of those which I have mentioned immediately above is that of the definition of the term commodity. A price quotation should strictly refer only to individual entities or to goods so identical in character that they can be substituted for one another without any claim arising for extra charge or rebate. Such goods are normally sold by sample or according to specification. Tariff schedules, on the other hand, are never so detailed as to specify rates for all goods so defined. In the marrying of the goods selected with the tariffs various possibilities arise. The list of commodities may be confined to goods which can be sold by sample. If this is done it is only necessary to ascertain into what group of the tariff schedule each commodity falls. But in practice this procedure involves insuperable difficulties; for, if the list is not to be almost wholly confined to raw materials and semi-finished

products, it must either be of quite unwieldy length or a specific commodity must be found which is truly representative of the group covered by the tariff schedule. The selection of "typical commodities" demands very great discrimination and technical knowledge, and, when these qualifications can be found combined, either the typical commodity or a price quotation for it is likely to prove undiscoverable for groups of any size. In consequence the list is likely to be unduly extended in length and to be made dependent on the chance existence of a market quotation rather than on the representative character of the goods composing it. From this it must not be understood that a list composed wholly of specific commodities as defined above would not give the most precise results if price quotations were always available and the amount of work entailed was a matter of no concern. On the contrary, it is probably the best theoretical ideal. But with the existing available data the practical approach to the ideal is so remote that other methods are to be preferred.

An alternative procedure, and that adopted in the League of Nations memorandum, is to take in many cases not single commodities as defined above, but small groups, and to employ for each group the average import or export value per unit. This method postulates, of course, at once a characteristic homogeneity and, if measurement in time be attempted, a normal average composition of the groups. Further, the groups should be so selected as to coincide to the greatest possible extent with those shown in the tariff schedules. Exact coincidence can, however, obviously not be attained in all cases, and the marriage settlements thus demand very careful deliberation.

PRICES

The consideration which must determine the prices at which the goods should be valued are to some extent similar to those which determine the character of the sample list of commodities. Many writers urge that the import values of the country whose tariff is being measured should in all cases be employed. There are certain obvious advantages which tell in favour of such a procedure. The difficulty of marrying the commodity to the rate is greatly lessened, since the classification of goods in most trade statistics is based on the tariff classification. The price in question is normally approximately that on which the duty is actually imposed when that duty is ad valorem, and in the great majority of cases includes, as it should include for this purpose, cost of transport and freight to the frontier of the importing country. These are advantages of a practical order which it would be absurd to overlook. On the other hand, strong and, I personally consider, overwhelming theoretical arguments against import values can legitimately be raised.

No values will exist for goods on which so high a duty is imposed as totally to prohibit import. But more serious than this, because more general in its application, is the objection that the import prices themselves will be influenced by the rates of duty. Obviously, if such values are employed, they must refer not to a single uniquely definable commodity, but to such groups as the import statistics or the tariff schedule show. When rates are specific, then the average (not the aggregate) value of the imported goods in any tariff group is likely to be higher than would have been the case had no duty

existed or had the duty been ad valorem. Thus a specific duty on wine will keep out the lowest qualities falling under any rate. When the statistical group covers two or more tariff items, the ratio of the import value to the prices which would have ruled under conditions of free trade will be determined by the ad valorem relationship of these rates. But as a general rule it may be presumed that specific duties tend to raise the average value of the goods imported which fall within any rubric of the tariff schedule. Apart from this point the prices at which identical goods are imported into different countries are likely to be influenced by the tariffs. An exporter may be willing to accept a lower price in one market than another in order to maintain a required optimum of production, and the rates he quotes will in part be determined by the relative height of the barriers he is forced to surmount. Thus, import values will vary from country to country so that the international comparability of the indices is rendered defective. Import values, moreover, though they obviate certain practical difficulties, do not by any means remove them all. The sample list of commodities applied to all countries must be compiled either without consideration of import classification, or on the basis of the import statistics of a considerable number of independent countries. Since the classification of import statistics varies widely from country to country, the fitting of all the articles or groups thereof contained in this list to the various national import statistics in order to ascertain values would prove by no means easy. It pushes back the difficulty of linking the duties to prices one stage, and adds the new and in certain cases insuperable difficulty of determining value when the

duty is so high as to be almost or wholly prohibitive.

If import values are rejected for these reasons, there remain for choice either market prices or export prices or values. In 1904 the British Government and in 1925 the authors of the *Survey of Overseas Markets* employed the last of these three choices. In the second of the two systems applied by the League of Nations the export values of each of the 20 selected countries of export were likewise used. The Austrian Committee of the International Chamber of Commerce, on the other hand, in the study¹ which they made in 1927 of average duties on Austrian goods, employed export price quotations furnished by leading merchants and manufacturers. They criticized both import and export values on the ground that the trade statistics were not sufficiently accurate. Their procedure involved, of course, the choice of specific commodities and not small groups, and it is not surprising in these circumstances to learn that the Committee found in the course of their work that it was necessary to raise the initial list of 160 commodities to 402. In cases where accurate information can be obtained in this way direct from the business firms engaged in the trade there is much to be said in favour of the Austrian method. But it would be extremely difficult, if not impossible, to apply it to an international enquiry. It is no doubt true that the export values published in the national trade returns are frequently of doubtful accuracy. But where the scope of the enquiry is sufficiently wide the danger of serious inaccuracies in the final result can be largely circumvented. In the first place, if the list of commodities is long enough and a miscellaneous group of export

