

THE INDUSTRIAL REVOLUTION AND  
THE ECONOMIC WORLD OF TO-DAY

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THE  
INDUSTRIAL REVOLUTION  
AND THE ECONOMIC  
WORLD OF TO-DAY

A Study of Industrial Changes and  
their Effects in Great Britain and of  
Contemporary Economic Structure

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## PREFACE

THE complex working of the modern economic system, now world-wide in its scope, and the cross-fire of ideas on even some of the broadest social questions make the everyday world perplexing to many who are not content with shibboleths. Perhaps the only way of approach towards some grasp of such matters is through the study of Economic History and Economics. In teaching these subjects in the Advanced Forms of a large school, however, the authors found themselves hampered by the lack of a book that explains in terms which the Sixth Form student of history or modern subjects can readily understand, the essential features and problems of post-war economic life and the way they have grown out of the past: specialised books there are in plenty that deal with particular parts of this large field, but they, excellent as many are, are either too purely theoretical or too distinctly historical for the purpose.

In the first part of this book an attempt has been made to indicate the course and to trace the chief results of the Industrial Revolution, taken in its widest sense to include the whole series of transformations in economic life from the eighteenth century to the present day. Each aspect treated has been followed through as a theme, and cross-references have been generally avoided. In the second part an account is given of various outstanding features in the structure and working of the modern capitalistic system of industry, with an eye both to its historical development

in Great Britain and to its world-wide ramifications at the present day. An opportunity has been taken to deal with a number of the most vital economic and social questions of our times, so as to illustrate the methods of Applied Economics, and to weigh up the balance of conflicting arguments. Here also the treatment has been by leading themes, but owing to the complex nature of the subject matter and to the background supplied in Part I, cross-references have been inserted where necessary to integrate convergent or parallel ideas. The first part is the work of Mr. L. W. White, the second of Dr. E. W. Shanahan; but the authors have worked closely together, in the planning of the matter and in the reading of each other's chapters, so as to aim at homogeneity in the whole.

It is hoped that the book will prove useful not only to Sixth Forms, particularly to those preparing for University Scholarships in History, but also to students of Economic History at the Universities and to those among the general public who seek a simple exposition of economic principles and of the antecedents of present social and economic problems.

Much care has been taken to ensure soundness and accuracy. In this connection the authors acknowledge most gratefully the helpful criticism and suggestions of those authorities who have been kind enough to read over separate chapters: among others Sir William Beveridge, Director of the London School of Economics, Mr. H. L. Beales, Dr. W. A. Robson, Professor Arnold Plant, and Mr. (now Professor) R. B. Forrester of the same College; and Mr. T. S. Ashton of Manchester University. They wish also to acknowledge their debt to the service provided by the Library of the London School of Economics without which the writing of this book would have been almost impossible.

Bibliographies have been appended to each part. That for Part I is designed to indicate a number of



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useful books for further reading which the student of the Economic History of the last century and a half should be able to obtain without difficulty. Those marked with an asterisk form a fair body of reading and do not overlap greatly. The bibliographical note to Part II is an attempt to give some guidance as to the value of a selection of publications in the great body of writings on Economic and related subjects.

L. W. W.

E. W. S.

Part I

THE HISTORY OF ECONOMIC AND  
SOCIAL CHANGE

## CHAPTER I

### THE ESTABLISHMENT AND DECLINE OF THE MERCANTILE SYSTEM

WHEN Henry VII won the crown, he succeeded also to the paternal interest of his predecessors in the economic life of their subjects. The mediæval monarch in England determined rates of interest and prices for corn, bread and ale; he regulated the conditions of labour, the quality of the product, and social life generally. For these ends he made use of the guilds whose ordinances gradually came to be administered by the corporations of the boroughs, the descendants of the Gild Merchant, which included the wealthiest men of each craft. In the performance of these functions, the sovereign had the support of the Church, which discouraged the accumulation of excessive wealth in the hands of private individuals lest the structure of society, on which the Mediæval Church itself depended for its power, should be undermined.

The accession of the Tudors coincided with geographical discoveries which changed the balance of the economic world. The voyages of Vasco da Gama, Columbus and John Cabot made possible the rise of England and Holland to commercial importance and led to the decay of Venice and Genoa. Simultaneously, the overthrow of the religious organisation of the Middle Ages, the result of a growing national consciousness and a monarch's personal interests, led to the development of a Mercantile System designed to increase National Power and to secure National Defence. The Tudor monarchs kept an even closer watch upon industry and social life than their pre-

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decessors. A labour code was established, a poor law was devised, acts protecting agriculture were passed; shipping was fostered, fishing furthered and maritime commerce regulated. In its struggle for existence the new-born Nation State showed as little respect for private interest as the Mediæval Church: public interest alone was considered. In the determination of what was best for the State, Parliament played but a small part. The Tudors made use of the Council, an instrument they found ready to their hands, to strengthen their control of industry, as part of a despotism at once ruthless and popular. The system thus evolved was perfected in the reign of Elizabeth.

### ELIZABETHAN MERCANTILISM

Perhaps the most famous economic measure of Tudor times was the Statute of Artificers of 1563, by which the trades established in that year became subject to an elaborate labour code. A minimum apprenticeship of seven years, beginning not earlier than the age of seventeen, was to be enforced. This was a general application of the London Custom and was presumably designed to ensure a national discipline, the Elizabethan view being that "until a man grow unto the age of xxiii years he, for the most parte, though not always, is wilde, without judgment and not of sufficient experience to governe himselfe." The Statute defined who ought to be apprenticed to industry and fixed the proportion of apprentices to journeymen or paid workmen. A watching brief for agriculture was held in this measure as it was laid down that all able-bodied men might if the need arose be compelled to serve as agricultural labourers, unless they could prove their right to exemption. An attempt was made to check the decay of corporate towns by preventing the establishment of industries outside them; the gilds had already been

brought under control by a statute of Henry VII which gave to judges the power to abrogate gild ordinances. The Justices of the Peace, whose capacity for bearing burdens had already proved that for them there was no last straw, were to administer the Statute and to fix a convenient proportion of wages—not with the intention of keeping down wages, but in order to secure fair play. The law also insisted on yearly hirings for both servants in husbandry and artificers with severe penalties for employers or workmen if the contract were broken. Labourers and artisans were to carry letters testimonial when they were seeking fresh employment; without these they could obtain no further work and were likely to be treated as vagabonds.

Vagabonds were the pest of Tudor England. The savage laws of the reigns of Henry VIII and Edward VI show that the "valiant beggars" terrorised towns and countryside alike. During the reign of Elizabeth progress was made towards the solution of the problem of dealing with them in the Acts of 1597 and 1601, which remained the legal basis of the administration of poor relief until 1834. There were three degrees of poor to be considered, the poor by impotency, the poor by casualty and the thriftless poor. Even before the dissolution of the monasteries, Parliament had made provision for the first class, but when the charity of the Church was swept away, the responsibility of the secular powers became more obvious. In their final solution the ministers and Parliaments of Elizabeth made use of the experience of the City of London, of Norwich, Colchester and other places. By the Act of 1597-1598, re-enacted in 1601 with small alterations, the appointment of Overseers of the Poor in every parish was required; these officers were to have power to raise funds by a levy under the supervision of the Justices of the Peace who could force neighbouring parishes in the same Hundred to help a parish which was unable to support its own poor. The Overseers were to

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provide for all classes of the destitute. Justices of the Peace could, however, commit to a House of Correction established for the purpose such able-bodied poor as refused to work. They were also empowered to commit to prison anyone who failed to pay the poor rate. Thus, in a primitive way, the State recognised its duty towards those who were prevented by age, infirmity or the action of economic forces from providing for themselves.

Burleigh's hand was felt everywhere in Tudor England. He encouraged fishing; he protected the woollen industry by prohibiting the importation and the wearing of foreign cloth. He gave monopolies for glass-making, sugar-refining and salt manufacture. He furthered the development of the country's natural resources by the privileges given to the Mines Royal and the Mineral and Battery Works. Above all else, he favoured agriculture. The yeomen were regarded as the backbone of England and heavy penalties were imposed upon the makers of sheep-runs. Corn-growing was fostered both by the protection of the home market and by the granting of export licences if the harvest warranted it. Through the Council a careful check was maintained upon quality and prices; corn dealers who wanted to keep outside the Star Chamber avoided attempts at cornering and engrossing. Thus the Elizabethan age was one of agricultural prosperity; the country gentry flourished, the yeomen and the labourers shared in the boom.

Care for her shipping was as vital to England in the days of Philip II as a watch over her food-supplies. To all the details of naval administration therefore Burleigh, the most industrious of ministers, paid the greatest attention. He prevented further depredations by the smelters of the Sussex Weald upon timber suitable for shipbuilding, he encouraged progress in naval construction by the payment of bounties on large vessels, he watched the supplies of naval stores

and dredged and improved harbours. By "Fish and Navy" days, he increased the amount of fish eaten, as fishing bred hardy seamen who were as essential as good ships. These practical means of increasing the mercantile marine Burleigh preferred to the Navigation Laws which, since the reign of Richard II, had encouraged the wine trade with Bordeaux. He saw that the more foreign trade was fostered, the more English ships would be required, for merchants would find it more convenient to use their own ships than those of some other nation. ■

Before there could be much development of trade abroad, it was necessary to improve the coinage which successive monarchs had depreciated. So skilfully did Burleigh carry this through that he made a profit for the Crown, while the merchants who bore the brunt of the cost were amply repaid by the security that immediately resulted. Burleigh was a Bullionist, but not a bigoted one; though he saw the use of imported commodities and the advantages of trade, he liked to see a flow of precious metals into the country. Therefore, as he did not trust individual merchants to bring about the results he desired, he regulated foreign trade so that it should add to National Power. Monarchs in the Middle Ages, such as Edward III and Richard II, had seen in foreign trade a political weapon and had used it freely, but it was not until the sixteenth century that its part in the evolution of the Nation State was perceived. The Levant Company, the Muscovy Company, the Barbary Company together with the older organisations of the Merchant Adventurers and the Staplers gradually broke down the virtual monopoly of the Hanse League, which was deprived of its special privileges in 1578. English merchants were aided in their struggle by two fortuitous circumstances, the outbreak of the Thirty Years' War in Germany and the sudden refusal of the herring shoals to enter the Baltic, which brought about

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the decline of Lübeck and Rostock. From the time of Burleigh onwards until the nineteenth century the regulation of foreign trade continued to be the prerogative of the Government. This prerogative was exercised in various ways: in Tudor and early Stuart times by alteration in the Book of Rates; under the Protectorate and in the succeeding years by Navigation Laws and other Parliamentary enactments.

### MERCANTILISM AFTER ELIZABETH

The great system of State Socialism thus established in all its complexity by 1603 recognised both the duties of the State and the rights of the citizens. The protection of the aged and infirm, the apprehending of valiant beggars, the disciplining of apprentices were as necessary parts of it as the regulation of trade. As long as the Tudors were on the throne, the system was effective. The early Stuart period was a time of transition: England, no longer concerned with the danger of Spain, founded colonies and plantations abroad so that the Mercantile System of the seventeenth and eighteenth centuries was largely concerned with the problems of overseas empire. The Navigation Laws, the combating of the Dutch, the control of colonial trade and the maintenance of a favourable Balance of Trade became matters of paramount importance. The desire for personal gain, checked by the Tudor Council, rapidly grew stronger under the Restoration, with the result that merchants became as wealthy as nabobs. The abolition of the Prerogative Courts and the Civil War were shocks from which the elaborate machinery of Tudor social government never recovered. Labour regulations and the supervision of quality and price were never again effectively carried out. Parliament in consequence pursued a policy of ill-ordered imitation of Colbert's measures in an attempt to bring industry once more under control.

The governments of James I and Charles I tried to



continue the supervision of the conditions and products of industry. Cloth intended for export was inspected, the supply of wool was watched, and many other industries were regulated. Sometimes the right of inspection was delegated to a monopolistic company or to ancient organisations like the London Companies—a practice which caused more annoyance and friction than did supervision by officers of the State. At the Restoration these methods were abandoned and at the same time the Statute of Apprentices became less effective. Justices of the Peace ceased to fix wages altogether, or else fixed maximum instead of minimum rates; industries were established in the country or in towns where there was no corporation to enforce the apprentice rules; the yearly contract was abandoned. When Parliament after the Glorious Bloodless Revolution, sought to foster the growth of industry, it gave far more consideration to the interests of the masters than to those of the men. It was chiefly interested in securing a good supply of raw materials and wide markets. In the woollen industry, Parliament did try to secure a minimum wage and continuous employment, and to fix a fair price for wool for the independent worker. It also passed a number of Truck Acts which showed that authority was not blind to the evils of the growing capitalist system. In the eighteenth century we find many proofs of the breakdown of the old system of labour and wage regulation in the petitions of the weavers for the enforcement of the Statute of Apprentices. The establishment of the Bank of England, the creation of the National Debt and a better understanding of credit all helped in the development of a capitalist movement against which even combinations of workmen could make little headway. The Statute of Apprentices, disliked by the judges and disregarded by the employers, gradually became inoperative, except where the workers were strong enough to guard their supposed interests.

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The Elizabethan Poor Law suffered less rudely than the other parts of the Tudor social settlement, and its fundamental principles survived until the Industrial Revolution wrought far-reaching changes in the life of the English people. During the forty years down to the Civil War the Act of 1601 was efficiently administered by the Overseers and Justices under the watchful eye of the Privy Council which took upon itself the direction of measures designed to prevent dearth and to limit poverty. After the overthrow of the Council, the means of putting pressure upon the local agents disappeared, and each parish became, for the purpose of poor relief, a republic. Fortunately the problem of pauperism was not acute in the seventeenth century as labourers in rural areas could still rely upon domestic industry as well as upon agricultural work. The Act of Settlement of 1662 strengthened the hand of the Overseers by giving them the right to move on within forty days of their arrival newcomers who appeared likely to become chargeable on the rates. This was intended as a means of combating the problem of squatters who settled down upon the commons; it was no solution for the much greater question of dealing with the armies of vagabonds who flocked to any town which was likely to give them food.

Towards 1700, England was beginning to feel the effects of trade fluctuations and the problems of an industrialised community. The immobility of the unemployed resulting from the Law of Settlement and the corruption and the lack of method that were general in the administration of the poor law led to great hardships for the growing number of those who were paupers through no fault of their own. In most parishes in the eighteenth century, the Poor Law and the Law of Settlement were brutally enforced by men whose sole interest was the keeping down of the rates. Nevertheless various constructive proposals for reform were put forward. In 1696 Parliament

sanctioned the scheme of John Cary for Unions of parishes which were to provide workhouses for the workless and to give work to the able-bodied while providing for the aged and impotent. The experiment was made at Bristol with such satisfactory results that a number of other towns adopted the idea of Unions, administered by Boards of Guardians instead of Overseers. Sir Humphrey Mackworth's plan for the setting up of a factory for the employment of the poor in each parish was less practicable. The spirit of the age was better shown in the Act of 1723, which empowered the Overseers to set up workhouses and to refuse relief to those who would not enter them, thus legalising the so-called "workhouse test".

In the second half of the eighteenth century, the agrarian changes and the loss of domestic industry brought many "industrious men" face to face with death from starvation. Sympathy for these victims of ruthless economic forces and disgust at the harshness of the overseers led to the passing of Gilbert's Act of 1782 by which the practice of contracting out the labour of the poor was brought under supervision, parishes were encouraged to form Unions under Boards of Guardians and to establish workhouses for the reception of the impotent, while the able-bodied were to seek employment in the district and might have their wages supplemented by the parish. In 1795, a new Act of Settlement was passed which protected newcomers in a parish from interference until they actually became chargeable. In the same year the Speenhamland "Act" of the Berkshire Justices systematised outdoor relief, accepting the fact that the Act of 1603 was unworkable under the changed economic conditions. A sliding scale of standard wages or relief varying with the price of bread was drawn up and applied. "When the gallon loaf shall cost 1s. every industrious man shall have for his own support 3s. produced either by his own or his family's labour or

an allowance from the poor rates, and for the support of his wife and every other member of his family 1s. 6d."<sup>1</sup> This principle of rate in aid of wages spread generally between 1795 and the passing of the Poor Law Amendment Act. During the Wars when prosperity made the rates a small burden there was little criticism of the system, but after 1815 when prices fell and farmers were unable to pay the poor rate, the re-imposition of a central authority was necessary.

The Expansion of England, begun during the reigns of James I and Charles I and continued during the Protectorate and after the Restoration, changed the nature of English Mercantilism. The colonies and plantations founded not only in the artificial void created in Ireland but also in the great spaces of Northern America and the fertile islands of the West Indies, and the factories established upon the shores of Africa and India made the scope of English commerce world-wide and provided openings for acquiring by trade wealth hitherto beyond men's dreams. Some of the plantations were formed by wealthy individuals, some by religious refugees, some by companies under Charter, while some were won in war. Under James I and Charles I there was mild approval, but in general the colonies were not greatly encouraged as they took many of the most vigorous of the sons of old families. From the beginning they were regarded as communities whose interests must be subordinated to those of the Mother Country, though their position was in many ways better than that of Scotland before the Act of Union. Before the Civil War, Parliament looked upon Ireland and North America alike as possible sources of uncontrolled royal revenue; after the Restoration and more especially after the Revolution they were regarded as markets where British goods should meet with no competition.

<sup>1</sup> Quoted by S. and B. Webb, *Eng. Poor Law Hist.* Part I, p. 178.

The chief features in the Mercantilism of the seventeenth and eighteenth centuries were the encouragement of industry at home, the development of shipping and the amassing of bullion. The first of these was furthered by protective tariffs and favourable trade treaties, the second by the Navigation Laws, and the third by the securing of a favourable Balance of Trade.

Throughout the period of Whig domination a jealous watch was kept over English industry, especially against possible rivalry by France. The economic policy of Colbert which had raised tariff walls against English goods had led to retaliation in 1678 in the form of an Act which virtually prohibited trade with France. This prohibition was in effect retained until the Treaty of Utrecht, and even after that there was little intercourse between the two countries until Eden's treaty of 1786. The commercial relations with Portugal were complementary to those with France. In 1703 the famous Methuen Treaty was negotiated, by which the Portuguese embargo on the importation of English cloth was removed and port wines were given preferential tariffs in England. The post-Restoration governments, however, did not neglect agriculture in their desire to develop industry. In order to increase the area under corn, bounties on the export of grain, when the price was below 48s. were introduced in 1673, and this policy was continued after the Revolution.

It has to be observed that the advantages of the commercial system were not shared by England with Scotland and Ireland. The Scots were treated as foreigners in all matters concerning the Navigation Laws. They were excluded from the colonial trade with the result that they were led to attempt a settlement at Darien, the failure of which brought such ill-feeling that the passing of the Act of Union was the only safe means of preventing war. Ireland suffered even worse than Scotland. In the time of Charles I, Wentworth

had crushed the growing woollen manufacture and encouraged the development of the linen trade which seemed unlikely to interfere with the English interests. After the Restoration Ireland was prohibited from exporting cattle to England, then she was forbidden to trade directly with the colonies, or to revictual ships, and in 1698 the final blow was dealt to the Irish woollen trade, which had revived somewhat, by an Act which provided that Irish wool or woollens should be exported only to England where a high tariff made the acceptance of manufactured goods improbable. The full force of this English antagonism to Irish manufacture was felt later by William Pitt when he proposed his free trade treaty. Restrictions of a similar kind were placed upon industry in the North American colonies whence the export of hardware, woollens and hats was prohibited.

After the defeat of the Spanish Armada, which put an end to threats of Catholic invasion, England, newly awakened to the possibilities of overseas expansion, found herself confronted with a foe of another kind. Protestant Holland had in the hundred years following her fight for freedom developed her mercantile marine so rapidly that she threatened to monopolise the carrying trade of Northern Europe. Although there were brushes between the English and the Dutch in the East Indies in the reign of James I, it was not until the Protectorate that the seriousness of the situation was realised. Cromwell strove to prevent a Dutch monopoly by the force of arms and of laws. Under his Ordinance of 1651 and the Navigation Act of 1660 after the Restoration the produce of Africa, Asia, and America was to be imported into and exported out of the Plantations only in English ships manned by crews three-quarters English, or in ships of the colonists. No goods were to be imported into England from European countries except in English ships or ships of the country of origin. Further, no foreigner was to import fish or take part in the coasting trade.

Thus was the English merchant fleet to be saved. Though it seems doubtful that the Dutch trade was actually reduced by these measures which led the merchants of Holland to concentrate on the Baltic and other seas that were not affected, yet English shipping tonnage doubled or trebled in the next fifty years while that of rival nations remained stationary.

The effect of the Navigation Laws and their corollaries the Plantation Acts, was to cut off the colonists from direct trade with European countries in many commodities and to make England the staple for colonial wares. The more valuable colonial goods such as tobacco, sugar, cotton, rice and indigo, together with naval stores, could be sent to England alone. The export of such commodities as corn, timber and fish, the chief products of New England, was, however, unrestricted. When, after the Restoration, the value of the colonies as markets for English goods was realised, the monopoly of direct trade with them became the object of English policy. In this way it was hoped that English manufacturers would be without competitors. To the same end the export of manufactures from North America and direct trade between various colonies were forbidden.

Trade with the Plantations increased enormously after the Restoration and brought undoubted benefits to the North American colonies. An extensive ship-building industry was established which seriously rivalled that at home and drew forth a petition from the Thames shipbuilders in 1724 for the taxation of colonial-built vessels. The production of hemp, flax and pitch and the supply of masts and spars was encouraged by bounties and pig and bar iron was exported in large quantities. The Thirteen Colonies were, however, not treated with the consideration shown to the British West Indies which were especially valued by English statesmen and merchants. Not only did they produce sugar, but also they were the

dumping-ground for the slaves out of whom so many Bristol and Liverpool men made their fortunes and they were convenient depôts for carrying on the vast illicit trade with Spanish America. In the interest of the British West Indies, the North American colonies were prevented by the Molasses Act of 1733 from importing sugar for rum manufacture from the French Sugar Islands.

As long as there was a foreign power in North America threatening them, the Thirteen Colonies endured the Navigation and Plantations Acts when it was impossible to evade them. After the Seven Years' War had rid them of the fear of France, the colonists saw no advantage for them in their close economic dependence upon England. The French market especially offered possibilities which could be explored only by smuggling and in defiance of the law. The American Revolt was an outward sign that the world in which commerce had multiplied a hundredfold in a hundred years had outgrown the commercial restrictions of the seventeenth century. The immediate effect of the American War was to secure comparative freedom of trade for Ireland. In 1780 the export of wool, woollens, glass and manufactures and a full share in the colonial trade were granted. Two years later legislative independence was conceded.

Closely akin to the Navigation Laws were the Charters of the great Companies for foreign trade, some of which were in existence before the Civil War. The mercantilists in Charles II's Committee of Trade felt that it was not policy to allow individuals to trade as they pleased since they would not consider fully the wider interests of the country. Bands of merchants like the Merchant Adventurers, the East India Company, the Eastland Company and the Hudson's Bay Company therefore obtained or were allowed to retain their privileges in return for sums of money, and to exercise these privileges to the exclusion of others who naturally



regarded them as monopolists. In the early days of the expansion of English trade, the Merchant Adventurers, with the support of the Government of Elizabeth, performed useful service in the opening up of markets for English undressed cloth and in overcoming the monopoly of the Hanse League. They were strong enough to resist the challenge of the New Company of Alderman Cockayne which sought to dye cloth in England and then export it, and they survived, with Hamburg as their centre, until the time of Napoleon. The East India Company dwarfed in importance all other trading organisations. It was founded in 1600, and in 1657 became a joint-stock company with permanent capital. It established a number of trading posts in India, but was unable successfully to compete with the Dutch in the East Indies. From the beginning the Company had to face numerous enemies, who secured freedom of trade with India from 1654 to 1657, who tried to use the fact that Sir Josiah Child was a supporter of James II to secure the revocation of the Company's Charter, who in 1693 forced upon the East India Company a clause by which it promised to export yearly £150,000 worth of English cloth and who in 1698 set up a rival company which amalgamated with the old one in 1708. This opposition was aroused by various causes. Some said the Eastern trade discouraged manufactures at home, as cotton and silk goods were imported and woollen goods were of little use in India; others complained that each year bullion was drawn from England to pay for unnecessary luxuries; some maintained that many valuable lives and good ships were lost in pursuit of the trade; others saw the profits and felt the power of the Company and wanted a share in it. There was indeed much that could be said in defence of the monopoly, for the Company often had to put down pirates, to right the evils done at native courts by interlopers, and perhaps rescue from native prisons

the very folk who were seeking its ruin. The East India Company found its surest argument in its ability to give lavish presents and to lend to the Government large sums at low rates of interest, so that John Company became a military and political power and survived to control an Empire.

The third characteristic of Mercantilism was the belief in a favourable Balance of Trade. Both the formulation of the Navigation Laws and the establishment of the Regulated Companies were in part at least due to the desire to see a well-ordered trade that would result in a continuous flow of the precious metals into the country. The idea was not new; mediæval monarchs had ordered English merchants venturing trade abroad to bring home a proportion of cash from their sales, while foreign merchants trading in England were forced under the Statute of Employment to take out not gold or silver but English goods. In the seventeenth century there was a battle between the Bullionists who held that trade with every country should yield a balance of bullion, and the Mercantilists who held that it was a Balance of Trade which was to be aimed at. The former attacked the East India Company on the ground that it illegally exported large quantities of bullion each year, the latter asserted that with such bullion the Company obtained goods which when re-exported obtained even greater stores of gold. At length the latter party triumphed and in 1663 the embargo on the export of gold was removed. The most famous exponent of the principle of the Mercantilists was Sir Thomas Mun, whose book, *England's Treasure by Foreign Trade*, written in 1630, but not published till 1664, set out clearly the advantages of the export of bullion in some trades, provided that there was a balance paid for in cash on foreign trade as a whole. Adam Smith accused the Mercantilists of worshipping gold and silver and of enduing them with qualities different from other commodities. That

their respect for the precious metals restricted trade is undoubtedly true, but it must be remembered that without gold or silver a country could fight no wars in the seventeenth century, that the National Debt was still a novelty in 1700, and that credit was scarcely understood in 1750. This explains the fact that such a trade as that with Portugal which brought, it was alleged, £50,000 a year in Brazilian gold was so highly valued. That the countries of the world could not indefinitely pay out more than they drew in did not occur to economists of the Mercantilist age.

As the American Revolution and the consequent concessions in Ireland delivered a staggering shock to the political practice of Mercantilism, so did the publication of the *Wealth of Nations* in 1776 overthrow the theoretical foundation of the structure. Adam Smith was anticipated by the Physiocrats, who, hating the centralised system of Colbert, supported free competition on the grounds that the individual would discover what was best for his personal interest and that what was best for the individual was at length best for everybody. Freedom of labour, freedom of trade, internal and foreign, and a strict limitation of the functions of the State were among their principles. They differed from Adam Smith fundamentally on one important point: they regarded industry as sterile and agriculture as the only productive occupation. As they were consequently biased in their judgments and unscientific in their method, it is to Adam Smith and not to them that we look as the true father of economic science.

Adam Smith was an economist who possessed not only mental clarity but also charm of style. By simple examples he made his theories clear to all. He adopted from the Physiocrats the notion that the personal interest of the individual is a sufficient guide in matters of trade to the true interest of the nation, since the gain of the units is in the mass the gain of the State.

He elaborated a theory of production based upon a division of labour, for, unlike both Physiocrats who put their trust in agriculture and Mercantilists who relied on trade for profit, Adam Smith realised the potentialities of organised industry, though he himself was no lover of factories or capitalists. As he regarded personal interest as "the essential spring of human life and social progress," he advocated the removal of all artificial barriers to trade and to the free use of money. Bullion was no true measure of a country's wealth and was indeed more easily dispensed with than some other commodities. For him the world, not England, was the economic unit, and he held that goods should be purchased where they could be obtained on the most favourable terms, that is, where labour costs were lowest. He showed that trade between two countries was advantageous to both, since it enabled them both to concentrate on industries to which they were naturally suited. He thus advanced from a position of national isolation to one of international co-operation, for he saw in freedom of intercourse and liberty of individual action the strongest bonds of society and the surest guarantees of the growth of trade and national wealth. No longer should capital be misdirected into unprofitable channels by regulations and interference: *Laissez faire* and Free Trade should take the place of Chartered Companies and Balance of Bullion. Thus would England become as Walpole had visualised, the Emporium of the world.

The first and ablest of the disciples of Adam Smith was William Pitt, of whom it is related that Smith exclaimed, "What an extraordinary person Pitt is! He understands my ideas better than I myself."<sup>1</sup> He had only six years from 1783 to 1789 to test the ideas of his master before twenty-five years of war prevented further progress. In this brief time, Pitt made great

<sup>1</sup> Quoted from Gide and Rist, *History of Economic Doctrines*, p. 105.

changes. He laid aside the narrow administration of the Navigation Laws when he proposed that the West Indies should not be cut off from trade with the United States, because he affirmed that such trade was of benefit to the British possessions. In 1785, he put forward proposals for the establishment of perpetual free trade between England and Ireland. A storm of protest came from the English manufacturers with Josiah Wedgwood at their head, and Fox prompting them from behind. Though Pitt managed to get his proposals through the House of Commons in a modified form, he found opposition so strong that he was forced to abandon them. Pitt was more fortunate in his treaty with France in 1786. Indeed this was so skilfully negotiated by Eden that the British manufacturers stood to gain everything as the French were in need of their products and the exports of France were not produced in England. Many duties were reduced and the most-favoured nation treatment was granted on both sides. In fact, the treaty was so disadvantageous to French manufacturers that it is doubtful if it could have survived long, even if war had not intervened. Pitt showed the same impatience with restrictions in his simplification of the customs and excise system which was so confused that five or six different duties had to be paid on some articles. A single duty was substituted for the complicated percentages and in many cases the duty was greatly cut down. Such excellent progress did Pitt make that Adam Smith must have thought it possible that his proposals would be generally adopted in the course of a few years. But before his death in 1790, broke out the French Revolution, foreboding war, increased taxation, loss of markets, privateering, Berlin Decrees and Orders in Council, and the temporary abandonment of further attempts at free trade.

## CHAPTER II

### THE AGRARIAN REVOLUTION—AND AFTER

IN the foreground of any picture of agrarian conditions of the eighteenth century must stand the Open Field, which could be seen in any country from Russia to the Bay of Biscay. The origin of open-field cultivation has been the subject of much dispute: some writers have looked to the agricultural arrangements of the primitive Teutonic village when first the inhabitants decided to give up a nomadic existence; others have favoured a descent traced from the Roman villa; a third school has regarded the common field as an integral part of the feudalism that evolved in the Middle Ages. Except in Kent, Somerset, Devon and parts of Essex and Hertfordshire the open-field system prevailed throughout England until the middle of the eighteenth century and agriculture made little progress between 1400 and 1700. It is true that enclosures were made spasmodically from the time when open-field cultivation first came into the view of history. At times these enclosures were pressed forward with more vigour than at others, for instance after the Black Death and in the early Tudor Period. In the reigns of Henry VIII and Edward VI the wealthier landowners, in spite of the opposition of the government, strove to form large estates where they could pasture sheep, unworried by customary tenants. Serious risings and riots resulted at times, the worst being in 1549 when Robert Ket led out the men of Suffolk and Norfolk. A famous passage from Sir Thomas More's *Utopia* sums up contemporary opinion, "Your sheep that were wont to be so meek and tame and so small eaters, now as I hear say be become so

great devourers and so wild that they eat up and swallow the very men themselves. They consume, destroy and devour whole fields, houses and cities." Side by side with this large-scale enclosure there went on the consolidation of strips by mutual consent. This movement, however, was local and affected only by a small proportion of the rural population. When the Tudor Council at length gained a grip on enclosures, agriculture relapsed into stagnation for another century.

Progress was rendered impossible by the inherent difficulties of common tillage and the varied conditions of tenure. In the Middle Ages there was a hierarchical organisation with the Sovereign as overlord of all and the villein as the virtual servant of the lord of the manor. There was, however, no regularity; a lord might hold land direct from the King on the one hand and from a freeman of lowly birth on the other. When villeinage ceased to be a legal status and the King's courts robbed the manorial courts of their jurisdiction, the irregularity of tenure remained. At the head of most village communities, which still followed open-field cultivation, there was in the first half of the eighteenth century, the lord of the manor whose lands in all probability were enclosed. There were a number of freeholders whose lands varied from a mere plot to a farm of considerable acreage. There were customary tenants, or copyholders, the survivors of the villeins of the Middle Ages, once the most numerous part of the population, but now dwindling in numbers. There were the tenant farmers or leaseholders, some of whom held on long leases, some at-will. There were also a number of cottagers or squatters, survivors of the mediæval bordarii who had acquired a home and a little plot by occupation, perhaps at the edge of the common.

The common fields were in the hands and under the management chiefly of the customary tenants and the freeholders who probably held land by copyhold

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in addition to that which they owned. The lord of the manor too might hold land in the open fields and the cottagers might have a number of strips to till. The village "*View of Frankpledge*" or "*Court Leet*" was the authority which controlled procedure for the open fields, by deciding what crops should be sown, when the hay should be carted or the harvest taken, and by appointing the various officers, the hayward, the pinder and so forth. In most villages the three-field system was in force in the eighteenth century, though in some places the two-field system was still in use, while in others "run-rigg" cultivation was favoured. In addition to the rights in the cultivated fields, there was the right of pasturing a limited number of cattle or sheep or of feeding geese, the right of cutting wood (estover), the right of cutting peat (turbary) and the right of fishing in the local stream. The lord himself usually retained the mineral, surface and soil rights, and could graze as many sheep and cattle as he pleased.

The strips of the villagers, once equal in number and extent, were scattered in different parts of the three fields. A regular rotation was followed, varying in different villages. Most villages left one field fallow each year, but this practice was not universal. The disadvantages of open-field culture are obvious: the waste of time and energy in moving from one isolated strip to another, the inadequate drainage, the continual disputes about headlands, corner-lands and rights of way, the clumsy balks which divided the strips and which were nursery-beds for weeds. The individual farmer could show no initiative when the preponderating body was hide-bound in its allegiance to traditional methods, and when the hand-to-mouth farmers had neither the wit nor the capital to improve their lands, even if the leases gave them any encouragement to do so. Subsistence-farming was the order of the day, for the complete lack of effective roads or



other means of communication made it impossible to find other than local markets.

#### IMPROVEMENT AND ENCLOSURE

It was through the energy and courage of five great men and their disciples that the era of stagnation came to an end. Through them came the introduction of scientific ideas, and vastly improved methods of farming, the end of the open-field system by the wide spread enclosure, and the attraction of large capital for investment in land. Of these five men, JETHRO TULL was the first. Just as the eighteenth century was beginning, Tull was starting thirty years of research, first at Crowmarsh, and later at Mount Prosperous in Berkshire. Trial and error, experiment and observation were substituted for reliance upon traditional methods. Tull in the course of foreign travels spread over seventeen years, saw, in the vineyards of Southern France and the fields of the Netherlands, the fruits of frequent ploughing and harrowing. He also tested seeds scientifically and found that thinly and carefully sown fields produced better results than those which were sown thickly and broadcast. He adopted the rotation of crops which had been practised in Germany, and also introduced the growing of root-crops as winter feed for cattle. In 1731 he published the result of his observations in his *New Horse-Hoeing Husbandry*, laying down the maxim "the more the iron is among the roots, the better for the crops".

In 1730, Charles, LORD TOWNSHEND, of the firm of Walpole and Townshend, deserted politics for turnips. He had an estate at Rainham in Norfolk, to the poor sandy soil of which he applied Tull's principles with great success. After being carefully marled and manured, the land was soon producing corn, clover and turnips. "Where previously there had been nothing but heather, skinny sheep and rabbits,

travellers could see ploughmen with their teams, well-fed sheep feeding on turnips and clover, or corn waving in the wind." Townshend's particular contribution was the Norfolk four-course rotation—turnips, barley, clover, wheat—which did away with the necessity for leaving the field fallow every third year. He could not claim to have invented the process—he applied the principles he had seen employed in Hanover and the Netherlands.