¹ *Zollhöhe und Warenwerte*, Wien, 1927.

countries is selected, errors may be expected to cancel each other out to a large extent. There are no grounds for suspecting a constant bias in the data in any one direction—except in the case of countries in which an exchange control exists. Exchange control normally leads to an understatement of the value of exports. But such understatement is of no particular importance so long as it persists, since it will simply result in all indices working out somewhat and equally higher, and the absolute height of the indices is without significance. It is probable, however, that when the exchange control is abolished, exports will be valued more highly and, if measurement over a period of time is contemplated, countries with burdensome exchange regulations should be excluded from those whose export values are calculated.

In any case the list of commodities should be long enough to allow the law of error fair play. But that law must not be used as a patent medicine or a faith cure, and the selection of values requires very great care and expert knowledge. With the increasing use of declared values—even for exports—and the more serious study, criticism, and, therefore, control of trade statistics in recent years, it is not, I believe, impossible to make a selection of countries whose export values, at any rate for recent post-war years, may be employed with a reasonable degree of confidence. The danger of the comparability of the indices being influenced by possible error in the valuations of any export country is obviously greatly reduced if the list is common to all countries whose tariffs are being measured, and the weights employed, if any, are likewise constant or only varied from year to year and not from area to area.

The enquiry conducted by the League of Nations showed clearly that it was imperative to check the values of one country with those of others—of one year with those of other years—in order to discover cases of error or of an abnormal composition of some statistical class. In consequence, it is not possible to compile a list of commodities on abstract principles alone and then calculate prices. The first attempted list will certainly be found to require modification and adaptation during the progress of the enquiry. In view of the risk of inaccurate valuation in subsequent years the list of goods must be sufficiently long to permit the omission of one or two items, should that prove necessary, without seriously influencing the general average. It is perhaps desirable at this point to draw attention to the fact that abnormal prices due to currency depreciation do not impair the value of the indices. They tend to raise the *ad valorem* value of specific duties and, when the currencies in question have been stabilized, the calculated *ad valorem* duties will fall. These fluctuations of duty are factual, not erroneous.

The use of export values is sometimes attacked on the grounds that they are normally calculated *f.o.b.*, while duties are imposed as a rule on the values *c.i.f.* to import frontier. This criticism is legitimate, if only one country of export is considered—and it is probable that the indices of the countries in closest proximity to it will stand relatively somewhat too low. But the difficulty can be very largely overcome in an international calculation by selecting export countries far distant from one another. There is thus a special advantage in composing the list of commodities out of a series of shorter national lists. But the majority of the export countries will

probably be European, with the consequence that the tariff indices for European countries may lie slightly too low compared with those of extra-European countries.

The last theoretical possibility which remains for consideration is to employ not export prices or values, but market quotations either in one place or in a number of independent markets. Were this done, use might be made to some extent of the figures already collected for the compilation of wholesale price indices. But the available quotations for manufactured commodities are still too few to render this source of information of much value, and to construct an international tariff index from individual price quotations is unfortunately not feasible to-day. If, with the gradual improvement and extension of price statistics in the future, it ever becomes possible, great care will require to be taken not to employ quotations for the home market when these differ from those for export.

THE DUTIES

The first question which has to be settled in connection with the tariffs themselves is whether it is preferable to convert specific duties into ad valorem or vice versa. Since the great majority of duties to-day are specific, the latter alternative can claim distinct practical advantages, and we shall only be concerned with the prices of those goods on which ad valorem duties are imposed. If specific duties are employed, the average constituting the index will be an amount; if ad valorem duties, it will be a rate. As neither the amount nor the rate has any significance except by comparison with other

amounts or rates referring to different countries or different dates, this distinction is immaterial.

The average of specific rates might well be employed for simple international comparison in a given year; but it is defective, if used as a time index, because it is uninfluenced by price changes. If a commodity is taxed at £20 per ton and sells in a given year at £100, and in the next year at £200 per ton, the rate of duty has fallen from 20 per cent. to 10 per cent. without any legislative change. With the fall in the rate the degree of obstruction to international trade is diminished—unless both rates are totally prohibitive. A general rise in world prices tends to reduce all specific tariff indices, computed as rates, and a general fall to augment them, so long as those indices refer to countries with stable currencies. The conversion of specific duties to ad valorem is therefore necessary for all tariff indices intended to measure variations in time, except those deliberately devised to determine the effects of commercial legislation only. As a corollary of this, the prices employed for converting the ad valorem duties must be those ruling during the year in question and must be changed from year to year.