It was left to a yeoman, **BAKEWELL** of **DISHLEY**, in Leicestershire, to extend the improvement to the breeding of sheep, cattle and horses. He was the first to breed for meat. Sheep for instance had never been valued for their mutton; their skins and wool had formed the staple export of England in the Middle Ages and their manure was valuable before the days of chemical fertilisers. Cattle had been bred chiefly as draught animals, and for this purpose "nothing would please but giants and elephants." Bakewell had other ideas. He realised that the growing towns would take as great a supply of fresh meat as could be produced; thus in sheep he bred the New Leicesters and in cattle, too, he met with success in his efforts to raise animals with the prime joints well developed. As a consequence, between 1725 and 1795, the period during which Bakewell lived, the average weight of the cattle and sheep sold at Smithfield Market more than doubled. Bakewell also gave his attention to the Black Midland horse, and by careful breeding greatly improved its strength and usefulness. He achieved in stock-breeding what Tull and Townshend had achieved in agriculture: he substituted scientific and careful methods for traditional and haphazard practices. Indeed, his methods were so scientific that Darwin made important deductions from them. He made no secret of his principles, he expounded them to all who cared to hear, and died a poor man instead of a millionaire as he might have been.

THOMAS COKE of Norfolk extended the work not only of Tull but also of Bakewell. He systematically tested manures and artificial feeding-stuffs; he paid great attention to drainage; he tried various breeds of sheep and cattle, choosing finally Southdowns and Devons. He fed his cattle in winter on oil-cake and turnips; he improved his grasslands, farm-buildings and agricultural machines. By holding conferences with his tenants he did his best to break down prejudice, obstinacy and ignorance, and by granting long leases he encouraged improvements. He was the representative of a new class, the landowners who became wealthy through the application of science to farming and thus were able to rival in riches the mercantile "*nouveaux riches*" they hated. Coke found imitators in the Duke of Bedford, the Marquess of Rockingham and "Farmer" George himself. The nobility and gentry soon took as great an interest in pedigree stock and wheat as they did in hunting. They hastened to petition Parliament for Turnpike Acts so that they might improve the roads to the capital and other likely markets, for Bounty Acts which would subsidise their surplus production, and for Enclosure Acts which would enable them to improve their estates.

In the dissemination of the new ideas, ARTHUR YOUNG played an important part. From 1767 onwards, he travelled about England and the Continent making observations and jotting down notes. Though he showed small power of deductive reasoning, he saw clearly the benefits of the new methods, of the rotation of crops, of long leases, large farms and increased capital. He saw, above all, the defects of the open-field system, and advocated with all the force of a practical farmer and a literary artist—enclosure. With Sir John Sinclair, Young set up the Board of Agriculture in 1793 and made use of the government help he obtained to aid important researches and to spread the knowledge that was thus gained.

Enclosure, as has been maintained, had gone on gently by common consent of those affected, throughout the seventeenth century: as long as there was unanimity there was no need for an Act of Parliament. In the reign of Queen Anne, a few acts were passed by Parliament, on the petition of a number of interested parties in a district, granting permission to enclose the commons and common fields. The administration of an Enclosure Act was left in the hands of a small number of commissioners, among whom were usually included the most influential of the petitioners. This in itself was a most unfair proceeding, since those who petitioned did so to get rid of some disagreeable obstacle. The consent of three-quarters or four-fifths of those with interests in the common fields was required, but there were of course more ways than one of obtaining such consent. The efficacy of the Acts was reflected in their increasing popularity. Whereas there were only 33 Enclosure Acts between 1720 and 1730, there were 642 between 1770 and 1780. This figure was surpassed in the war years 1800 to 1810 when 906 Acts were obtained, most of them after the General Enclosing Act of 1801 had greatly simplified procedure.

Among the many excuses put forward by the landed gentry for their disturbance of the social order in the countryside was the necessity of enclosure if the nation were to have bread. "Dearth of bread was in Tudor times the most effective cry against enclosures; under George III it was the unanswerable plea for their extension." The enclosures of the sixteenth century were opposed by the Government of the day; those of the eighteenth century were carried out through the agency of a Parliament which was largely nominated by those most interested in the formation of big estates. Open-fields and commons had not entirely disappeared by 1810, nor indeed thirty years later, but the social order of which they were the necessary

constituent was doomed to speedy destruction. Even where the copyholders and freeholders tried to put up a fight, the weakness of their legal claim to the commons made their efforts unavailing. Usually they had to content themselves with tearing down the notices which the law demanded should be affixed to the church doors on three successive Sundays.

Among the unquestioned benefits of enclosure were better methods of farming, larger crops, more effective drainage, healthier cattle and plenty of corn and meat. The disadvantages, too, are obvious. Hardships, temporary perhaps, but difficult to bear, were thrust upon the small working farmers, cottars and labourers. Instead of strips in the common field and the right of common pasture, they had perhaps a small field or two, perhaps a tiny plot, insufficient to provide the cow on which such great store was set. In many places, those who received only a tiny portion of the vast commons, sold their land, partly because their share was not worth working, partly because the expenses of obtaining the Act—sometimes as much as £1 an acre—and the cost of hedging, draining and providing new buildings, used up all their resources. The labourers, cottars, and often the small farmers were forced to rely solely upon money wages at a time when the rise of the price of corn and the depreciation of the paper currency made the "wage lag" more pronounced than usual. The improvements in communications, which seemed an unqualified boon, at length led to the competition of different districts in the same market and sometimes to high prices in the villages when the big farmers contracted to send all their produce to the towns. The loss of domestic industry in many areas in the South, sometimes preceding, sometimes following enclosure, completed the ruin of many rural workers. ❀

Circumstances conspired to make the eighteenth century a favourable time for the development of

agriculture. The fortunate run of the years from 1715 to 1764 enabled farmers, even in unenclosed days, to have a substantial surplus for export abroad, which the laws of the time not only allowed but even encouraged by providing for the payment of bounties on export when the price at home was low. Imports were practically prohibited by heavy duties. The continual wars, culminating in the Napoleonic struggle, eliminated foreign competition altogether and enabled even the poorest lands to be worked at substantial profits—indeed Napoleon has been called the patron saint of British farmers and landowners. Further, the growing wealth of the country left capitalists with money to invest in land and its development, in the draining of the Fens and the final destruction of the forests. As a result Great Britain became “the classical land of large estates and extensive farms,”<sup>1</sup> with no plots hard wrung from the mountain and cliff face, with comparatively few villages and many trees and hedges.

The prosperity of the latter years of the war completed the change in the stratification of rural society, and customary cultivation was superseded by farming for profit. On the one side stood the landlord, interested in increased profits: on the other side stood the proletariat of the countryside, the wage-workers, now without roots in the soil. With the intervention of the new class of big farmers who rented 500 acres or more, the landlords began to lose those close ties which had distinguished the English landed aristocracy from that of the Continent—the sympathy with the poor resulting from close and constant contact with the tenants, the feeling that service was necessary on both sides and the desire for popularity and political influence. The big farmer was without any of the restraints of “*noblesse oblige*”; he was dominated by the twin desires, the acquisition of wealth and the winning of a place in the ranks of the country gentry. He was

<sup>1</sup> Paul Mantoux, *Industrial Revolution in the 18th Century*, p. 140.

free to bring all the economic and social forces at his disposal to bear upon the labourers who were as dependent upon their employer as the mediæval villein was upon his lord, but who were without the protection of customary law. The big farmer therefore engaged his labourers when he wanted them and rented cottages to them, discharged and evicted them when they were no longer needed, flourished the banner of Malthusianism when the demands of poor relief touched his pocket.

The yeoman farmers did not disappear immediately after enclosure; indeed the prosperity of the years 1800-1815 gave them a brief respite and even led to a slight increase in their numbers. But though the census of 1831 showed that there were still 135,000 occupiers of land who hired no labour, that is smallholders, either tenants or freeholders, the yeomen could no longer be called the "backbone of England," even in 1815. The untoward effect upon the weakest vessels was reflected in the uneasiness of the magistrates in the administration of the Poor Law and the Law of Settlement which led to the Berkshire Justices to formulate their famous "Speenhamland Act."<sup>1</sup> The labourers had little share in the boom; it is true that at times real wages were higher than before the wars, but the price of corn fluctuated so violently between 1800 and 1815 that any benefit was of short duration. The disappearance over large areas of yearly hirings and of the custom by which "servants in husbandry" lived with their masters was not compensated for by temporary wage increases. The effect of the advent of efficiency into English farming was in every way detrimental to the labourer: enclosure deprived him of his cottage, his plot and his common rights; large farms meant economy in labour; improved machinery meant a reduction in the value of a skilled farm worker. Even the glens of the Highlands of Scotland were affected,

<sup>1</sup> See Chapter I, p. 11.

for cattle-raisers from the Lowlands invaded the pastures of the North and drove the Highlanders abroad.

#### DARKNESS—LIGHT—DARKNESS

As a result of the improvement in technique and of rural reorganisation, Great Britain for a few years set the standard in agriculture for the world. The declaration of peace in 1815 brought the artificial conditions immediately to an end and the life of the country became disjointed. Prices fell, land went out of cultivation, rent dropped and remained unpaid. Those who had paid extravagant sums for land in the hope that war conditions would continue were faced with ruin; indeed for the whole agricultural community the outlook suddenly became black. The Corn Laws of 1815<sup>1</sup> which prohibited the importation of corn when the price was below 80s. a quarter failed to provide a remedy or to stabilise the price of wheat which fluctuated wildly. The pressure of taxation and tithes fell heavily upon the land, the more as successive Ministries in their attempts to foster industries, looked upon the land as the one sure source of revenue. To these burdens was added the grievous load of the rates. As long as high prices and prosperity continued, the full results of the divorce of the labourer from the soil could not be seen. The Speenhamland policy was a crude attempt on the part of society to discover the way it could do its duty towards those who were disturbed by economic forces; its methods of administration, however, needed radical attention.

The depression lasted twenty years. During this time there was no money for improvements; land that had been cultivated during the wars became rank, farm buildings toppled down. The protection of the corn laws availed little and made the landed interests more unpopular than ever with the growing classes of manufacturers and artisans. Little corn was imported,

<sup>1</sup> See Chapter VI, pp. 122-126.



but the monopoly of the home market was insufficient to support the burdens upon agriculture. Rioting in country districts showed the strain that was imposed upon the proletariat. There seemed no hope for the future.

Yet the recovery came with almost dramatic swiftness. The passing of the Poor Law of 1834 which seemed likely to lead to the starvation of agricultural labourers was followed by a period of full employment and hope. The Commutation Act, though it did not remove, certainly lessened the heavy load of the tithes. The wealth that even in these years of distress had been accumulated through industry and trade sought land as an investment and brought new capital where it was sadly needed, and a series of good harvests laid the foundation for a long period of prosperity in the first forty years of Queen Victoria's reign, marking the second stage of the Agrarian Revolution. With the recovery in the middle decades of the nineteenth century came an age of proper drainage, of the use of artificial fertilisers, of efficient, often extravagant farm buildings. Research was made into seed; new crops were tried; cattle were carefully bred; herd books were kept; and the Royal Agricultural Society spread the growing knowledge. The vastly improved methods enabled the industry to withstand even the shock of the Repeal of the Corn Laws. The improvement of the roads, the cutting of new canals, and finally the coming of railways brought new markets for home-grown agricultural produce and greatly assisted the spread of up-to-date methods and machinery. Other causes helped to prolong the period of prosperity; the Crimean War closed the Baltic and cut off the supplies from Russia; the American Civil War prevented competition from the United States just when it was becoming acute; the Franco-German War for a time prevented Germany from exporting grain and created a market for British corn in France.

The effects of these favourable circumstances lasted

till 1875. Thenceforward British agriculture had to contend with imports from all quarters. For more than fifty years past, with the exception of the short period of the recent Great War, agriculture has been struggling. The prosperity of the 'sixties were succeeded by hard-won profit in the early 'seventies and by a decline in the second half of the decade. All the artificial checks upon imports were removed and the opening up of the Middle West of America by railways built largely with British capital made it progressively more impossible for the home wheat-grower to compete with foreign produce. To make matters worse, the depression was shared by the manufacturing industries and the total demand decreased. It seemed too that Providence was testing British farming, for there never had been such a series of bad seasons. Land passed from arable to pasture, but the meat trade was challenged from the United States, Argentina, Canada and New Zealand. It naturally followed that capital ceased to be applied to land, so that just when the maximum effort was needed to combat the hostile forces, the means were lacking. Two Royal Commissions failed to find remedies for the depressions, and in spite of rent remissions and rate reliefs, bankruptcies were common.

Yet throughout these bad times some men of imagination made agriculture pay, even on bad soils. It became clear that wheat growing would never again be a profitable proposition, that the British farmer must concentrate on dairy farming and market gardening. His markets would then be close at hand. Pig raising, poultry farming and fruit farming too could be made to yield a profit and there always would be a market for home-killed meat. Strict economy must be practised, however, and every detail watched, for British farmers had to compete with Holland and Denmark where co-operative efforts and rigid supervision had made even smallholdings profitable.

British farmers had the benefit of the researches of experts at Rothamsted and other stations; though the climate was capricious, the soil in many parts was extremely fertile. It is true that life in the country seemed unattractive when compared with life in the towns, the lure of which was becoming increasingly strong, and the agricultural labourer was receiving an education which did not help him in his work and made him restive. The War broke out while farmers were struggling to find a solution to their difficulties and with it brought a different set of conditions.

In agriculture as in industry the War postponed the problems for four years. During its opening months little was done to increase food production, but when the submarine campaign reached serious proportions, it was obvious that more food must be produced at home. In spite of the shortage of labour and the difficulty of obtaining suitable seed and manure the production of wheat was increased by over fifty per cent. But the problems of agriculture were not solved by temporary activity and State-control. The coming of peace made them the more acute.

For a short time after the War the Government paid a subsidy to compensate in some degree for the steep drop in prices. It also formulated an agricultural policy in the Agricultural Act of 1920. By the first part of the Act the farmers were guaranteed a minimum price for corn; by the second, regulations were laid down concerning compensation for improvements by tenants, the maximum sum payable being two years' rent. The maintenance of the minimum price for corn proved so expensive—it took £18,000,000 in one season—that the Government abandoned it in 1921. The whole policy was uneconomical, for the minimum price was actually lower than that which could have been obtained in the open market. After the removal of control corn prices fell with startling rapidity—from 71s. 6d. a quarter for wheat in 1921

to 42s. 2d. in 1923—and arable land everywhere went out of cultivation.

Fortunately since the War there have been no strikes among agricultural labourers. Wage Boards have been established in country districts, consisting of six agricultural employers, six agricultural workers and three Government-appointed members. After their deliberations, the three impartial members make the decisions. In most districts relations are good though wages are generally low; they are highest in the dairy-farming areas of Cheshire, Lancashire and the West Riding, where the manufacturing districts afford a market, and lowest in districts that rely on corn-growing or root-crops or are far from markets for their dairy produce.

Some degree of Government control has been retained. The immunity of Great Britain from foot-and-mouth disease as compared with the Continent, where it has passed beyond all control, is due to the much-criticised policy of slaughtering the animals which might become affected as well as those actually infected. At times this has proved expensive, for fair compensation is given; but it has been of enormous benefit to the live-stock of the country and has preserved for us the valuable export trade in pedigree animals which would have been lost if any risk had been taken.

The Government subsidy to the beet sugar industry, which was granted in the first instance to nurse the industry in its early stages, has proved of the greatest assistance and has contributed to the rapid expansion in the acreage planted. Beet cultivation has been the one bright spot in British farming from a financial standpoint during the period of depression that has continued with growing intensity ever since the collapse of the war-time boom. As continental experience has already shown, the crop not only fits admirably into rotation farming, but also provides useful succulent

fodder for dairy cattle and other live-stock that must be largely maintained on concentrated feeding-stuffs during the winter. Whether in spite of these advantages, the cultivation of sugar beet will continue to expand or even to maintain the ground it has already gained, is questionable. In keeping with a policy of absolute Free Trade in respect of foodstuffs, the second Labour Government announced that the subsidy would shortly be withdrawn ; and in the meantime an extraordinary expansion in the output of cane sugar from tropical sources has depressed the world price of sugar below pre-war level.

Some help was given to agriculture by the Tithe Act of 1926 and by the derating of agricultural land three years later, but the various Acts for the provision of smallholdings have not as yet proved very successful. That smallholdings can be made to support a family has been proved in Denmark and Holland, indeed in every country on the Continent, but rigid economy and unceasing toil are necessary. Only those who have spent their lives on the land can appreciate the remorselessness and the bounty of Nature ; those who are not inured to the hardships of country life are unlikely to resist the call of the towns, as long as the people, as a whole, of Great Britain can maintain a higher standard of life than is the rule in the countries of Continental Europe.

Ultimately British agriculture must work out its own salvation. The difficulties that face the producer are immense in a country whose ports are open to the products of highly-specialised areas on the one hand, and to the over-spills from highly-protected countries on the other. In each of the staple products of British farming, in corn, in meat and in dairy produce, world production has increased more rapidly than has the consuming population. In what direction then, may the agricultural industry here turn for salvation ? Some authorities recommend co-operation on the Danish

model. Others look to standardisation and grading of the products together with judicious advertising. Others again, to the adoption of more business-like and up-to-date methods on the part of the farmers—to accurate systems of cost-accounting, and to the replacement of rule-of-thumb by scientific practice. All are agreed that the existing system of marketing the produce and of supplying the farmers with their requirements through the agency of profit-seeking dealers is at the best costly and wasteful, and is unfair to the home producer in competition with the foreign. None of the three political parties seriously advocates protective duties on food, for the urban majority will hear nothing of them; though a quota system has recently been proposed as a means of guaranteeing part of the great British market for British-grown produce. In face of the present depression British farmers remain bewildered. They are still imperfectly organised; for the National Farmers' Union represents only a fraction of those engaged in the industry. Small as this country is, there is within its borders a great diversity of types of farming, with a corresponding diversity of interest among the farmers; added to which there is a confusing choice of urban centres in which to market the produce. Natural and economic conditions thus make for lack of homogeneity in the industry, if not for disunion. Hence its inherent weakness in dealing with the well-organised and powerful middlemen in the great cities and even with the hundreds of smaller middlemen who handle farm produce at first hand. Urbanisation in Great Britain has robbed agriculture of many whose brain power and enterprise promised them greater opportunities and rewards in commerce or manufactures. It has also taken from the countryside a stream of the more able-bodied workers who have been attracted by the high wages offered in the towns.

## CHAPTER III

### THE BEGINNINGS OF THE INDUSTRIAL REVOLUTION

THE England of the early eighteenth century was second-rate; second-rate in political power, and in intellect as well as in industrial organisation and agricultural methods. The glory of the time of Cromwell, when England's name and Ironsides were feared in Europe, had vanished. The Augustan age of Anne had soon passed and the Rabelaisian age of Walpole endured too long. In the later eighteenth century England became great. Light penetrated into the dark recesses of her mind; Wesley, Burke, Fox, Wordsworth and Adam Smith showed that force and originality of thought had survived. William Pitt the elder set a new value on England and English arms. The Empire grew, though few understood its significance and fewer its responsibilities. Yet it was not arms that won the world supremacy of Great Britain in the nineteenth century. The all-important conquests were made on less exciting battle-fields, not by great military captains but by sub-lieutenants of industry.

The effects of these conquests amounted to an Industrial Revolution, to the beginning of which it is impossible to assign a date. It was a world affair. However, within the limits of a single volume we must confine ourselves to tracing its course in Great Britain alone where it first began; even there necessity compels us to avoid being drawn down side-walks, where interest abounds, and to limit ourselves in this

chapter to a description of the mechanical inventions which affected the textile trades, to a consideration of the application of steam-power to machinery and a resumé of the changed methods in iron and steel manufacture.

Much has been written which tends to convey the impression that the Industrial Revolution was nearing completion at the end of the eighteenth century whereas, in point of fact, it had hardly begun. In 1815 industry was not vastly different in organisation from the industry of fifty years before. By 1835 certain manufacturing processes had been considerably affected, but even in 1850 the Revolution was still in progress. Indeed, who, living in this second age of far-reaching changes in productive methods, can say it is yet completed?

What then was the Industrial Revolution? It was a series of changes in industrial methods and equipment, by which Great Britain became for fifty years the foremost manufacturing country in the world. It is impossible to disentangle entirely the movements in different industries and discover from which the impetus first came. Inventions in cotton-spinning machinery were followed by inventions in other branches of textile manufacture and eventually led to the evolution of a factory system. Different methods in the manufacture of iron and steel, rendered necessary by the deforestation of the countryside, wrought a change as great. Industrial changes demanded fresh sources of power and brought forth the steam engine and all the mechanical and engineering processes that it needed and made possible. Coal-mining on a scale undreamt-of followed. The awakening of the country's industries led to a revived interest in means of communication. The old roads were first superseded by turnpikes, then by canals and finally by railways, as is explained in Chapter IV.

Thus began the Revolution in English life which



wiped out Status—the last relic of feudalism : thus were set to work uncontrollable forces which may at length bring Status back again.

### THE TEXTILE INDUSTRIES

England had acquired fame for her textiles in the Middle Ages when English woollen cloths were known all over Europe and ousted the fabrics of the Low Countries. In the time of the Edwards, English wool, being the finest obtainable, was a political as well as a commercial asset. The English kings not only cut off the supply of wool from Flanders when political needs demanded, but also encouraged the immigration into England of the most skilful Flemish weavers who could manufacture the newest cloths. East Anglia and the West Country were the chief districts where woollen manufactures were carried on and the industries of Stamford and Worstead are still commemorated in the cloths named after them. There were factories at Barnstaple, and capitalists elsewhere, like Jack of Newbury, as well as small masters who employed a few journeymen and trained a few apprentices. There were also, quite early in the history of the industry, cloth merchants who dealt out the raw material to innumerable domestic workers and later collected the woven cloth.

The woollen industry was fostered by the Tudors, who strove to preserve the old system of small masters. They perpetuated the control of the guilds in the corporate towns—hence the attempts of such enterprising men as Stumpe, who bought Malmesbury Abbey with the vain hope that he would be able to establish a factory there and develop it in peace. The industry of East Anglia was overshadowed in the course of the seventeenth century by that of the West Riding, which by 1720 had become the most important centre. It was a great sheep-farming area and the water was good for

washing the wool. Soon only the great churches of East Anglia and the Flemish names and a small specialised industry in Norwich remained as memorials of a great industry. The West Country too lost most of its trade, though it retained a small high-class manufacture; the best woollen cloth in the world still comes from Somerset and Gloucestershire.

Cotton in the Middle Ages was known in England as a rare import from the East, though cotton manufacture is supposed to have been introduced into Europe by Abderahman the Great in the tenth century, and there was a cotton industry in Italy in the thirteenth century. It seems that the manufacture of part cotton goods was established in Lancashire in the sixteenth century. It was not, however, till the eighteenth century that cotton manufacture on any appreciable scale was known. The supplies then came chiefly from the Levant, India and the West Indies. Home-manufactured cotton goods were long regarded as a species of woollen or linen manufacture. Fustians with a linen warp and a cotton weft were the chief product of Bolton by the end of the seventeenth century; Manchester was already associated with the manufacture of other cotton goods. In 1700 as much as two million lbs. of cotton were imported from the Levant and among the numerous Bubble schemes of 1720 were proposals to introduce fine cotton spinning so that home goods could rival those of the East. The cotton industry, however, had powerful enemies in the wool-growers and woollen manufacturers. In 1700 an Act had been passed prohibiting the wearing of imported calicos; this was followed in 1721 by the prohibition of the printing of calicos at home. Protests against this second Act came not only from Lancashire but from Dorset and many other counties. The enemies of cotton tried to include cloth with a linen warp and cotton weft under this Act until the Manchester Act of 1736 declared such cloth exempt.

It was not until a change of fashion led to a vast increase in the demand for cotton that the manufacture of cotton goods was encouraged. The industry was by this time concentrated in Lancashire and round Glasgow. It was hampered by the shortage of raw materials the supply of which, however, was improved late in the century after the successful introduction of cotton-growing into Georgia. It was still necessary to use a linen warp for most cloths as no hand-spun yarn proved strong enough. The result was that the cloth was coarse and unable to compete with silks and fine Indian fabrics. According to Professor Daniels,<sup>1</sup> however, the statement that no goods were made entirely of cotton till Arkwright began to spin by rollers is inaccurate.

It was in cotton manufacture, not woollen, that machinery was first widely introduced. The reasons for this are many. From the first the cotton industry had been controlled by merchants who distributed the raw material which, of course, was imported. The woollen industry was old, conservative and prosperous. The masters were making good profits and were loth to disturb an organisation which in some instances had been established for generations. The most important reason, however, was that the demand for cotton goods was rapidly expanding.

The first invention of note was Kay's flying shuttle in 1733. This was a weaving machine by which the weaver could jerk the shuttle through the warp using only one hand. It was invented at Colchester, then an important woollen centre. At first it was used chiefly in the weaving of woollens, but after 1760 its use spread rapidly in the cotton industry where previously single looms and Dutch looms, on which twelve or fourteen pieces of narrow cloths could be woven, had been employed. The use of the flying shuttle led to a great demand for yarn, since one weaver

<sup>1</sup> *Early English Cotton Industry*, p. 29.

could keep seven or eight handspINNERS busy, and thus to the invention of the spinning jenny by James Hargreaves, a Blackburn weaver.

At the beginning of the eighteenth century the only spinning machine was the spinning wheel and the cotton was cleaned and carded by hand. Before 1760 there had been several inventions; in 1738 Paul took out a patent for spinning by rollers and he also invented a carding machine—carding being the operation by which the fibres of the cotton are straightened out preparatory to spinning. The “jenny” was invented in 1764, though it was not patented till 1770. It multiplied the number of spinning operations that one man could control, and like many of the greatest inventions was in imitation of a man’s action. Though it was of course more complicated than a spinning wheel, it was not too complicated for the domestic worker to manage and “jennys” were found in many cottages: sometimes half a dozen were acquired or rented by a man who had saved a little money and were set up in an old barn. At first there were fourteen spindles on a movable carriage; the number was increased later to a hundred and twenty. The roving, a thick cord of cotton wool, was wound round bobbins corresponding in number to the spindles. When sufficient roving had been given out and attached to the spindles, clasps were applied, the roving was stretched out by the moving of the carriage and the spindles were revolved to give twist to the thread. When this operation was complete, the carriage was moved back and the yarn wound on to the spindle.

Next came Richard Arkwright, a barber who picked everyone’s brains and made use of every scrap of information that came to him. With the help of another, John Kay, he developed the idea of spinning by rollers. He took out a patent in 1769 and maintained a monopoly of the setting up of his water-frames till 1785 when the patent was revoked on the

ground that his ideas originated from Paul. The monopoly limited the number of machines that could be made and delayed the spread of spinning by rollers. As its name indicates, Arkwright's machine was adapted to the use of water-power. It was a more cumbersome affair than the jenny, unsuited to use in domestic industry, so that its spread meant also the spread of the factory system since only capitalists could acquire the water-frames and instal them in a mill. In the last decade of the century steam power was applied to the "frame." In Arkwright's machine the rovings were attenuated by a "long stretch" on rollers revolving at different speeds; after this both the spinning, which gave the twist, and the winding could be done at the same time. The introduction of the "water-frame" marked an important stage in cotton manufacture, since rolling-spinning gave a thread of greater strength than had been produced before and this could be used instead of the linen warp which had restricted the development of new fabrics. The "jenny" and the "water-frame" were thus complementary, the one supplying the weft yarn, the other the warp.

The next important invention was the "mule," invented in 1779 by Samuel Crompton of Bolton, who being no business man did not patent it. The "mule" combined the features of the jenny and the water-frame; the spindles were on a movable carriage, but the roving passed first through rollers. When sufficient roving had passed through the rollers, they stopped; then the movable carriage stretched the thread, the spindles revolved, and finally the yarn was wound on to the spindles. In this way an even finer and more uniform thread could be produced and the finest cloths of the East could be equalled. Further inventions produced double mules with four hundred spindles and self-acting mules which a child could manage. The jenny, the water-frame and the mule were

all at length adapted to the making of rovings which for a time still had to be made on the spinning wheel.

The spinning machinery was not introduced without serious rioting and many thousands of pounds' worth of damage. Petitions were made to Parliament for the prohibition of machinery; but a Commission appointed in 1780 reported in favour of its retention. Even so, the spread of power machinery was slow; the rise of the cotton industry, however, was rapid. Thus by 1790, in the words of William Radcliffe, "cotton, cotton, cotton was become the almost universal material for employment" in Lancashire. Circumstances caused these spinning machines to be introduced into the cotton industry earlier than into the woollen industry. It was not till 1785 that the spinning jenny was adopted widely for worsted and wool. The woollen spinners were less enterprising than those who worked with cotton and they resisted the introduction of the new machinery. With many who could not afford jennys necessity was the mother of conservatism. As the worsted industry had but recently changed its location, it was less bound by custom than the woollen, and therefore adopted the new methods more readily. In addition, the longer staple used for worsted was more easily spun by machinery than the short staple used for woollen yarn.

The application of power to the loom was slower and less general. There was no great demand for a power loom in the eighteenth century, for even when Arkwright's patents were cancelled, and the output of yarn increased vastly, Kay's loom and the hand-looms absorbed the available yarns in both the cotton and woollen industries. The principle of the loom is simple. The shuttle containing the weft moves across the longitudinal threads called the warp, the odd and even threads being alternately raised and lowered to allow it to pass. The weft is pressed close together and the woven cloth is wound on rollers.

Whereas the great inventions of the spinning machinery were made by men closely connected with textile manufacture, the invention of the power loom was the work of a clergyman, Edmund Cartwright, who had never even seen a loom when he produced his first model. He was a dabbler in literature and science and his inventive genius surprised even himself. A chance conversation about the expiry of Arkwright's patent led him to suppose that there would be a demand for weaving machinery and to set to work to construct a power loom. With the aid of a carpenter and a smith he constructed his first model, which was not satisfactory, but in 1787 he produced a workable loom which performed the operation of the weaver by jerking the shuttle backwards and forwards automatically. The machine stopped if the warp thread broke. Manufacturers were slow to take up the invention, which indeed had many small defects that Cartwright himself did not trouble to rectify. Cartwright lost money over a factory he established at Doncaster and turned to other inventions; later he became manager of the Duke of Bedford's experimental farm at Woburn.

The early power loom was not much more economical of time than the old hand-loom because the task of arranging the warp was long and tedious. This was made less difficult by inventions in 1803 and later W. H. Horrocks, of Stockport, and Richard Roberts worked out the final details of the power loom so that by 1825 all the principles of the modern machine were present in Roberts' loom. Owing to its early defects the spread of the power loom even in the nineteenth century was slow. In 1813 only 2,400 were at work. It was not until after 1835 that power looms were generally used.

The gathering of the workers into workshops and factories was accomplished very gradually. The factory system spread even more slowly in woollen

manufacture than in the cotton areas, though the shortage of raw wool which prevented unlimited expansion also caused the masters to avoid its widespread distribution. The preliminary processes of cleaning, carding, and combing were established quite early in factories, and sometimes, too, the wool was dyed before spinning. But the main operations remained chiefly domestic; long after cotton mills had been generally established, woollen spinning was becoming concentrated in factories in 1830, but woollen weaving was still mostly done by hand in cottages ten years later. The Southern Counties of England suffered most from the concentration of the woollen industry in the North and the taking away of domestic spinning and weaving meant poverty and poor relief for many families. The Western Counties and the East Midlands suffered too, and declined in population in the last years of the eighteenth century.

The inventions mentioned above are only the most famous of innumerable improvements. Machinery was invented for the subsidiary processes of textile manufacture so that the industry as a whole was able to go forward. Fulling, indeed, was the first process in cloth manufacture in which power was used, for it was comparatively easy to apply power to the hammers that beat down the cloth when it was being soaked after coming from the looms. Chemistry came to the clothiers' aid by finding new methods of bleaching and dyeing. Machinery was invented during this same period for the frame knitting of hosiery and for lace-making, but the industries of Leicester and Nottingham remained for many years largely home-work trades, though steam power was established in some factories in 1830. Linen weaving was transformed even more slowly than woollen and as late as 1850 was still chiefly done by hand.



## IRON AND STEEL

In pre-historic times, the introduction of the use of iron marked the end of one age of civilisation and the beginning of another: it has remained an all-important factor in human progress. The method of smelting the ores changed little in historic times down to 1700 when charcoal was still employed, though blast furnaces had been introduced early in the seventeenth century. These blast furnaces produced a greater heat than the old furnaces and rendered the smelted iron fusible, so that it could be run into "pigs" or troughs.

There were then three kinds of iron, pig iron, wrought-iron and steel. The pig iron contained many impurities, including a high percentage of carbon that made it brittle. Pig iron was chiefly used for the production of wrought-iron which contained a very small percentage of carbon—less than one-half per cent. The wrought-iron was soft and malleable and its quality depended upon the smith who hammered out the impurities thus allowing them to oxidise on the surface. Steel contained just that quantity of carbon that would combine chemically with some of the iron, the compound so formed dissolving in the remainder; it was hard and yet flexible and it could be tempered. The sword makers of Damascus and Toledo acquired their great reputation because by their hereditary skill they knew the exact moment to stop working the iron so that their blades would be steel. The ironmasters of England knew little or nothing of the chemical properties of their product and for the most part did not attempt steel manufacture. Even after the introduction of the blast furnace most iron products were of wrought iron. The English iron industry was extraordinarily scattered. Furnaces and forges were placed wherever there was a supply of timber for charcoal, the greatest of them being in the

Sussex Weald where many of the cannon that fired on the Armada were made. In the Forest of Dean there were forges that moved from place to place, using the wood as they went. In South Yorkshire some of the great monasteries were interested in iron smelting and owned furnaces. These were only the more important centres; wherever there was a good supply of timber, there were furnaces or smithies.

The time came when the preservation of the forests became more important than the production of large quantities of iron, and charcoal burning was prohibited over the large areas on which the Navy relied for timber. In the Weald the supply of wood was getting short long before the beginning of the eighteenth century. In many industries it had been found possible to use peat and pit coal, but this was impossible in iron smelting as the impurities in the coal ruined the pig iron. Much has been heard of the claim of Dud Dudley to have made iron of good quality with pit coal as early as 1621, but though he took out a patent, he seems to have got out of it only the material for many law-suits. At the beginning of the eighteenth century, lack of fuel had led to a definite decline in the output of the English iron industry. The forgers were harder hit than the smelters, for they used more charcoal. Although new furnaces were opened on the Welsh borders, in the Midlands, South Wales and Furness, where fuel which was like a magnet that drew iron ore to it, was comparatively plentiful, nevertheless the total production of bar iron still fell.

While the smelters were scattering, the ironworkers were in some districts concentrating. By 1740 Birmingham had become the centre of the nail-making industry which was of course still in the hands of small masters; Sheffield in Yorkshire had usurped the importance that had once belonged to Sheffield in Sussex; and Winlaton and Swalwell were the sites of the works of Ambrose Crowley. Thus not only

were the furnaces far from the mines, but the forges were far from the furnaces.

The substitute for charcoal was at length found, not by any of the loud-mouthed claimants like Wood of Wednesbury of Irish Ha'-pence fame, but by Abraham Darby I, a Quaker, who shunned publicity and refused to take out a patent. He left Bristol, where he had been engaged in a casting business, and took the lease of the furnaces at Coalbrookdale. There is little doubt that it was here that coke was first used to smelt iron in a way that made the process commercially possible. The actual date of the first successful use of coke is so uncertain that for a long time Abraham Darby II was credited with the discovery; it seems probable now that it was before 1709. The Darbys were helped by the fact that the coal found locally had excellent coking qualities and contained little impurity. There was a vast development of cast ware after the spread of the new methods. The pig-iron thus produced proved superior to the charcoal-smelted iron for casting, though it was inferior for the production of bar-iron and was not accepted by the ironmasters of Worcestershire till after 1750 when better bellows made combustion more complete and improved the quality of the product.