A second general question of much greater complexity relates to the action to be taken in the case of fiscal duties. The argument that fiscal duties should be omitted because they are not protective I do not think it is necessary for me to discuss. It implies a conception of the purpose of tariff indices which, for the reasons I have already explained, I believe to be erroneous. More serious is the argument that fiscal duties obstruct trade in a different manner and to a less extent than other duties. This is true only if all duties on commodities

not produced in the taxing country as well as all import duties which are complemented by an equivalent excise are deemed to be fiscal. But, whenever a free-trade country imposes an elaborate protective tariff, or whenever the scope of a protective schedule is materially extended, instances are likely to be found of duties definitely protective in intent being placed on goods which at the moment are not manufactured in the taxing country. Further, when a single firm is protected and that firm goes bankrupt, according to this definition a duty may cease to be protective and become fiscal. Nor is it possible to confine fiscal duties to those which are imposed on goods which cannot be produced in the country in question or are supplemented by an excise; for in this case nearly all duties on tropical products which could be produced in temperate zones at a price would be excluded—while, in fact, the majority are introduced for fiscal reasons. We are compelled, therefore, to employ, as the criterion for determining whether a duty is fiscal in nature or not, either the intention of the legislator or simply the existence or non-existence of a complementary excise duty. If fiscal duties be defined as all those which were imposed and are maintained primarily in order to increase the national revenue, then it is untrue that such duties necessarily obstruct trade in a manner different from other duties. It is untrue, first, because a duty which is primarily fiscal may at the same time be partially protective, and, secondly, because certain duties not imposed for fiscal reasons may exist on goods of which there is no domestic production.

If the judicious statistician declines to attempt to interpret the intention of the legislator, the practical

issue limits itself to the question of the propriety of omitting those import duties which have a counter-vailing excise duty. Such duties clearly obstruct trade only to the extent to which the consequential rise in prices limits demand. But the same is true of all duties on goods not domestically produced. The only material difference between these classes lies in the fact that the demand for the goods subjected to import and excise duties is presumably inelastic, while no such probability can be postulated in the case of the other goods. The whole thesis in favour of omitting fiscal duties thus proves on analysis extremely difficult to substantiate.

I incline, however, myself to the view that it is wiser to omit goods from the list—such as tobacco and alcohol—which are normally taxed for purely fiscal purposes and are normally subjected either to excise duties or a government monopoly. I fully realize that most of the arguments commonly urged in defence of this procedure are open to the line of criticism I have just attempted to trace. But there remains always the essential residuum of fact, that the duties on a certain, not precisely definable, class of goods in the vast majority of countries are intended to produce the maximum possible revenue and are, therefore, designed to hinder trade to the least possible extent—and that, therefore, their inclusion in a tariff index is likely to lead to a misunderstanding and undue mistrust of the indices computed. When the specific object of the index is to measure the effect of tariff policy on trade—an object which, as I shall show later, requires a special implement of measure—then the case for omitting duties on this class of commodities is strengthened; for tariff policy is or should be distinct from fiscal policy. In fact, the two are frequently

confused or the natural beauties of the former are prudishly covered in the decorous cloak of the latter. It is this confusion and this modesty which render the task of the statistician difficult, if not indiscreet.

The procedure adopted by the Austrian Committee of the International Chamber of Commerce in this connection is interesting. They consider as purely fiscal duties those imposed on goods which "could not be produced" by the importing countries in question (for instance, tropical goods in European countries), and calculate two indices, the one including and the other excluding such duties. When, however, a "consumption tax"¹ is imposed in addition to the import duty, the rate of that tax has been deducted from the duty and only the difference, if any, employed for the calculation of the average. Strict logic would appear to have demanded that two calculations should have been made also in such cases, the one including the whole duty and the other only these calculated differences. The exclusion of fiscal duties as defined above and the deduction of internal commodity taxes from the import duties are justified on the same grounds, namely, either that all such duties are fiscal in intent or that their effect on demand is different from that of other duties. The deduction of consumption taxes, however, involves very great practical difficulties.

The third major problem which has to be faced in connection with the duties is that of the choice of data when identical commodities are subjected by any country to varying rates according to their place of origin. In the case of a national index it is necessary

¹ Presumably only countervailing excise duties; but the point is not quite clear. See *Zollhöhe und Warenwerte*, Wien, 1927.

to take account of the fact that, when conventional rates are applied to only part of the exports of the country in question, it will be necessary so to construct the list of exports as to arrive at an average rate for all the goods selected which approximates closely to the average rate on all exports. But in computing an international index account must likewise be taken of the necessity of selecting a list of export countries such that the averages of the average rates for each one of them are representative of each measured country's average for the world. In other words, the conventions, the results of which are taken into consideration, should be a fair sample of all the conventions concluded by the country whose tariff is being measured.

These two principles, which it is impossible to neglect, are rendered all the more difficult of application owing to the multiplicity of tariff systems in existence. The unique autonomous tariff presents no problem. The autonomous tariff liable to retaliatory increase or conventional reductions involves both the problem of average rates for each export country and that of averaging the averages. The pure double tariff system presents the advantage that maximum and minimum indices may be computed and employed at least for purposes of checking; but when intermediate duties exist or the minimum schedule may be subjected to further conventional reductions it possesses no statistical advantages. Preferential duties have the effect of converting the minimum schedule, where that exists, into an intermediate tariff; but involve a special complication, inasmuch as they are outside the scope of the application of the most-favoured-nation clause. The existence of the most-favoured-nation clause of course enormously facili-

tates the work of determining what rates are applied in any particular case. But even that clause is sometimes partial in its application.