The Darbys, the Wilkinsons of Bersham, the Walkers of Rotherham and Sheffield, and the Carron Ironworks Company are examples of capitalist enterprise on a fairly large scale resulting from the changed methods in the iron industry. The Coalbrookdale Company developed greatly as the owner not only of coal and iron mines and furnaces, but of forges and ironworks. The Darbys established a dynasty of ironmasters; not only was the Coalbrookdale business carried on by sons or connections by marriage, but the ramifications of the family spread through the whole of the Black Country and even to South Wales. The cylinders for Newcomen's fire engine which became

popular after 1720 were usually cast at Coalbrookdale, for the products of the foundry often proved superior to those of the forge at this time. The firm maintained almost a monopoly in making cast-cylinders for fire-engines until the inventions of Watt demanded a higher standard of accuracy than was possible in casting.

The Wilkinsons were less pleasant as personalities but not less successful as business men. The firm was started by Isaac Wilkinson and carried on by John and William, his sons, at Bersham and elsewhere. Father and sons prospered and acquired mines, furnaces and forges. The Bersham company specialised in the casting of cannon, and in 1774 John Wilkinson devised a new method of boring cannon which was much more accurate than the old way. When Boulton and Watt required accurately bored cylinders they turned to Wilkinson and began the business connection that lasted for over twenty years until Wilkinson proved himself unworthy of the trust put in him. It is interesting to notice that the Wilkinsons did not confine their activity to England, for they were closely connected with the great works established at Le Creusot in France. The Walkers prospered on stolen secrets and government contracts and expanded their business enormously between 1740 and 1760. Whereas in 1741 their furnaces produced only five tons of iron, the output had risen to over 433 tons by 1760. In 1790 the business was valued at over £200,000. The Carron Company, which is still famous for its household stoves and boilers, was established in 1759, chiefly through the initiative of Dr. John Roebuck, who at one time induced James Watt to live near the works and enter into a contract with him. Roebuck himself soon had to withdraw through bankruptcy and at length the company was reconstituted in 1772. In the eighteenth century the Carron Company was famed for its guns, which it sent to every country in Europe.

By 1760 smelting with coke was general and the pig iron thus produced was used for the production of all but the finest wrought-iron wares. By the same date Benjamin Huntsman, at one time a clock-maker at Doncaster, who wanted, it is said, to find a better material for his springs, had perfected his new method of making steel. Previously steel had been produced only with the greatest difficulty by binding up bar iron with charcoal. The product, known as blister or cementation steel, had a defect in that it was not uniform throughout, since the outer parts absorbed more carbon than the inner. The product which Huntsman obtained from Swedish charcoal-made iron or blistered steel was called crucible steel and its quality has never been excelled. He found that by applying sufficient heat, steel could be fused and made homogeneous. The nature of the special flux that was put into the crucibles was kept a close secret and, although his workmen went to other ironmasters, Huntsman's own firm continued to produce the steel of the finest quality. The crucible method remained expensive, since the pig iron had to be changed to wrought iron, which in turn had to combine with carbon before the whole was rendered fluid in the crucible and homogeneous steel produced. British firms had the monopoly of this kind of steel, until Krupp's produced something nearly as good by cheaper methods.

The last important inventions of the eighteenth century in iron production were "puddling" and "rolling." Though there arose claimants who deprived him of the rewards of his industry, there is no doubt that Henry Cort of Gosport, first a Navy agent and later the owner of a furnace near Wareham, deserves all the credit. The hammering and "fining" of wrought iron made it expensive, even when pig iron was plentiful, especially as no method of using pit coal for the fining process had been discovered. Cort made use of a reverberatory furnace, that is a furnace

in which the flame alone came into contact with the pig. In this way it was possible to use pit coal. The molten metal was brought from the blast furnaces in ladles and put into troughs. There it was stirred from time to time until the carbon had been burnt out and the metal had lost its fluid condition. While the metal was still soft it was passed through rollers which not only squeezed out impurities but pressed the iron into the required form, bars or sheets or rods. Though the iron so produced contained too much foreign matter for use in the making of steel, it could be used for all other purposes and the "puddling" process remains substantially the same to-day.

#### THE REVOLUTION IN POWER

Wind and water which supplied the motive power throughout the Middle Ages were still the only source of power at the beginning of the eighteenth century. Corn had been ground in mills worked by water-wheels for centuries and more recently ironworks had been established on the banks of streams, upon which they were dependent for working the blast as well as the slitting mills that cut the iron into rods. For some months in the year work could only be intermittent and the ironmasters were greatly hampered until at length they found that Newcomen's fire-engine, which since about 1715 had been used for pumping water out of mines, could be used for pumping back water that had already gone over the weirs. In 1743 an engine for this purpose was established at Coalbrookdale, and other furnaces, forges and slitting-mills soon followed suit.

Newcomen's engine was an improvement upon the fire-engine patented by Savery in 1698. Savery's engine had a lift of only fifteen feet, so that the pumping of water from a mine by this means would have been a tedious and costly operation. Newcomen, who separated the cylinder from the boiler, greatly increased the

lift and the efficiency of the fire-engine but neither his nor Savery's engine could be truly called a steam-engine since both relied largely upon atmospheric pressure. In Newcomen's engine steam passed from the boiler into the bottom of the cylinder, forcing the piston up and the pump-rod down. The steam cock was then closed by hand and a jet of water was squirted into the cylinder, thus condensing the steam and causing a vacuum. The water was drained off and the pressure of the atmosphere then forced the piston down so that the pump-rod was raised. This operation was repeated about ten or twelve times a minute. In Savery's engine no jet of water entered the cylinder, so that the condensation was much slower. Although Newcomen's engine was more powerful than previous ones, several engines installed at different levels were necessary in the deep Cornish tin and copper mines. Most of the cylinders were made of cast iron at Coalbrookdale, as it was found that casting was more accurate than hand-fashioning; yet the engines were extravagant in their consumption of fuel and wasteful of energy.

Though the limitations of this engine were obvious, no great improvement was made until 1775, when Watt after years of experiment put on the market his, by which a great economy of fuel was effected, as the steam was utilised for both the upward and the downward strokes of the piston. This was made possible by the use of a separate condenser, the idea of which had occurred to Watt in 1765. Ten years of continual endeavour were necessary before the details of the gearing for opening and closing the valves could be worked out. During this period Watt was financed, first by Dr. Roebuck of Carron, and after the latter's bankruptcy by Boulton. Thus began a partnership the remarkable harmony of which was due as much to Boulton's personality as to the complementary qualities of its members.

In Watt's engine the steam entered the top of the cylinder, which, unlike Newcomen's, was closed; it also filled the casing in which the cylinder was enclosed. By this means the piston was forced down, the steam in the cylinder passing through a valve into a separate condenser. Thus the pump-rods were raised. Steam from the cylinder casing and the top of the cylinder was then allowed to flow beneath the piston. In this way the pressure above and below was equalised and the weight of the pump-rod drew the piston up again. The whole operation was then repeated. In the condenser, the water used to condense the steam was removed at each downward stroke by an air-pump working on the same beam as the piston. The double utilisation of the steam not only economised fuel but greatly increased the power of the engine and the frequency of the stroke. Watt later made further inventions, devising the double-acting engine (1782), parallel-motion and a centrifugal governor.

Engineering at first lagged behind invention and Boulton and Watt found the cast-iron cylinders of Coalbrookdale too irregular and inaccurate for their engines. Fortunately, John Wilkinson was able to adapt his new method of boring cannon to the boring of cylinders and thus began the intimate connection between Soho, the works of Boulton and Watt, and Bersham, the works of Wilkinson. Boulton and Watt did not until after 1796 manufacture engines themselves. They supplied the sketches and certain vital parts while the customers found the remaining parts except the cylinders which they were strongly advised to obtain from Wilkinson. The Soho engineers supervised the erection and often the early working, for each engine had an individuality. They took not a fixed sum of money but an annual premium of one-third of the fuel saved as compared with a Newcomen engine, this being measured by means of a special meter designed by Watt; the total saving usually amounted to between



£30 and £40. This quaint custom was due to the fact that the Cornish tin mines in which many of the earliest Watt engines were installed could not afford to pay a big sum down. The engines were soon used in collieries for pumping and in iron works for blast-blowing and similar purposes.

It seemed a small step to the invention of a rotary engine which would work hammers and turn machinery; actually it was six years before the sun-and-planet motion was fully worked out. The first of these improved engines was erected for Wilkinson in 1785 and within the next ten years all the great ironmasters had obtained similar engines, for which an annual rent of £5 per horsepower was charged. Though the new engines were used chiefly in ironworks and mines, it was obviously only a matter of detail to adapt them to the working of machinery, especially of the improved spinning machinery. This application, which was effected in 1785, was almost a revolution in itself, for it foreshadowed the concentration in the coalfield areas and the factory system in all its manifestations, but the change was less rapid than it might have been, owing to the check imposed by Boulton and Watt's monopoly, which lasted till 1800, to the difficulties in manufacture and to the slowness with which industries adopted the engines to driving their particular machinery. Between 1775 and that year 325 engines were supplied; of these 92 were erected in cotton mills and 12 in other textile factories. In 1807 Boulton and Watt supplied the American, Fulton, with an engine for his steam-boat; this foreshadowed yet another revolution, that in communications. Thus, though the new power only gradually came into its own, it was by the harnessing of steam that the speed of the Industrial Revolution was increased and retrogression made impossible.

The provision of fuel for the greatly increased number of steam-engines led to the extension of coal-mining

and the development of a technique hitherto lacking. Much of the coal-getting of earlier years had been a scratching of outcrops in such a way that the moors of Northumberland and Durham were scarred with vast holes. When the seam had been followed a short distance and pumping became necessary, the working was abandoned. Previous to the revolutions in iron production and power, coal had been used almost solely as a domestic fuel and as such indeed had given rise to an extensive trade between London and Newcastle. From 1750 onwards coal began to be the dominating factor in questions of transport, the production rising from about 5 million tons in 1750 to 10 million in 1800. By this date the main coalfields had been located and industries were gravitating towards them. It may be said, therefore, that the importance of coal and the coalfields was due to the invention of the steam-engine. Certain it is that engineering in its modern sense began with the invention of Watt's engine. The demand for accurate and standardised parts resulted in the development of the machine tool as an instrument of precision in the shaping and working of metals and created the engineer of modern times.

## CHAPTER IV

### THE REVOLUTION IN COMMUNICATIONS

As communications play an all-important part in the commercial organisation of a country, the state of their efficiency is symptomatic of decay or prosperity. Improvement in the means of communication is in the nature of both cause and effect in industrial progress and an examination of the state of the roads and canals of Great Britain in the centuries before the Industrial Revolution will afford a glimpse at the general economic conditions of those times. In this chapter the opportunity has been taken to secure a background against which the picture of development after 1720 will stand out the more clearly.

The desire for inter-communication increases with the growth of civilisation. Primitive peoples seek to hide from the malevolence alike of gods and men. They lurk in impenetrable forests, on islands or in the midst of marshes and regard all means of access with suspicion, since along them come marauders and invaders. The finding of tracks and the conquest of rivers comes only with increased confidence in the good faith of fellow men and the consequent desire for travel and intercourse. Thus the earliest tracks across Europe were the routes followed by traders bringing amber from the Baltic or salt from the pans of the Mediterranean.

#### THE ROADS

Even ancient Britain had its paths and its trade ;

its tin and lead were sought by the Phœnicians and brought Britain into the ken of the civilised world. The earliest tracks, those along which the products of Cornwall were carried eastward, where possible skirted the marshes and followed the crests of the hills, so that the horses might not be lost in bottomless bogs. When Cæsar crossed from Gaul the Britons had chariots, but they must have found it impossible to use them except during a short season in each year, for they had no made roads.

It was, of course, the Romans who first constructed highways in Britain and gave her the only real roads she had for eighteen centuries. Their foundations endured through the ages; Britain became English and Norman and English again and still the legacy of the Romans, misused and almost exhausted, alone made travel by land possible. During the Roman occupation the roads linked the scattered settlements and camps. Designed primarily for military purposes, they were built by the labour of soldiers. Those roads were raised above the surrounding country, the land near by was cleared and bends were avoided as much as possible, so as to minimise the danger of ambushes. The surface was arched and the road was made up of five layers, the topmost the "summum dorsum", consisting of large blocks of stone. Along these highways the imperial post sped, and the legions marched to defend the wall against Picts and Scots. The Roman roads radiated from London running to Bath, Winchester, Southampton, Poole, Dover, Chichester, Chester, York, Lincoln and into East Anglia. On these main roads the whole system of local roads depended. Watling Street has preserved its Roman line the most perfectly, but all the roads still exist to-day, though in some gaps have appeared.

The roads of Mediæval England were either lanes of mud, baked in summer and liquid in winter, or the wrecks of Rome's munificence. Along the main roads

ran the King's peace, when the King was strong enough to maintain the peace. Progress by road was slow and uncertain, and everything had to be carried on horseback until after the Crusades, when long tunnel-like carriages became popular, where the roads allowed their use. Wherever possible, the rivers were used so that there was a minimum of carriage of goods by road. The villeins would cart their lord's harvest or fetch his wine from the nearest navigable river; maybe some venturesome merchant would convey his goods on pack-horses to Stourbridge or St. Ives or St. Bartholomew Fair. Yet there was probably more inland travel in mediæval times than in the early eighteenth century, for folk "wolden ryde on pilgrimages." The road to Canterbury was thronged with gay companies; the Pilgrims' way brought the people of the West to pay homage to St. Thomas, "our holy blisful martir". The lords went from one manor to another until they reached their winter store, where they stayed while further travel was impossible. The King travelled in much the same way, though he did not always live "of his own", as Abbot Samson well knew. On the frequented roads inns flourished and beggars, ecclesiastic and lay, abounded. Poor friars, penniless students and hermits, living solitary lives by the roadside, shared the alms of wayfarers.

What roadmending was done was carried out by the Church, partly through benefactions, partly through its own goodwill, for there was no authority responsible for the roads, which were merely unenclosed, uncertain tracks that wandered where they would, except where they had Roman foundations. Bridges were few and the roads deviated until they came to a ford. Such bridges as existed were mostly maintained by monasteries and some were built by the architects of the churches and cathedrals. Towns were supplied by the districts around them, the produce being with difficulty brought in to the weekly market, though

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the townsfolk often retained their own plots of land. England, but for the masterful rule of the Normans and Angevins might have been in practice nothing more than a number of almost independent petty lordships.

The condition of the highways was little better in Tudor than in mediæval times. Even the ruthlessness of Henry VIII could do little to produce good roads. Indeed, with the dissolution of the monasteries, repairs of roads and bridges practically ended, as many of the bequests for road repairs were swallowed by the insatiable maw of the Tudor monarch. The statute of Henry VIII, which allowed travellers to make a fresh track where the road was impassable, shows clearly the indefinite boundaries of the highways of the time. The first attempt to create an authority responsible for the condition of the roads was the Highways Act of 1555, by which roads were to be maintained by the parishes through which they passed, except where custom threw the burden upon individuals. By this Statute every man was compelled to work four days of eight hours on the roads, and materials, horses and carts were to be supplied free. Surveyors were to see that the work was done, to inspect the roads three times a year, and to prevent the use of heavy waggons which cut up the roads. In 1562 the four days' labour was increased to six, but from the first, persons were allowed to pay a fine in commutation of the service. The Act was not effective, for statute labour was inefficient and even where the surveyors tried to do their work properly, their technical ignorance and the lack of proper materials nullified their efforts. Thus repairs usually ended in the filling-in of ruts with gravel or clay, though in a few places special tracks were laid for pack-horses. The roads, especially round London, were often obstructed by droves of cattle, pigs, sheep and geese which almost floundered in the mud.

Coaches were introduced into England about the time of the Highways Act, but Queen Elizabeth no doubt preferred the stately progress and the comfort of the Royal barge to joltings and contusions in her new coach. The royal example of travelling was, however, sufficiently copied to bring complaints from the champion of the ancient mystery of Thames watermen, John Taylor, who wrote a poem entitled, "The world runnes on wheelles". When we read of the Queen's wrath at the state of the road between Westminster and the City, it does not surprise us to learn that it took James I five weeks to make his progress from Edinburgh to London.

In spite of acts which limited loads and attempted to dictate the design of carts and waggons and in spite of the appointment of a Surveyor General under Charles I, the roads fell into worse and worse disrepair until the Commonwealth Government set about the problem in 1654. Then it ordained that two substantial householders in each parish should be appointed as surveyors and should carry out their duties under threat of heavy penalties. They were empowered to impose taxes for the repairs, 1s. in the pound on rents and on each £20 worth of goods in transit. Heavy fines were to be imposed upon all who used waggons drawn by more than five horses or six oxen.

After the Civil War the roads were used more as hackney carriages and stage coaches increased in number and popularity. The parishes through which the main roads ran protested against the burden of their upkeep, since local traffic along them was but small in volume. As a result the first Turnpike Act was passed in 1663, authorising Justices of the Peace to set up toll gates along the Great North Road. In spite of many complaints, the system grew in popularity, and as the benefits seemed to outweigh the inconveniences, Turnpike Acts became common and conditions of travel, though still far from ideal, became immeasurably

better than in 1600. The construction of the coaches too was improved and before the death of Charles II it was possible to get from London to Oxford in two days and from London to Exeter in five. There were, however, other difficulties to contend with besides ruts and broken axles; highwaymen, for instance, who looked upon travellers as fair game. The open spaces around London were their favourite hunting grounds, and though an act declaring that there should be "no dyke, tree or bush whereby a man may lurk, to do hurt, within 200 feet of roads joining market towns," had been passed as long before as 1285, there were footpads and robbers wherever there were coaches.

The eighteenth century was pre-eminently the age of turnpike roads. A host of new statutes placed an ever-increasing proportion of the main routes in the hands of turnpike trusts, until the General Turnpike Act of 1753 made the construction of turnpikes compulsory, where they were necessary. The trusts were capitalistic and profit-earning, and were granted leases for twenty-one years. They usually received a composition in lieu of statute labour and collected varying tolls from users of the roads, 1d. for a horse, 6d. for a cart, 1s. for a waggon and 1d. for a score of cattle being usual charges. The improvement in the roads was reflected in the comparative rapidity of movement on certain routes, and a number of new roads and bridges were built, including Westminster Bridge, which was completed in 1750.