Whatever solution of this problem of averages is adopted, it is, I think, useful to calculate additional indices showing the maximum and minimum tariffs when a dual system is in force. These additional indices show the range within which the average must fall and, when compared with the weighted average, the extent to which conventional reductions from the maximum have been effected. When this is done, however, a clear distinction should be drawn between the preferential minimum and that to which the most-favoured-nation clause applies.

The averaging of the duties on the exports of each country in the case of an international index is rendered difficult by the necessary limitations on the length of the national export lists. On the other hand, the averaging of these averages for the majority of these countries is less likely to involve error than might at first be believed, since 10 countries account for over 60 per cent. of the world's trade and 20 for approximately 80 per cent. A list of between 10 and 20 export countries, selected in the light of the considerations I have already emphasized, should therefore be adequate for the purposes of calculating indices intended only to present approximate relative orders of magnitude.

Such a list should constitute a fair sample of the world commercial treaty situation, when the primary consideration is world trade and not the extent or multiplicity of international conventions.

Careful consideration requires to be given to the means by which the list of commodities may be made a fair

sample (for each country whose tariff is being measured) of the extent to which the autonomous rates have been effectively reduced by commercial conventions. If a weighted index for a single country of export, X , is being computed, the list must be such that the average of the new conventional rates on the commodities contained therein bears a ratio to the average of the autonomous rates on those commodities which is the same as the ratio of the comparable averages on all the commodities exported by country X . If, however, a unique list of commodities is employed for all countries the tariffs of which are being measured, it is improbable that these ratios will coincide—that the sample will prove adequate in every case. The greater the length of the list the less the risk of inaccuracy on this account. In the case of an international index, however, the selection of representative countries of export and, for each country, of a sample list adequate to assure a rough coincidence between the ratios mentioned above, does not necessarily wholly solve the problem.

The difficulty which presents itself is similar to that which arises in the compilation of national index-numbers of retail prices. The retail prices of a single commodity may vary from town to town. The rate of duty on a single commodity in the same place may vary according to the origin of that commodity. The compilers of retail price index-numbers calculate either separate indices for a number of towns and average them or average prices derived from a number of different markets. If the former system were applied to an index of tariff levels, the list of goods for each country of export would have to be adequate not only for the purposes of contributing towards a composite inter-

national list, but for the compilation of a series of national indices. If the latter system were applied it would be at any rate theoretically desirable to weight the rates according to the relative production (or exports) of each producing (or exporting) country in the world. In practice, however, it is probable that a sufficiently accurate result can be reached without engaging upon any such elaborate research and calculation, provided adequate care is taken on three essential points. (1) The countries of export must be representative of world trade and cover an adequate proportion of the total; (2) the list of goods must be a fair sample of all goods composing world exports; and (3) the list for each country must be compiled not only with a view to constructing an adequate total list, but also with a view to obtaining fair average rates of duty in the case of countries with conventional tariffs. This final consideration may result in giving undue weight to certain commodities quoted in several lists in order to permit of the employment of varying rates. When this is the case, then the rates must be averaged and only the average employed in the final calculation.

I say sufficiently accurate results can probably thus be reached, and you may well ask, sufficient for what? This question I shall endeavour to answer at the end of the paper when we are in a position to review the various limitations to the accuracy of an international index of tariff levels.

Once the lists, prices, and rates have been determined there remains the question of marriage. Here two general problems of a different order, though closely allied in practice, present themselves. The first is one of interpretation, the second of compatibility or in-

compatibility of definition. Even when there is, in fact, absolute compatibility of the terminology employed by different countries, the task of deciding which commodity or small group of commodities in the export statistics of one country is represented by a given tariff number in the customs schedule of another is one for which expert knowledge is required. Very frequently absolute compatibility of classification is lacking. There are then three possibilities—that the tariff schedule grouping covers a wider range of goods or qualities than does the trade statistical grouping, that it covers a narrower range, or that groups overlap and cut across each other. The first possibility presents no difficulties, for the rate to apply to the part is the rate indicated for the whole. The second demands great judgment and careful discrimination on the part of the compiler of the index. Let us assume by way of illustration that one of the export commodities selected is undyed cotton piece goods, and that these are grouped together in a single export rubric by one country and taxed at varying rates according to weight per square metre in another. There will then be as many rates of duty as there are defined qualities of fabric. What rate should be applied? There is a strong temptation to employ an average of the rates weighted in proportion to the imports or the consumption of the different grades of the goods in the country whose tariff is being measured, on the grounds that this average is the most “characteristic.” But a little thought will make it clear that this temptation should be resisted, for it involves just that error of endeavouring to measure the degree of protection which I have been discussing. The extent to which the different grades are imported is itself largely

influenced by the relative height of the different rates. It would, therefore, be more correct to weight the rates in proportion to the importance of the different grades in world trade. The practical application of this principle is, however, owing to absence of adequate data, frequently extremely difficult. The determination of the rate is a matter of judgment and clearly demands expert knowledge of the trade in the goods considered.

When the statistical and tariff classifications overlap so that half of one statistical group is contained in one tariff heading and half in another, an adequate solution of the problem is by no means easy to find. The seriousness of the difficulty in practice depends on the extent to which the rates of duty on the two or more groups of goods which cannot be accurately distributed vary from one another. If the rates of duty on these goods are almost identical, the margin of error must be small; if they vary greatly, the error may be considerable. Again, the only practical solution in such cases is to ascertain from the customs authorities of the two countries the exact composition of the groups in question.

The greater the precision of the export list, the greater the extent to which it is composed of individual commodities, the less the risk of error on this account. But quite apart from considerations of time and expense, the existing trade statistics set a limit to the detail which can be employed, and this problem of marrying rates and prices will be found in practice to be the one which presents by far the greatest difficulties. There is, in fact, only one method of solving it, namely, by engaging for the computation of the index specialists in this branch of knowledge. This was the plan adopted by the League

of Nations, which employed a special temporary staff of customs officials or employees of Chambers of Commerce for the work. Such a staff must necessarily be drawn from a number of different countries and must consist of persons who are themselves normally in daily touch with this class of question. I am of the opinion that some such procedure as this is indispensable for the compilation of an international index, and that the required knowledge could not be found either in a single government administration or in an international permanent staff normally engaged on other problems.

There is one further point concerning the duties which requires attention. If the specific duties are converted into ad valorem rates, then it would seem natural to employ such ad valorem duties as exist without further scrutiny. It is pointed out, however, in the extremely valuable observations to the League of Nations Memorandum on Tariff Levels¹ submitted by M. Di Nola, that an x per cent. duty in any two countries may be in practice dissimilar. As this authority states, various criteria are adopted for determining prices for the purpose of the application of ad valorem duties. "It is a well-known fact that, as the result of the application of certain of these criteria, the incidence of the duty may be found in practice to be much higher than that indicated by the percentage named in the tariff. If, for example, a 10 per cent. duty is levied on a certain pharmaceutical product, but is levied not on the basis of the original wholesale price—perhaps with the addition of cost of carriage, etc. (taking this price as 100)—but on the basis of the retail price at which the product is sold in the importing country (taking this

¹ *Op. cit.*, p. 33.

price as, say, 150), it is obvious that the incidence of the duty, considered from the point of view of a country applying the first system in such cases, is 15 and not 10 per cent."

In fact the basis of assessment in the case of ad valorem duties cannot well be ignored.

WEIGHTING AND AVERAGE

The questions of weights and the form of average which should be employed may with advantage be considered together. As I shall endeavour to make clear, use may be made either of quantity or of value weights according to the results at which it is intended to arrive. The form of average will likewise depend on the object in view and on the character of the weights selected.

According to the general conception of a tariff index which I have been elaborating, the correct theoretical value weights should be proportionate either to the relative value of the world production of each commodity or of the world trade in each commodity.

The first alternative may be defended on the grounds that the world trade in any commodity may be limited by the existence of tariffs. (I do not propose to run the risk of falling into the slough of the free-trade controversy by discussing the extent to which tariffs actually curtail or promote trade. But all parties will agree that they have some influence.)

The argument that trade is influenced by tariffs, though valid, is, I think, pushed too far if employed not only as a criticism against weighting by trade values, but as a ground for weighting by production ratios. The theoretically perfect weighting system would be

one under which each commodity were given a coefficient equivalent to the value which it would have in the international trade of a free trade world. To employ production coefficients would seem to postulate that all the goods produced domestically are not only potential exports, but would in an unbarred world be internationally exchanged. Such a hypothesis is demonstrably false. Further, in a free trade world, not only the composition of world trade but the relative quantities and values of goods produced would be different from what they are to-day. In practice the suggestion has little interest, as the data for estimating the world production of all the goods entering into international trade, or for estimating that of any adequate sample of that totality, are obviously lacking. We are forced, therefore, inevitably to employ world trade weights. World trade weights are no doubt defective owing to the fact that the quantity of any particular commodity imported or exported in the world as a whole is influenced by the duties which are imposed on it. But they are falsified by this cause to a much less extent than are weights based on the relative quantities of the imports of each country whose tariff is being measured. Import weights of this sort are frequently recommended on the grounds that it is necessary to take into account the "relative importance of each commodity to the economy of each State." But it is obvious that the quantities of each commodity imported into any country will tend to vary from the quantities which would have been imported had no duties been imposed in direct relationship, if not to the height, then to the effectiveness of the duties imposed, until a point is reached at which the duty is prohibitive. (Any raising of rates above prohibition

point will, of course, have no effect.) National import weights are therefore falsified to the maximum possible extent by the tariff schedules. World export weights, on the other hand, are influenced by the average of all duties existing in the world and are not directly dependent on the particular rates which exist in the country whose tariff is being measured. Import weights are, further, open to the objection which I raised above to any attempt to measure the extent to which tariffs are protective.