Unfortunately the improvements were not always maintained and for about five months in the year the clay belt of the Midlands formed an almost impenetrable barrier to trade and travel. Defective material, ineffective surveying and lack of organisation prevented the completion of a good network of roads, such as was constructed under State supervision in France. The roads round the big towns in winter and spring became



impassable; thus we read that Kensington Palace was in the midst of a desert of mud and that George II and his Queen were thrown out of their coach into the mud at Fulham. Defoe's and Arthur Young's Tours are full of stories of the slough-like roads and ruts deep enough to hold a bullock.

The turnpikes were seldom financially sound, robbery and corruption were rampant, and only a small proportion of the tolls was applied to road repair. They became so unpopular that imprisonment and whipping proved insufficient deterrents against the pulling down of toll gates, and to secure more effective protection this offence was made a felony. In spite of their shortcomings, however, the turnpikes were the only roads that could be called by the name, and Parliament continued the policy of discouragement of inland trade by laying down pettifogging rules (which were never kept) with regard to the size of coaches and the number of horses used.

The commercial development of the latter part of the eighteenth century demanded improvements which were slow in coming because engineers did not deign to give their attention to roads. Attempts at scientific road-making began in England with John Metcalf, "Blind Jack of Knaresborough", who in 1765 constructed part of the turnpike from Harrogate to Boroughbridge. He took care to lay a proper foundation and a bed of heather and ling, and in all made about 180 miles of turnpike road in Yorkshire, Lancashire and Cheshire. Though these roads were not properly maintained, they greatly facilitated the development of trade and manufacture which arose in the North in the course of the Industrial Revolution. In Scotland, Marshal Wade constructed 250 miles of roads in the Highlands with military labour after the Forty-five, but the means of communication, especially in the Lowlands, remained bad. In Ireland the turnpikes were better than in England, especially after

a rate had been substituted for statute labour in 1763.

Scientific road-making did not become general until the influence of two famous Scotsmen, Thomas Telford and John Macadam, spread in the early days of the nineteenth century. Both were examples of men of natural genius who rose to positions of authority during the period of the Industrial Revolution. The former, a shepherd's son, started work as a stonemason's apprentice, then became an architect and finally a road engineer. The latter went to America, whence he returned a successful merchant and began in 1785 to devote himself to road-making, becoming an expert on road surface.

Telford aimed at avoiding steep gradients; he chose the best route, saw to the proper draining not only of the surface but also of the foundation which was formed of big stones carefully placed with the spaces packed with smaller stones. He built his roads in convex form, and, where necessary, made cuttings. The cost of such road-making was, of course, heavy, but Telford established a considerable reputation first as county surveyor for Shropshire and then after 1803 in Scotland, where he carried out road improvements, harbour works and the construction of the Caledonian Canal. In 1815 he was given charge of the construction of the Holyhead road in the course of which he had an opportunity of showing his tact in bringing about the amalgamation of the various Welsh turnpike trusts, and his engineering skill in the building of the Menai Bridge, which remains a monument to his genius. He was given a free hand and though the cost was over £700,000, Parliament did not begrudge the money. Subsequently Telford made the Bangor-Liverpool road and was engaged upon a survey for a new northern road when the coming of the railways killed his scheme.

Macadam on his return from America first busied

himself with the roads of his native Ayrshire, but later moved south, where he set to work to improve the surface of the roads of the Bristol turnpike trust, to which he became surveyor in 1816. In 1819 he was acting for thirty-four trusts which he reorganised entirely. He substituted sharp angular stones for round pebbles as it was found that these fitted more closely together and waggons passing over them rolled them into a firm surface. He did not pay so much attention to foundations as Telford, since he relied for strength and durability upon the excellence of the surface.

The improvements that followed the work of Telford and Macadam led to the golden age of coaching. Stage coaches first appeared about 1640 and the first through service between London and Edinburgh was established in 1658. At first the journey took about nine days, but in 1750 it took sixteen, the fare being about £4 10s. od. Later the services improved, the coaches became more comfortable and highwaymen were less frequently encountered. The stage coaches which ran from London to Exeter, Manchester, Oxford, Dover, etc., were soon surpassed by the flying coaches which cut the time of travel considerably. The carriage of mails by coach which began in 1784 also proved a source of considerable profit. It was in the period 1815-1830 that the coach was most widely used and the "Golden Cross" and "The Swan-with-two-necks" bustled most with passengers, ostlers and postilions. In spite of the maladministration of the turnpikes, the multiplicity of toll gates and the huge sums that were paid yearly to the trusts by the coaching companies, there were over three thousand coaches on the road.

By 1836, the limit of prosperity was reached, for the competition of the railways had become a reality. Men of discernment like Chaplin and Horne had already allied themselves with the hated enemy. The

new form of travel was in every way superior: it was quicker, less dangerous, far less costly and at an enormous advantage in the carriage of goods. The decline of coaching was inevitable, but it was hastened by the unfair taxation that had to be borne. In addition to the payment of tolls, there were taxes on coaches and carriages, horses, coachmen and postilions. There was a licence to obtain and a heavy mileage duty to pay amounting to twopence-halfpenny per mile travelled and bringing the Treasury £480,000 in 1835. The mileage duty had to be paid even when the coach ran empty, whereas the railway duty of a halfpenny a mile was only on passengers carried. Indeed, the expenses of running a coach were so great that it is difficult to see how a profit could be made, for the horses only lasted about three years and the rough roads shook the coaches to pieces. From 1837 onwards the yield of the stage coach duties rapidly fell, partly owing to the decrease in the number of services, partly to a reduction of taxation, until in 1869 the taxes were removed.

The turnpike system reached its zenith just after the coming of the railways. By 1838, 3,800 Turnpike Acts had been passed, creating over 1,100 trusts, which controlled 22,000 miles of roads. The expense of construction was great, greater than the trusts could stand, and in 1839 their total debt amounted to £9,000,000. The tolls were often farmed out, after the right of collection had been put up to public auction, and too great a proportion of the proceeds went for interest and management expenses. As a result, repairs were not carried out, especially after 1835 when the right to statute labour was taken away. To remedy this a general Turnpike Act was passed in 1841 which authorised the Justices of the Peace to pay over a proportion of highway rates to the trusts. The unpopularity of the trusts rapidly increased and led to quite serious riots, especially in South

Wales. It was not till 1864 that steps were taken to bring about the abolition of the turnpikes in accordance with a schedule that was drawn up. Most of the turnpikes had already disappeared when the County Council Act of 1889 relieved the burdens of the parishes that were unfairly hit by the duty of maintaining important roads. By 1890 only five trusts remained unextinguished.

Between 1840 and 1890 public interest was diverted to railways. In the nineties, however, there was emerging a new means of transport that has brought the roads back from their obscurity and has revived the science of road-making, so that the condition of the roads has been raised to a pitch of excellence unknown even in Roman times. The advent of motor traction, the creation of the Road Fund and the utilisation of public works as a means of relieving unemployment has led to the construction of arterial roads down which motor traffic can run at a speed scarcely inferior to that possible on railroads. The protagonists of the railways who have seen not only lucrative passenger traffic but also goods traffic diverted to the roads contend that road services are state-aided as the state helps to maintain their "permanent way" and the tax on road vehicles is insufficient. It is impossible to discuss here the merits of the case or to outline the extent of road development. Since 1919 Great Britain has changed rapidly as she did in the years 1836 to 1850, when railway construction was at its height. New areas have been opened up, old inns have been revived, and thousands of new road licences are taken out yearly. Nor are the descendants of old-time highwaymen lacking. No longer do sloughs impede progress, but traffic blocks are efficient substitutes, and the new traffic rules are at once more complicated and more likely to be enforced than the old laws concerning the size of waggons and the width of wheels.

## RIVERS AND CANALS

In pre-Roman days the rivers were the chief means of communication in Britain. The Romans themselves made use of these natural highways and improved them, as for example, by joining the important rivers the Trent and the Witham with a canal, the Fossdyke. After the departure of the Romans, the rivers remained the chief means of access to inland places for both merchants and raiders. When the Teutonic people came to settle, they founded their villages along the banks of the rivers, and important towns grew up at the head of the estuaries.

In the Middle Ages, the rivers were used as much as possible, for the transport of heavy goods by road was almost impossible. The Thames, the Severn, the Great Ouse, the Trent and numerous other rivers that are now little used, were the chief highways of the country. Cloth coming from Flanders to Stourbridge Fair was brought across to Lynn and taken thence by way of the Ouse and Cam, and hops for the beer of Cambridge colleges probably followed the same route. The ports of the Middle Ages lay far up the rivers, and the ships that then braved the North Sea storms were of shallow draught; hence followed the decay in modern times of many towns which could not be reached by ships of increased size.

The conditions of river travel changed little until the eighteenth century and, though the rivers gave access to districts which otherwise would have been completely isolated, the difficulties of communication by them were many. As there were no means of keeping clear the channels in the estuaries, continually shifting banks of alluvial matter formed, on which ships even of shallow draught might run aground. There was no authority for the maintenance of banks, so that the rivers spread all over their valleys in the winter. There was no means of conserving the water

supply and what had appeared as a widespread lake or a raging torrent in winter, was reduced in summer to a tiny stream, useless for navigation. Even on rivers that maintained a good supply of water all through the year, navigation was often interrupted by shallow reaches. The configuration of the country, too, was a source of difficulties. There could be no great waterway descending gradually to the sea, traversing the land from one side to the other. The ridges that formed the backbone of the country prevented river communication between the eastern and the western coasts and made the transport of heavy goods from one river head to another almost impossible.

As a result of these uncertainties and difficulties of communication attempts at river improvements were made with Parliamentary sanction. One of the earliest rivers to be so improved was the Lea, which was made navigable from Ware to London and became a most important channel between the corn-growing and cattle-producing areas of the Midlands and the Capital. With similar objects in view acts were obtained for the Thames and Medway, while in 1661 Sir William Sandys conceived the idea of introducing locks and weirs on the river Wye, thus controlling its turbid stream. Various schemes for connecting by means of cross-country waterways, London and Bristol, Yarmouth and King's Lynn, and other ports were formulated during the Protectorate, but little was done to carry them out. One river, the Mersey, was improved later in the century, for under an Act obtained in 1694 it was made navigable to Warrington, and Liverpool, which till then was but a marsh-girt village, came to compete as a port with Chester and Parkgate. In 1699 an Act was passed for the improvement of the Aire and Calder route and in the next twenty-five years the Mersey and the Irwell were made navigable to Manchester. In addition the channel

of the Weaver was made deeper and the salt mines of Cheshire were opened up, while improvements in the Douglas navigation made possible the development of Wigan.

Another area in which extensive industries were developing in the eighteenth century was the Severn valley. Ironworks were established at Coalbrookdale and other places in the neighbourhood, necessitating the carriage of iron ore from Furness, Yorkshire and South Wales. The ore from the North had to be brought overland from Winsford on the Weaver, and the same problem of transport arose when the iron goods were sent out and when coal was dispatched northwards from the Shropshire coalfields. Not only was the cost of land transport heavy, but the quality of the coal and iron goods deteriorated with the jolting and jarring in transit and there was ample opportunity for theft.

Similar difficulties were encountered by the farmers of the Midlands who wished to send their cheese and corn to London or to the great fair at Stourbridge, and by the potters of North Staffordshire. Clay was obtained by the latter chiefly from Cornwall and Devon; it could be brought up the Severn to Bridgnorth, 39 miles from Newcastle, or down the Weaver to Winsford which was 20 miles from the Five Towns. Flints, which were also used in the manufacture of pottery, came by sea to Hull, thence up the Humber and Trent to Willington, distant a 30-mile journey from Newcastle. The finished pottery was transported on pack-horses to the Severn, the Trent or the Weaver with great risk of breakage.

As manufactures increased, the needs for links between the rivers became more pressing. The improvements that had been carried out made merchants realise more than ever the deficiencies of a purely natural system of waterways. The need for further development was especially felt in the North, where



the carriage of coal had taxed the roads until they had lost all semblance to means of communication. Thus the enterprising minds of South Lancashire which were to establish Great Britain in the forefront of the nations of the world were turned to the construction of canals. The canalisation of the Sankey Brook so that coal might be brought from the Lancashire pits to Liverpool was a beginning. The prosperity of this undertaking led to the construction of the Bridgwater canals and the Canal Era.

The names of Francis, Duke of Bridgwater and of James Brindley will always be associated in the history of canals; for one provided capital for the enterprises in canal construction to the problems of which the other brought a genius that overcame innumerable obstacles. In the outcome they materially assisted Great Britain towards industrial supremacy. Brindley was a man of little education, but of great resource and ingenuity—a typical product of the Industrial Revolution. He constructed a canal from the Duke's collieries to Manchester as a result of which the price of coal fell to a half in Manchester. So great was the advantage that Brindley was given the task of constructing a canal from Manchester to Runcorn, that would supersede the old Mersey and Irwell navigation. Sanction for this scheme was not obtained without fierce opposition from vested interests, which proved a constant source of hindrance in canal as well as railway construction. The success of the new canal, however, more than justified the optimism of the Duke and the self-sacrificing efforts of the engineer, who often received less than a pound a week for his services. From 1772 the canal became the chief means of passenger travel as well as the highway of commerce between Manchester and Liverpool.

While the construction of the Manchester-Runcorn Canal was in progress, a group of landowners and manufacturers was considering a scheme for a network

of canals which would join the main river system of the Midlands, especially the Trent and Mersey. They realised that great engineering difficulties had to be faced since any canal joining rivers on either side of the central ridge, whether across the Pennines or south of them, would have to rise steeply and fall rapidly. This would involve not only great expense in the construction of locks, the boring of tunnels and the maintenance of an adequate water supply at all levels, but also slow movement of traffic and severe limitations on the size of craft owing to the restricted depth and breadth of the waterways. Yet wherever sufficient water was available, there were no insuperable difficulties in the construction of canals, although the water in them could not be made to flow uphill any more than does that of a river. On taking all the factors into consideration, these men realised that the advantages of a system of canals would be such as to give a great stimulus to internal trade.

The scheme for the Mersey-Trent Canal was authorised, and Brindley was put in charge of the work. He accomplished engineering feats which may still be regarded with wonder, for without the aid of mechanical "navvies," pneumatic drills, or huge cranes, he took the canal up to the backbone of England by means of thirty-five locks, he pierced the hills with a tunnel three-quarters of a mile in length, and led the waterway down 288 feet to the level of the Trent. The canal was opened in 1777, and from it in a short space grew a network of canals which opened up the Potteries and the district around Birmingham, redeeming much of that part of the country from that primitive and almost savage condition in which John Wesley had found it in 1760. The consequent development of industry and growth of population in the counties of Stafford, Warwick and Worcester was amazing. The cost of transport was reduced to an average of twenty-five per cent. of the charges for carriage by

road, and in addition water transport was quicker and safer. Agricultural districts benefited as well as the industrial, for they were enabled to send their meat, wheat and cheese to the growing towns of South Lancashire. The Leeds and Liverpool canal did much the same for the development of the West Riding. Towns grew in places where the lack of communication had previously proved a fatal bar to the establishment of industry and the course of the canal is still marked by the number of great towns that grew through the facilities it afforded.

By the end of the eighteenth century there was a canal mania. The shares even of unprosperous canal companies changed hands at exorbitant rates. Canal acts were passed in great numbers by Parliament, so that by 1800 most of the present canals had been either constructed or planned. There were extensive schemes in the South as well as in the North and Midlands, but most of the southern canals were financial failures and are to-day derelict or are unwillingly maintained by Railway Companies. The Kennet and Avon Canal, one of these enterprises, can be seen, a forlorn witness of a great economic development, close by the Great Western Railway track between Newbury and Hungerford. It is now an expensive foster child, older than its adopted parent and costing the railway company £8,000 a year. The Grand Junction, which was completed in 1805, enjoyed a few years of prosperity before the London and Birmingham Railway strangled it.

The chief service of the canals was the opening up of what remained the great industrial areas during the nineteenth century, the Midlands, the West Riding, South Lancashire, and North Cheshire, South Wales and Lanarkshire. The benefit conferred can hardly be measured by the financial prosperity of the companies, for some of the failures brought districts which had previously been almost completely cut off,

into touch with civilisation. Some of the canals paid high dividends—the Trent and Mersey declared seventy-five per cent. for many years and the Birmingham seventy per cent., but the bulk of the companies paid but a small return on the capital invested, while many of them, like the Thames and Medway and the Basingstoke, paid no dividends at all. Canals were chiefly used for transport of raw materials for manufacture, for the carriage of corn and cattle, and for the distribution of heavy manufactured goods. There was also a certain amount of passenger traffic, but the rate of movement was slow, four miles an hour being fast average speed. Although steamboats were introduced on a few canals, they could do little to accelerate travel and movement, owing to the danger of their wash's breaking down the embankments.

When the canals were first faced with competition from the railways they made no attempt to retain the allegiance of their customers. They maintained the rates which had been devised to compete with the roads, and they did nothing to increase their efficiency. It is true they met the railways with all the weapons of obstruction they could gather and at times threatened competitive schemes. In North Staffordshire a canal company actually sponsored the railway, but such thoughtful schemes were rare. When once the railway system was fairly developed canals were doomed, for they could not compete with the facilities that the railways were able to offer. In the Birmingham district and in the Potteries canals remain important, but in most places the triumph of the railways was complete and inevitable. The canals had performed their service; they helped to give Great Britain thirty or forty years' start in industrial development. The cost of about twenty millions was perhaps heavy, for the canals to-day remain chiefly as monuments to the enterprise and skill of their engineers. No scheme for their revival would be worth the vast

capital that would be needed ; they could be widened and deepened, it is true, but the hills could not be demolished nor the number of locks diminished.