The proposal to weight not by imports but by national consumption is based on the confused ideas that the degree of protection can be measured, and that the weights should be proportionate to the relative importance of each commodity to the national economy. The criterion of relative importance to national economy is only significant if the object in view is to measure the degree of protection, and, even if it were possible to measure the degree of protection, only by a violent assumption could relative importance be gauged. The consumption of some commodity of primary importance to the national dividend of a country may be curtailed by the existence of a high duty.

There is, however, a slightly different line of argument which requires consideration. It runs, if I rightly comprehend it, as follows. The utilization of export lists and export weights may for certain countries involve a system of measurement which, however theoretically justifiable, is too far divorced from reality to have any significance. The imports of certain countries are so specialized that to consider duties on them in relationship with the whole catena of commodities constituting world trade is ridiculous. Put in this way the argument

appears to me to be sound. There are certain extreme variations from the normal which must be excluded from consideration. An act of judgment is required in determining what countries should be classed in the category of economic "sports" or *amœbæ*, and countries with very high rates of duties may sometimes find this act of judgment embarrassing. But it ceases to be serious when pushed beyond this point, when it is contended that certain duties in the tariff schedules of most countries are of no relevance, as the goods on which they are imposed are, in fact, never purchased, and that for this reason any attempt to measure tariffs must prove vain. By analogy we might argue that indices of retail prices are impossible because fresh eggs are sometimes rotten. In practice we must take as granted both the average ineptitude of human legislation and the average dishonesty of the domestic fowl.

The actual determination of world export weights involves great practical difficulties, and would involve, if perfectly accurate results were demanded, a calculation of the aggregate value of the world exports of all the commodities in the sample list. For a number of the staple commodities calculations of this sort already exist, but in other cases resort must be had to estimates and approximations. The risk of error in making such estimates must be acknowledged; but errors in weights are as a rule of relatively minor importance, and the greater mistakes in the weights for tariff indices are likely to occur in the case of the lesser and not of the major weights.

If quantity weights are employed, more precise results may be expected. The accuracy of the trade statistics in recording the quantities of imports and exports at

any rate of stable commodities is probably greater than is generally believed. In a study which I made recently of approximately the total world imports and exports of seven raw materials and food-stuffs, I found that in the year in question only in the case of cotton did the aggregate of imports differ from the aggregate of exports by an amount which exceeded the maximum error which might have arisen from the fact that the enquiry did not comprise certain statistical areas of minor importance. Detailed statistics of this sort can, owing to differences in classification, only be elaborated for staple commodities, and the labour involved is very great. In the League of Nations memorandum, which had to be produced within a fixed period of time, a detailed analysis of the trade statistics of the world was not attempted. Two series of very rough weights were used. The first was equivalent to the relative importance in terms of value of each commodity to the exports of the countries from whose export statistics they were extracted. A further calculation was then made under which "the weighted indices obtained from the goods selected for each export country were themselves weighted with factors whose importance was proportionate to the relative aggregate values of the total exports of the various export countries." This system is obviously a makeshift, and the weights can scarcely have done more than prevented serious error from arising in the case of certain countries whose indices might have been affected by exceptional rates on one or two commodities of minor importance. The indices calculated by the League were finally grouped in classes with a 5 per cent. range (i.e., countries with indices over 25 per cent. from 20 to 25 per cent., from 15 to 20 per cent., etc.). In only one case did the

employment of weights affect the group into which a country fell.

The practical importance of weighting must therefore not be exaggerated, and a sufficiently accurate result could probably be reached by a very careful compilation of the list of commodities, the repetition of certain goods, and the selection of a number of allied goods representing important groups.

Weights are, however, necessary if the object of the calculations is to show variations (in time) in the indices resulting only from legislative changes and to eliminate those which are the outcome of price movements. When this restricted object is visualized, quantitative and not value weights are required, and specific, not ad valorem, duties must be employed. Weighting is necessary if specific duties are averaged, because the unweighted duties are likely to be incommensurable. An average of £*x* per ton and £*y* per square metre obviously has no meaning.

If the object of the measurement is therefore merely to make comparisons in space—of one country with another—at a given date, it would appear to be simplest to calculate the aggregate value of the duties which would be collected in each country on the total of the quantities of each commodity contained in the sample list. The formula would then be $\Sigma x_0 q_0 : \Sigma X_0 q_0$ when

$x_0, x_1, x_2, \dots =$ the specific duties in country A and
 $X_0, X_1, X_2, \dots =$ the specific duties in country B.

If comparisons in time are to be made and the price factor ignored, then with constant weights the formula for the time index will be the simple aggregative

$$\frac{\Sigma x_1 q_0}{\Sigma x_0 q_0}$$

When a time index of this sort is proposed, existing ad valorem duties must be converted into their specific equivalents by means of an unvarying price schedule.

The above formula, it may be remarked in passing, gives results identical with those which would be obtained from employing absolute full value weights and ad valorem duties. For were this done the price factor would cancel out. Thus if x is the specific duty, p the price and q the quantity, then the ad valorem duty weighted by full values would be

$$\frac{x}{p} \times qp = xq.$$

If variable weights are preferred, the formula

$$\sqrt{\frac{\sum x_1 q_0}{\sum x_0 q_0} \times \frac{\sum x_1 q_1}{\sum x_0 q_1}} \text{ or } \frac{\sum (q_0 + q_1) x_1}{\sum (q_0 + q_1) x_0}$$

can probably with advantage be employed.

I doubt, however, whether for time measurements this method of approach has much practical value to-day, except for measuring the tariff of a single country after an important legislative change. If the data available for use in the compilation of tariff indices manifested a high degree of accuracy and the scope of the enquiry could be extended so as to make full provision for conventional tariff reductions, then an annual measurement of the effect of legislative and contractual changes in tariffs might be valuable, and these changes could be suitably measured in the manner just indicated. But I personally very much doubt whether the data at our disposal to-day are adequate to record accurately minor fluctuations of this character. If they are inadequate, then proximate and frequent measurements would serve no useful pur-

pose. If, on the other hand, tariffs are only measured at relatively long intervals of time, then, except in periods of unusual price stability, the price factor cannot well be ignored. A rapid rise in prices is likely to induce the legislator to increase the specific rates of duty, and a rapid fall may lead to a reduction of rates or render unnecessary for the object in view an increase which would otherwise have been seriously considered. Since price changes affect the tariff levels when duties are specific to the same extent as rate changes, and at the same time have a direct influence on legislation, preference should, I think, be given to an instrument of measurement which is sensitive to them.

The effect of price changes can only be gauged by employing ad valorem rates and estimating the ad valorem incidence of specific duties by means of price schedules severally applicable to each year for which calculations are made. When this is done, since the ad valorem duties are ratios linked to a common percentage base, price, direct weighting is, as I have said, not indispensable. There are no concealed haphazard weights.

In the case of an index-number of, for instance, wholesale prices, it is customary to weight the price relatives by the full values. When this is done and an arithmetic mean is employed, the result is identical with that which would be derived from an aggregative index. The two processes of calculation are indeed essentially the same. In a tariff index, if the relatives of the rates were employed and not the rates themselves, then the weights should be proportionate to the total amount collected as duty on each commodity—i.e., (q^*). But this form of calculation is identical with the employ-

ment of full value weights (i.e., qp) and the ad valorem duties. The formula for the first system is

$$\left(q_0 x_0 \frac{x_1}{p_1} \div \frac{x_0}{p_0} \right) + \left(q_0' x_0' \frac{x_1'}{p_1'} \div \frac{x_0'}{p_0'} \right) \dots \div q_0 x_0 + q_0' x_0' \dots$$

$$= \sum \frac{q_0 p_0 x_1}{p_1} \times \frac{1}{\sum q_0 x_0}$$

The formula for the second is

$$\left(q_0 p_0 \frac{x_1}{p_1} + q_0' p_0' \frac{x_1'}{p_1'} \dots \right) \div \left(q_0 p_0 \frac{x_0}{p_0} + q_0' p_0' \frac{x_0'}{p_0'} \dots \right)$$

which reduces to the first.

I do not think it is necessary to recapitulate here the well-worn arguments in favour of the various forms of average which might be used for the type of index now being considered. Owing to the nature of the data which must be employed in the calculations, however, a certain proportion of erratic results (rates) are certain to occur in the course of the work. Their effects can be lessened to some extent by utilizing, as one must utilize, a sufficiently comprehensive and detailed list of goods. But the use of the geometric mean or the median will help to minimize the danger of outside rates (factual or erroneous) having an undue influence on the average. A government may decide to impose some wholly exceptional rate on a particular commodity for special reasons of policy, and it is preferable that such exceptions should not be allowed unduly to affect the general "tariff level."

I believe I am correct in stating, however, that for all the tariff indices calculated up to now the arithmetic average has been employed.

GENERAL CONCLUSIONS

I hope I have said nothing which might give rise to the belief that a reasonably accurate measurement of tariff levels is easy to accomplish! Before I summarize the very tentative detailed conclusions which I desire to submit, I should like to recapitulate what appear to me to be the major difficulties and causes of possible error. These are all connected with the data which have to be employed and not with the theoretical problem itself. It is true that the form of measurement, the conception of the problem which I suggest, has proved to be alien to many minds and incomprehensible to others. But its incomprehensibility is due, I believe, not to any inherent obscurity, but to the common and, in my opinion, radically false assumption that a tariff index can and should measure the degree of protection afforded by governments and enjoyed by industry or agriculture. Owing to confusion of thought on this point, statesmen are fond of declaring that it is misleading to measure tariffs and ignore prohibitions. Equally reasonable might we maintain that a hydrometer should measure temperature and is useless if it fails to take account of air pressure.