### RAILWAYS

Few people a couple of centuries ago could have foreseen that the wooden railways along which waggons conveyed coal from the pits to the rivers would be the forerunners of the steel railroads of to-day. The extreme difficulties of carriage by land even over short distances in the later seventeenth century led to the use of wooden rails, down which waggons with wooden wheels were sent to meet the river waterways, especially to the Tyne. In the eighteenth century cast-iron wheels and rails were introduced and the use of railways spread to Shropshire and South Wales. Horse traction was generally used, but experiments were also made with stationary steam-engines on steep gradients soon after Watt's engine was perfected.

As long as the lines were private, no Acts of Parliament were necessary and the colliery owners bargained as best they could with the landowners. When, however, railways were designed for the carriage of goods of the public, parliamentary authority had to be obtained, and several canal acts of the last decade of the eighteenth century contained permissive clauses for the construction of railways. The first Act that dealt solely with the construction of a railway was passed in 1801, authorising the construction of the Surrey Iron Railway, which ran for  $9\frac{1}{2}$  miles from the Thames at Wandsworth to Croydon. A double line of plate rails with a four-foot gauge was laid. The company owning this line, which was used chiefly for the carriage of agricultural produce, lime, chalk, coal and manure, lasted till 1846, when the competition of other and newer lines led to its dissolution. Among the other early enterprises were a number of railways in South

Wales, the Kilmarnock and Troon authorised in 1808, the Gloucester and Cheltenham dating from 1809, and the Plymouth and Dartmoor, constructed to connect the prison, first built for prisoners of war, with Sutton harbour. In all 29 Acts were obtained between 1801 and 1820 for the construction of public railways.

The second period of railroad development opened with the Act authorising the Stockton and Darlington Railway in 1825, for George Stephenson, who had already experimented with steam locomotives at Killingworth colliery, persuaded the new company to obtain permission to introduce them. When the line was opened in 1825 fixed engines, locomotives and horse traction were all employed. The company was concerned almost entirely with the transport of coal, and till 1833 passenger traffic was catered for only by coach proprietors who ran their own horse-drawn coaches. A number of scattered lines of short length and little importance were authorised in the succeeding years, one of the most interesting being the Canterbury and Whitstable Railway,<sup>1</sup> in constructing which a deviation was made from the route originally planned, so that the line might be the first to have a tunnel. Like the Stockton and Darlington it was worked by mixed traction.

A close connection between railways and canals continued, the new lines in most cases feeding canals. This to some extent explains the fact that many of the lines were in out-of-the-way places where a canal could not be constructed on account of the gradients involved. The early phase of railway development therefore led to the further prosperity of the canals, which were encouraged to see no danger of rivalry. Canal shares thus reached their maximum price, rising in some instances to over £1,000 for a £100 share. The canal interests of the 'twenties and 'thirties were almost as powerful as the railway companies of fifty

<sup>1</sup> This line was recently closed.

years later, and they used their influence to incite popular prejudice against railways that seemed likely to interfere with their monopoly of transport. They did not always marshal their pieces with skill, however; thus when the Bill for the Liverpool and Manchester Railway was introduced in 1825, the canal party secured its defeat, but in 1826, after the Bridgwater trustees had been mollified by the gift of a thousand railway shares, the Bill went through almost unopposed.

With the opening of the Liverpool and Manchester Railway came the real awakening of interest in the new means of transport as a rival of the canals and turnpikes, and the possibilities of development were first shown. On it steam locomotion was first exclusively used, wrought-iron rails were first introduced, passenger traffic was first carefully catered for, reasonable speed was first attained and a definite challenge of competition with the canals was first thrown down.

Progress was at first slow and though Acts were obtained for the London and Birmingham, the Grand Junction from Birmingham to Lancashire in 1833, the London and Southampton in 1834, most of the other lines authorised were short and disconnected, as they were designed to bring some small industrial area into touch with a navigable river or a port. An exception was the Newcastle and Carlisle authorised in 1829 and finally completed in 1839 after encountering opposition from noblemen who obtained the insertion of clauses in the Act prohibiting the use of steam locomotives within sight of their country houses. Between 1821 and 1835, forty-three companies and 970 miles of railway were sanctioned and 337½ miles of line were opened. We are now on the threshold of the third stage of development when a railway system became a reality.

In 1836, thirty-nine Railway Acts were passed and nearly a thousand miles of new line were authorised.

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As a result of this vast extension, a network of trunk lines was mapped out, designed to bring the railway within the reach of every important town. Much of the capital and business acumen was supplied by the "new rich" of Liverpool and South Lancashire, who regarded the railways as a possible source of profit, not as a method of opening up the country, and by Quakers and Dissenters whose families had for generations expended in industry the intelligence which in a more enlightened age might have been used in politics. By 1836-7 the suspicion in the minds of the public had been allayed somewhat and the Press, which had previously been unanimous in its condemnation of the railways, now began to support them, its change of front being due to the success of the Liverpool and Manchester and the Stockton and Darlington Railways.

By the schemes authorised in the years 1836-9 and completed for the most part by 1844, London was put in communication by rail with Lancaster, Bristol, Exeter, Dover, Colchester, Derby, Leicester and Newcastle; though as the latter stages of the journey by rail to the last-named town were most complicated, these were usually completed by coach. A steamer connection with the railway at Fleetwood brought Glasgow within twenty-four hours' travel from London. Manchester was connected with Leeds and Sheffield as well as with Liverpool. The obvious gain to industry from the new lines led to speculation in railway shares, the price of which soon rose to extravagant heights. Traffic on the new lines could not produce dividends sufficient to maintain such a price, and as a result confidence was shaken and the bottom fell out of the market. This reaction coupled with bad trade caused an almost complete cessation of the flow of Railway Acts until 1844.

In that year it was seen that in spite of depression, the more important companies had maintained divi-



dends of at least ten per cent., and this fact, coupled with a revival in trade, caused capital once more to become available. In the years 1845-1847 the country became frenzied: 578 companies, 8,592 miles of railway and the raising of £225 millions of capital were actually sanctioned by Parliament. A natural reaction followed this speculative boom: of the schemes proposed a considerable number, comprising 3,560 miles of prospected line, were abandoned with or without parliamentary consent; and a number of the well-established companies found themselves involved in the results of the boom-fever and the ensuing panic. The Great Western, for instance, was forced to propose branches it never intended to construct and to buy out companies that threatened competing lines. The price of the shares of the London and Birmingham fell from 243 to 126 in a short space, though the profits of the line actually increased in the same period. Nevertheless, in spite of failures and hare-brained schemes the mileage of the railways increased from 2,044 miles open to traffic in 1843 to over 5,000 miles in 1848. Most of the chief routes except the St. Pancras and the Marylebone lines to London had been laid down by then.

In the years 1845-1847, the futility of parliamentary control as it was then exercised was clearly shown. Vast sums of money were expended to secure the passage of Acts which after failing one year were passed almost without opposition the next. As much as £300,000 was spent by the lines competing for a Bill for a London to Brighton railway before an Act was secured. The story of the beginnings of the British railways is the tale of *laissez faire* at its worst. No attempt was made to direct the construction of a network of railways on an economical basis so that the country would be best served. The Government left the development of the railways entirely to private enterprise and obstruction, though it is true that military considera-

tions led to the support of the London-Southampton line and to interference in the choice of the London-Brighton route. The result of the lack of directing authority has been felt ever since in the enormous burden of capital charges which is borne by all the great companies. Millions were wasted which could have been saved by Government intervention. Millions were spent in compensation for lands at extravagant rates to landlords, who, after boycotting the lines at first on the grounds that they would ruin their game preserves or stop their cattle from feeding, came to regard the railway companies as mines whose resources could never be exhausted. The Liverpool and Manchester was bound by the authorising Act to use no engine which Lord Lilford or the Rector of Winwick considered too smoky or noisy, and the same spirit of obstruction led to other unnecessary detours and tunnelling. The citizens of Northampton of 1832 earned the anathemas of their descendants by refusing to have the London and Birmingham within their borders; the Provost of Eton only withdrew his opposition to the Great Western route on condition that the railway maintained a special staff to see that Eton boys did not get on the trains in term time.

The worst obstructionists were, perhaps, the canal companies. A few enlightened canal directors saw that the victory would be to the railways, and interested their companies in railway construction. In most instances, empty threats to construct rival lines served only to wring from the railway companies excessive compensation. The Great Western thus paid to the Severn Commissioners a considerable sum yearly for forty-five years until in 1890 a million pounds was handed over as a settlement of the claims. The London, Midland and Scottish still maintains the dividends of the Birmingham Canal Company. Turnpike trusts in the same way obstructed their rivals, charging tolls on all passengers wherever the railway

crossed their roads. These and countless other difficulties, including those caused by the unscrupulous conduct of the early promoters like George Hudson, who embezzled half a million of the money of the Eastern Counties, had to be met and the price of overcoming them to be paid. The result of this financial incubus, and of the lack of any central authority to which the companies could appeal, was that the lines of Great Britain cost £56,000 a mile to construct, two and a half times as much as those of Germany.

The construction of the railways following the boom years 1836-39 and 1845-47 created a considerable social problem. Armies of labourers, headed by bands of comparatively skilled and highly paid "navigators", moved along the new lines, existing in mud huts or sheds, devastating the countryside and striking fear into the hearts of the villagers. Many of the contracts were sub-let to small men, themselves risen from the ranks of the labourers, who cheated their workmen or paid them in truck or set up "tommy shops", at which they were encouraged to dissipate their wages in advance. Drunkenness was universal, riots were common, immorality was general among a body of men who were "ignorant of Bible religion and Gospel truth, infected with infidelity and prone to revolutionary principles". The Railway Companies themselves accepted no responsibility, though some of the contractors—especially Peto and Jackson—set a notable example by paying their labourers regularly in cash, by securing proper accommodation, by encouraging village tradesmen to supply their wants and by giving their employees opportunities of receiving educational instruction. It was not until after 1850 that conditions were improved, following the report of a committee over which Edwin Chadwick presided.

The history of the British Railways since 1850 is one of cut-throat competition followed by amalgamation and working agreements, though the Government

long frowned upon any form of combination. The original idea was that the railroads should be similar to the turnpikes—routes to which there should be free access for all on a payment of tolls. Such a scheme would have produced chaos, innumerable accidents and snail-like progress, for the companies were under no obligation to aid such traffic by the provision of water or signalling facilities. When it was found impossible for rail-users to put their own locomotives on the railways, the supporters of *laissez-faire* placed their trust in the encouragement of competitive lines. They did not see that such rivalry might lead to bankruptcy rather than to improved services. Their suspicions did not prevent successful amalgamations by turnpike trusts and canal companies being followed by railway fusions. In 1844 George Hudson the "Railway King" formed the Midland Railway by uniting the Midland Counties, the North Midland, and the Birmingham and Derby, and in 1846, the London and North Western was formed with a capital of £17,000,000 by the union in one company of the London and Birmingham, the Grand Junction and the Manchester and Birmingham. Further simplification was achieved by leaseings, among them that of the London and Greenwich Railway, the first railway to come to London Bridge, by the South-Eastern in 1845. The legality of amalgamations was in doubt till 1882 and as late as 1908 a legal decision was pronounced against a working agreement between the Great Central and the Great Northern.

Nevertheless, in the period from 1882 to 1914, the London and North Western, the Midland, the Great Western and the other great companies gradually acquired control between them of the whole railway system, except of a few highly profitable mineral lines and a number of "Ghost Train" railways. By 1900 the railway companies had become the aristocrats of the industrial world. On their Boards were

ex-statesmen, naval and military notabilities, coal and steel magnates, landowners, and bankers, as well as railway experts, and their combined capital represented over a thousand million sterling. So powerful were they that they refused to recognise any unions among their servants, and so confident were they of the Government's support that in 1911 they risked civil war to maintain their estate.

The attitude of the State towards the railways in Great Britain has throughout been anomalous. To secure the right of "eminent domain", a railway company had, and still has, to approach Parliament for new powers. A deposit was required to show that the company was in earnest and Parliament was supposed to satisfy itself that the Company would be self-supporting. The passage of the Railway Acts of 1845-7 showed clearly the weakness of such parliamentary control, which was exercised in fact according to no discoverable principles. The gauge question gave the Parliament of the *laissez-faire* age another chance to show its ineptitude, for the standard gauge (4 ft. 8½ in.) was not decided upon until 1846, and even then special exception was made for the Great Western and its subsidiaries which used the 7-foot gauge. The troubles of break-of-gauge and mixed gauge continued till 1892, when the Great Western completed its voluntary change at the expense of £2,000,000. Another matter on which Parliament showed lack of decision was the question of the transport of mails and parcels. The Post Office claimed the right to run its own coaches and engines free of toll, and a committee of 1838 reported in favour of this claim. At length, though there was no surrender of principle, reasonable payment was made by the Post Office for carriage by the companies. An indirect method of taxing the railways was thus abandoned, but from 1832 revenue was obtained by means of a tax of 1d. a mile per passenger; in 1842 this was changed for a five per cent.

levy. In 1883 the tax was abolished in return for improved facilities for workmen.

The most famous of early Government measures with regard to the railways was Gladstone's Act of 1844 which established the parliamentary train. Each railway was compelled to run one train a day in each direction with accommodation for third-class passengers, stopping at all stations and running at an over-all speed of 12 miles per hour. Other provisions of this Act, though not so popular with humorists, were equally important, since they gave the State the option of purchasing lines authorised in 1844 or after, and the right of cutting down rates if the dividends were over ten per cent. Special rates were fixed for the carriage of troops and mails. The option of purchase after twenty-one years given by this Act is the nearest approach to the contemplation of nationalisation in the laws of the country, though advocates of such a policy have abounded since the time of James Morrison of Ipswich.

The supervision of new lines, of running conditions and bye-laws was given to the Board of Trade by the Acts of 1840 and 1842, but the attention of Parliament was continually turned to the need for further railway regulation. The setting up of the Railway Clearing House, the appointment of committees to enquire into railway amalgamation, the establishment of the Railway Commission to settle disputes between railways and traders and to advise Parliament on railway questions, the compulsory notification of accidents, and the supervision of railway rates were among the numerous matters upon which Parliament legislated in the nineteenth century. In the twentieth century, Government interest has extended to the conditions and hours of labour of railway employees, to the setting up of Conciliation Boards for the regulation of wages, and, after a period of national control from 1914 to 1919, to compulsory amalgamation.

The Ministry of Transport, established in 1919, is now the responsible Government Department, and one of the first important steps taken by the Minister in charge was to secure the passage of the Railway Act of 1921. In this the principle of compulsory amalgamation was adopted in preference to nationalisation and the railway system was reorganised into four great groups, between which £60,000,000 was distributed in settlement of claims against the Government for services during the War years. Weak lines were included with strong sections, unremunerative districts with thickly populated areas, in an attempt to share out the inequalities; and in each group the capital of the constituent companies was exchanged for shares in the new company. A Railway Rates Tribunal was set up with plenary powers to fix and vary rates, fares and charges in order to maintain a standard revenue.

The railways of Great Britain are in an exceptional position. Unaided by State contributions or help in land purchases, unable, being pioneers, to profit by the experience of others abroad, without the advantage of long hauls, they have had to contend with the difficulties of the payment of interest on excessive capital and of high cost of upkeep. The competition of motor transport and the acute trade depression has in recent years imposed a strain which even the strongest companies have found it difficult to endure; yet though receipts continue to fall, the position of the railway companies representing as they do a vast agglomeration of capital is still strong. Decreased working expenses, remission of rates, and Government development loans on special terms have to some extent offset the decline in revenue. The pushing forward of schemes for the electrification of local lines and for the extension of the existing Tube services of London show that vigour and hope still exist. Battle has been joined with the road transport organisations since the railways obtained statutory powers

for the purchase and running of motor services in connection with trains, though the companies may be involved in a good deal of useless expenditure in the buying out of other concerns.

The future of Transport in Great Britain is in the melting-pot, for following the report of the Royal Commission on Transport, it seems probable that the scheme for a Traffic Pool in London may be extended to a wider field. The railways have been adversely criticised for not utilising to the full their advantages, but the expenditure of further large sums upon the arterial roads is not recommended. The need for strong central direction is again apparent in order to secure a proper solution for each and all of many interconnected problems in the whole field of transportation ; in railway administration itself ; in street traffic, especially with regard to the position of the tramways, which represent millions of capital ; in the matter of approach to the centre of London by road and rail ; in efficient town-planning ; and in dealing with derelict waterways.

The question of future control is as complex as that of organisation. One thing seems to be fairly generally agreed upon, that the provision of transport facilities should not be regarded as a speculative undertaking and that companies formed for such a purpose should pay a restricted rate of interest in the form of dividends. Unfortunately, this does not solve the difficulty of finding an adequate return on the hundreds of millions of railway capital which at present receive much less than the current rate of interest.

#### *Postscript.*

The subject matter of the above chapter has been confined to inland communication. No space has been given to the story of steam navigation at sea, to the development from 1812 onwards of passenger traffic



and coastal cargo services, to the substitution of iron for wood in steamship construction, or to the crossing of the Atlantic in 1838. Foreign trade which grew enormously as the result of the Industrial Revolution, led to the construction of docks where the ships would be safe and where there would be less pilfering by "game watermen" and "night plunderers." Between 1802 and 1828, the West, South West and East India Docks and the London and St. Katherine Docks were built, while later more modern docks were built further down the river. In the same way Liverpool has been equipped, Southampton's prosperity has been revived, Manchester has been made the fourth port in the land, and numerous other harbour works have been undertaken.

The conquest of the sea has been followed by an attack on the air. Air transport is still experimental, though it diverts every year more and more potential first-class passengers from the railways and Channel steamers. The telegraph, the telephone and wireless have also provided substitutes for the rapid communication which the railways first made possible and monopolised for a time. So the wheel of mechanical change as it revolves brings up one agent as it depresses another.