But the practical limitations to successful measurement are very real. They may be summarized as follows:— (i) It is difficult to compile a list of commodities of manageable size which is at once a fair sample of all goods composing international trade and so related to the various countries of export as to represent adequately for each one of them the varying treatment to which their goods are subjected as a result of conventional and differential tariffs. (ii) It is still more difficult

to attribute prices to these goods which are truly characteristic, in view of the facts, first, that the goods in question are in many cases necessarily small groups of allied products and not individual entities; secondly, that market quotations are generally unobtainable or unsuitable; and, thirdly, that the values recorded in trade statistics are often of doubtful accuracy. Permanent under-valuation or over-valuation in trade statistics is, however, not necessarily of grave importance. (iii) The theoretical objections to import values are so strong that such values can only reasonably be employed as a check to results obtained by other methods. But owing to the predominant position held by European and North American countries in the trade of the world, the employment of export values is likely to exaggerate to some extent the indices of countries whose distance from these two centres exceeds the average. (iv) The trade statistical and tariff classification of countries vary so much that the conversion of specific duties into ad valorem rates or vice versa frequently presents problems of great intricacy, problems which can only be solved in the light of highly specialized knowledge. (v) Perfectly accurate determination of the weights to be employed is both impossible and unnecessary. But if an adequate list of goods is utilized, the amount of work involved in compiling even approximate weighting coefficients is likely to prove extremely heavy. (vi) The average for countries with very few duties will almost certainly prove to be too high relatively to those of countries with long tariff schedules.

This last difficulty sets limits to the scope of any enquiry into tariff levels. The others should determine the frequency with which measurements may suitably

be made. These others can be overcome no doubt to a considerable extent by employing a very complete list of commodities and allowing the law of great numbers full play. But I am personally very doubtful whether, with the data available, tariff indices, however carefully elaborated, can be expected to do more than present a rough order of magnitude with a wide margin of error. If this view be correct, then too frequent measurements are likely to be misleading rather than enlightening. Nothing will be gained by measuring at intervals during which the real changes in tariff level are less than the probable error in the index. On the contrary, such a procedure, in addition to incurring the risk of mistaken findings, is likely to induce the public to believe that the index is characterized by a precision greater than it can actually claim.

Obviously no rule can be laid down as to the most suitable intervals to adopt. During periods of rapidly moving prices or of great legislative activity, relatively frequent enquiries may be justified. When any single country makes a complete and radical revision in its tariff, an attempt may be made to measure the effects at once. But I doubt whether the best instrument we can manufacture will prove sufficiently delicate to gauge accurately the minor changes resulting from the conclusion of bilateral or multilateral commercial treaties. On all these points, however, I am most unwilling to dogmatize.

As the various problems which I have been discussing are closely interlaced, it has not been easy to keep the main thread of my argument constantly visible, and it may be well, therefore, to summarize the constructive

proposals briefly and succinctly. In this summary I consider only points of major importance.

(I) In order to measure the general level of tariffs two processes are possible. A calculation may be made either (*a*) of the total amount which would be collected in duty in various countries or at various dates on a common list of selected commodities, or (*b*) of the average of the rates of the ad valorem duties which are imposed on those commodities. The first method brings out differences and variations resulting from commercial (and possibly fiscal) legislation and commercial treaties. The second method, since most tariffs are specific, indicates also the changes resulting from price fluctuations.

(II) All duties must be expressed under the first method as specific duties, under the second as ad valorem rates.

(III) In each case it is necessary to compile a list of commodities to which the duties are applied. In an international index the list may most suitably be so drawn up as to constitute a sample of the goods composing world trade.

(IV) The list must be common to all countries whose tariffs are being measured, and not varied (except possibly in minor details) from country to country. Were variation allowed, incomparable results would be obtained. Variation according to the imports of the country whose tariff is being measured, which is frequently proposed, is irrational, as those imports are largely determined by the tariff.

(V) Since world imports equal world exports, the sample list may be based in either. But in practice it

may be found convenient to compose this sample by combining a series of shorter lists based on the exports of the more important exporting countries. If this system is adopted and trade values are employed, the danger of indices being rendered incomparable on account of the varying differences between f.o.b. and c.i.f. values is largely overcome.

(VI) If the sample list is constructed in this way, the export countries should be selected so as to be representative at once of the total of world trade and of the commercial treaty situation.

(VII) In the absence of more accurate price statistics, export values would appear to be the most suitable data to employ for the conversion of specific duties into ad valorem rates or vice versa.

(VIII) It is probably desirable to ignore altogether duties imposed for purely fiscal purposes on certain commodities, such as tobacco and alcohol, normally subjected to excise duties or direct government control.

(IX) The system of weighting depends on the form of measurement. For the first method mentioned above, quantity weights must be employed; for the second, full value weights. The weights in both cases should be representative of the relative importance in world trade of the goods selected. If a sufficiently detailed list is employed, indirect weighting may prove adequate for the purposes of the second method of measurement.

(X) Owing to the character of the data employed and the possibility of exceptional "outside rates" throwing out the average, the geometric mean or median is to be preferred.

I have deliberately employed somewhat categorical

language in the enumeration of these points in order to render the suggestions made clear and definite. They are not, however, intended to be more than suggestions of a tentative character, and they are subject to all the reservations and qualifications which I have mentioned already.