## CHAPTER V

### THE EFFECT AND EXTENT OF THE INDUSTRIAL REVOLUTION IN THE EARLY 'THIRTIES

THE period 1815-1830 was marked by economic dislocation such as had never been known before and has only been equalled since by the troubles of the last ten years. Yet it was during this very period of discontent, unemployment and poverty, that Great Britain consolidated her industrial position and rose to a commercial pre-eminence which was not seriously challenged for sixty years. At the close of the war the country was faced with a vast debt, for the reduction of which the Chancellors of the Exchequer of the time had neither the means nor the ingenuity which were at the disposal of some of their successors. Popular prejudice forced them to abandon William Pitt's temporary expedient, the income tax, as entailing an unjustifiable inquisition into the private affairs of the citizen. Land was still the most fruitful source of revenue, but as property owners had also to bear the weight of the poor rate and the burdens of the tithes, the Governments were obliged to moderate their demands. As a result of the decline in revenue, the sinking fund established by Pitt for the redemption of the debt was reduced. Some who looked for an economic cause of the evils that had befallen the country fixed upon the paper money that had taken the place of gold when cash payments were suspended in 1797, as the source of all the troubles. Their views prevailed so far that a measure was hurried through

which restored cash payments in May, 1821, but this did not dispel the trade depression which continued until it reached its climax in 1825. Others like Malthus called attention to the rise in the birth-rate and the lack of restraint among the population. They demanded the abolition of outdoor relief and the imposition of every possible check upon the fertility of the labouring class.

There were, as well, many who saw in the power of the landed class and the restricted nature of the franchise the causes of the troubles. They revived the movement for parliamentary reform which had been dormant since the outbreak of the French Revolution. They hoped that by legislation the House of Commons would put itself in order. They accomplished little and were soon superseded by others whose more violent methods seemed to threaten revolution. There were riots in London and in the provinces and there was an attempt to assassinate the Prince Regent. Then in 1819 came the Peterloo massacre, followed by the Six Acts, by which English liberty was more seriously threatened than by any revolutionary movement. As long as Castlereagh and Sidmouth held the reins of power oppression continued, but on the death of the former the clouds began to lift. Taxes were reduced, customs duties were cut down, especially on raw materials, trade restrictions were removed, the Combinations Acts were repealed and a limited right of forming unions was granted to workmen. (See Ch. VII, pp. 142-3.) Prosperity did not return at once and the economic crises which had occurred almost every year after 1815 continued to 1829. Between 1825 and 1830 excessive production and a poor demand from abroad completely disorganised industry. Banks in all parts of the country went down before the storm which the Bank of England weathered only with difficulty.

Yet in spite of trade fluctuations and political

discontent, Great Britain proceeded steadily towards industrialisation. Agriculture fell back before the advance of manufacture. Country yielded ground to town, domestic workshop to factory. Poverty and filth for the many came hand in hand with luxury for the few. In 1830 the Corn Laws were still in force, though modified, but the balance of the population had shifted and influences were at work that in the course of time destroyed the political system of the eighteenth century and rendered necessary the government by Civil Service which Parliamentary forms cloak.

#### THE COUNTRYSIDE AND THE POOR LAW

The agricultural revolution, which has already been considered in Chapter II, was almost complete in 1830 as far as economic relationships were concerned, and the social effects of the changes were apparent in every village in England.<sup>1</sup> The primitive conditions had disappeared and the yeomen and cottars, the backbone of English agricultural life, were rapidly losing their status. Often the plot that was allotted to a cottar when the common was divided was too small to provide pasture for his cow. He therefore sold both the cow and the plot, and as his cottage garden had disappeared in the process of enclosure, he became entirely dependent on his wages, whereas previously he had provided his own vegetables and butter and milk. The standard of living fell and his family lived chiefly on cheese and bread, with roast meat or fat bacon once a week, if the money went so far. Perhaps his cottage was still his own, but it was a poor place. It probably had only one room—few had more; its walls might be of brick or stone, but mud was more commonly used; there would be a few windows, but they would never be open, and the thatch would leak. If the cottar

<sup>1</sup> See Chapter II, pp. 25-32.

could still keep his cow, it was put in a lean-to shed at the end of the cottage, or tethered outside the door. The homes of the villagers were ranged along the village street and manure heaps marked the cottages of those who still retained their yeoman status.

In many counties, especially in the South and West, at almost the same time as the hardships caused by enclosure, came the loss of domestic weaving and spinning. The income obtained from this source by a family was small, perhaps only a shilling a week, but it was a help and often made the difference between a week with meat on Sunday and a week with no meat at all. It also meant the loss of money at a time when a money economy was taking full possession of the villages. Yet foreign observers still commented favourably on the garden-like cultivation of England and the seeming prosperity of agricultural labourers.

As prices fell, less and less land was put under the plough and all classes, farmers and landlords as well as labourers, were subjected to a breaking strain. Starvation faced many of the poorest if relief were withheld, and if it were given, the contributions required from owners of property would cause ruin to fall upon many of the yeomen and cottars who had survived enclosure. The problem of the Poor Law was not confined to rural areas, but it was in the country districts that conditions were worst. The Speenhamland policy which was countenanced by William Pitt removed such traces of the Elizabethan code as had survived Gilbert's Act of 1782. It not only recommended the payment of outdoor relief, it allowed the supplementing of wages from the poor rates in accordance with a bread scale.

The poor law problem was not entirely due to the agrarian and industrial revolutions, for the workhouse test had long since ceased to be effective. Nor was the supplementing of wages in itself a new expedient—it has been said it was a century old in 1795. The

workhouses, even after the establishment of Unions of parishes allowed by Gilbert's Act, were no longer places of work and they certainly were not houses of correction. In most towns and villages they were "mixed" and without proper supervision. In many places there was a workhouse, in many more a few cottages sufficed to shelter the aged and infirm. The relics of the Elizabethan system could not deal with the problems that arose from the action of economic forces which the framers of the code of 1601 could not have foreseen. No longer was the peace of the villages disturbed by a few vagabonds and sturdy beggars, a whole class was threatened with starvation. The principle of the Elizabethan code—that those who were unable to support themselves through age or infirmity should be supported by their own parishes with relief in their own homes if necessary—had to be extended to those who could not resist relentless economic forces.

The Speenhamland policy was necessary: it was the manner of its administration rather than its principle that was at fault. There was no differentiation in the relief given for legitimate and illegitimate children. That this led to immorality and recklessness cannot be denied, but recklessness is better than revolution, which might have resulted had Pitt adopted the Malthusian idea of fixing a date so that any child, legitimate or illegitimate, born after that day should be ineligible for relief. It should, however, be noted that the birth-rate was no higher in the counties which gave lavish relief than in Scotland where the English system was unknown.

The extent to which outdoor relief was given varied greatly from county to county. The Industrial North hardly knew the Speenhamland scale, for there the agricultural districts had the new towns close by and wages were on the whole higher than in the South. There was, too, always the possibility of a change

of occupation by going into a factory, if farming failed. In the South, however, agriculture was hard-hit and lack of enterprise, resources and communications and the action of the Laws of Settlement prevented the surplus population from moving. The county in which outdoor relief was most lavishly distributed was Sussex, which as it happens was but little affected by enclosure. There the expenditure in poor relief 'per caput' was 19s. 4d., whereas average for England was 9s. 9d. The other counties of the South and of East Anglia had to expend large sums or allow thousands to starve. It has been estimated that every labouring family was kept for eleven weeks in the year by the poor rate, which thus reached unprecedented dimensions. In many counties employers deliberately paid less than they could have afforded, knowing that the poor rate was subscribed by persons who employed no labour as well as by themselves. Those hardest hit were the men who still owned a cottage and a small patch of land. As long as they were possessors of property, they had to pay rates and were ineligible for relief themselves. They were therefore often driven to sell their cottages to pay the rates that were due and then to draw relief. Often men of this industrious and determined class were dismissed to make room for paupers, of whom the masters had to employ a certain proportion.

By 1830 it was clear that though the Elizabethan code could not have been applied in the difficult period after 1815, the lack of system by which it had been superseded had brought many evils and obviously stood in need of revision. The contribution to the poor rate when worked out on a 'per capita' basis was perhaps not excessive, but the incidence of the burden was uneven.

#### THE GROWTH OF POPULATION

The changes in the organisation of country life and

industry were in part responsible for the alteration in the balance of population that brought important social and political changes. Ten years before the end of the eighteenth century country labourers were double town labourers in number; fifty years later the position was reversed. The total population of England and Wales increased from about 8,500,000 in 1790 to 9,100,000 in 1801, the year of the first census. In 1831 it was 13,897,000. The rapid increase was due to many causes. In the country the Enclosure Acts had broken down the restraints of a social system based primarily upon a division of lands which checked unrestrained increase of population. Young labourers were no longer boarded in the farm-houses and they married at a much earlier age than their fathers had done. The restraint of peasant proprietorship or tenancy grew less strong as the yeoman class was depressed into the ranks of the labourers. The influence of the allowances given under the Speenhamland policy may have encouraged early marriage and lack of restraint, especially in rural areas, though the extent of their influence was grossly exaggerated by the Commission of 1834, which laid at the door of the Poor Law the whole increase in population of thirty years.

In the towns the old apprentice regulations which had previously imposed a discipline upon youth and had forbidden marriage during apprenticeship, were no longer binding. The Industrial Revolution brought more and more opportunities of employment at a money wage which led to earlier marriages; and life in towns and the conditions of the factory system encouraged large families, since children could support themselves, and perhaps their parents, from a very early age. The towns of the North also received an influx of Irish immigrants who came to supply labour in the mining districts and cotton and woollen centres, to which the English agricultural worker—"fast-rooted in the fruitful soil"—moved only when faced



by threat of starvation. In addition to these newcomers, many of whom settled permanently, there was an army of Irish harvesters which came over every year. Most of these were eventually shipped back to Ireland, but some found more regular work on canal, or later, railway construction. The Irish multiplied rapidly and formed considerable colonies in many of the new industrial centres, where they worked almost for nothing, and depressed the standard of living among other workers.

At least as important as the rise in the birth-rate was the fall in the death-rate, which was due to several causes. Firstly, there was the great increase in medical knowledge in the eighteenth century, followed by the founding of general hospitals in nearly all the important provincial towns. In London between 1720 and 1760, the Westminster, Guy's, St. George's, the London, and the Middlesex were added to the two ancient foundations, St. Bartholomew's and St. Thomas's. Dispensaries were opened and an attempt was made to begin systematic lectures and training. The value of fresh air was discovered and the connection between filth and fever was realised more clearly than before. Changes of the diet of the people, resulting from the agrarian revolution, also improved the general health and power of resistance. Fresh meat was available in winter and fresh vegetables could be obtained all the year round, and the introduction of oil-cake and roots increased the supply of milk in winter. Between 1780 and 1810 there was a definite drop in the number of deaths from fever and smallpox, owing to increased attention to sanitation. While rapid urban development due to the industrial revolution was in progress, there was, however, a retrograde movement in public health services until the cholera epidemic of 1831-1832 impressed on the mind of all the need for the establishment of some supervision of sanitary conditions.

Of even more importance than the assault on fevers

was the diminution of the dangers of child-birth and the setting-up of lying-in hospitals. The value of cleanliness and plenty of fresh air was emphasised and the ancient species of midwife, who perhaps combined her occupation with street hawking, began to give place to trained nurses, though Mrs. Gamps were common for many years yet. In the hospitals the walls were whitewashed, the bed linen was frequently changed and the floors were scrubbed. Though the surgeons were still crude in their methods and ignorant, their patients were much better cared for, and there was a remarkable fall in the rate of mortality. Whereas the average of deaths at the British Lying-in Hospital was 1 in 42 for the women and 1 in 15 for the children from 1749-59, from 1789-1798 it was 1 in 288 for the women and 1 in 77 for the children.

The chief areas that increased rapidly in population in the first thirty years of the nineteenth century were South Lancashire and North Cheshire, South Wales, the Black Country around Birmingham, the Potteries, Nottingham, the West Riding, the Northumberland and Durham coalfields, and in Scotland, Glasgow and Lanarkshire. Country that was moorland in 1750 was studded with towns and coal mines by 1830. In some places great cities arose on the foundations of ancient boroughs, in others on the sites of mere villages. In no district was the change more striking than in the coal and iron mining area of South Wales, which from being scantily populated became one of the most densely peopled parts of the country. The rapid increase in the population of the areas mentioned above was due in some degree to immigration from country districts, but more to the high birth-rate in the urbanised groups, especially in South Lancashire, South Wales and Glasgow, as well as to the influx of labourers from Ireland. Rural areas were not depopulated—in 1831 about 28 per cent. of the population was still engaged in agriculture—but the preponderance

in numbers and influence that had previously rested with the South and South-east passed to the Midlands and the North.

### THE STATE OF THE TOWNS

The development of numerous new towns without charters or any form of municipal government or representation in Parliament created a problem which ultimately led to the passing of the great Reform Act of 1832 and the Municipal Corporations Act of 1835. The disparity between the representation of the North and South was so obvious that even the reactionary Duke of Wellington was at length forced to refrain from opposition to the reform of Parliament. Reform of the system of town government was perhaps more necessary than reform of parliament, for little that is good can be said either about the administration or the sanitary condition of the towns in the early nineteenth century. The evils were not entirely due to the industrial revolution and the factory system. The ancient corporations were fusty and incapable of progressive movement; they rested on the ruins of the gild merchant and did not connect their office with the duty of improving the state of the boroughs. Even worse was the lot of the towns that had no charter but were dependent upon the whim of the lord of the manor, who was interested in ground rents, not housing problems or sanitation.

Whether the new town was founded upon the site of an ancient borough or on a coalfield on the fringe of the moor, it was seldom that any control was exercised over building, and town-planning was almost unheard of. In some remote places in Yorkshire and Lancashire, the employers built villages for their workers. The more usual procedure was for speculators to buy or to lease plots of land which they covered with jerry-built hovels, the walls of which

were probably only half a brick in thickness. They were built back-to-back to economise space, or round the four sides of a tiny court. In this there might be a pump to supply water to twenty houses, though water sometimes had to be obtained at exorbitant prices from a carrier. In the court there would certainly be a refuse heap, covered with flies, accumulating until it was worth a contractor's while to remove it. Proper methods of sanitation were unknown. In towns where there was a supply of water laid on to the houses, making some drainage system possible, cesspools innumerable were dug from which the filth percolated and contaminated the water-supply. So foul was the stench that it is not surprising that the inadequate windows in the houses were usually not made to open, for it was more wholesome to keep them shut. In most towns, there was no paving in the streets, there were no sewers for carrying away rainwater, there was no street cleaning and much of the refuse from the houses was thrown into the streets. It appears from reports made of some of the bigger towns about 1800 that there was a realisation of the dangers arising from the insanitary conditions. In London boasts were made about the "capacious and well-arranged sewers which convey from every part to the Thames, there being a natural descent, the filth and ordure of the town." The death-rate in Manchester fell greatly, reflecting the improved conditions there. After 1815, however, there was a falling away which was not checked until legislation was introduced to enable local councils to control development and sanitation. Though the condition of the new towns was not much worse than that of the old, the Industrial Revolution must be held responsible for much of the squalor and many of the slums. The domestic weavers of Yorkshire and Lancashire often left the country and came to the towns where they worked under conditions even worse than those they had made for themselves in

the country. In Manchester, Liverpool, and other towns in the North, cellars were used not only as workshops but also as dwelling-places; in Manchester the cellar-dwellers numbered thousands. Many of these were Irish immigrants, who it has been said created slums wherever they went.

Another effect of the haphazard development of the towns was the total absence of central open spaces. Land was sold by the owner or built upon by him, and as little as possible was left unused. In the Manchester of 1830 there was no public park and indeed open spaces were so uncommon that a town like Preston that possessed one was regarded as remarkably fortunate. As the towns grew, the enclosure of common around them became increasingly profitable and as the administration of the Enclosure Acts was left in the hands of a committee of the prosperous citizens that had secured their passage, it was difficult to find a method of checking the evil. It was not until 1836 that Parliament prohibited the enclosure of commons within a radius varying with the population of the towns. There was to be no further enclosure within ten miles of London. Unfortunately, much of the good work was undone by the General Enclosure Act of 1845, which encouraged a revival of common-grabbing, and it took another twenty years after that to prevent further encroachments.

There were social attractions that drew men and women to the towns from the country when once the advantages of the fixed hours of toil and the higher wages were realised. In the towns there was none of the dreary solitude of a lonely cottage in the country and there was the possibility of pleasure which was little known to the countryman. It proved too often that the ginshops and beer cellars acted as the clubs of the poor where after their fourteen or fifteen hours' work they could meet their fellows and get drunk cheaply. Attempts to limit gin drinking by means of

licence restrictions and taxation had proved fairly successful, but in 1825 owing to pressure from the landowners and farmers control was almost removed. Shops for the sale of gin and of beer opened in enormous numbers. The importation of whiskey was legalised and the quantity of spirits consumed in 1826 was double that consumed in 1825. The Beer Act of 1830 removed the few remaining restrictions and as a consequence Sydney Smith wrote, "The new beer bill has begun its operations. Everyone's drunk. Those who are not singing are sprawling. The sovereign people are in a beastly state." Over 75,000 excise licences for the sale of liquor were taken out in 1830 and even though the Government realised that the need for interference was pressing, it did not dare to take any step that would decrease the demand for agricultural produce, or to deprive the many poor people who had opened beer shops of their livelihood. The excesses were reflected in a rise in the death-rate and led in 1835 to the formation of the British Association for the Promotion of Temperance, a society whose good work is to be measured not by the defects of the present system of liquor control, but by the evils of the age when teetotalism was unknown.

### THE FACTORY SYSTEM

The development in machinery and the application of power led inevitably to the introduction of the factory system, which has already been mentioned as the prime cause of the rapid growth of the towns. Factories with many workers grouped under one roof had been known in England, the Netherlands and Italy in the Middle Ages, but the machinery then had mostly been operated by hand. The adaptation of water power to machinery drove industry into the country, often into remote parts. Here the factory owners were largely dependent upon the supply of poor law

apprentices whom they treated almost as slaves. Indeed, in 1815, when Castlereagh was bargaining for the abolition of the slave trade at Vienna, under pressure from the reformers at home, the wretched existence of these little children in England can have been little better than that of the American negroes. When steam power became more generally used, the factories came out of the wilderness into the coalfields and the hard lot of the Poor Law apprentices was more prominently before the eye of the public. Evils were more concentrated and more easily observed. Wrongs that had once passed unnoticed were now patent to all.

Child labour was nothing new, for domestic weavers had used their children from the moment they could first crawl; and though no statistics can be produced for domestic industry, the hours of labour were probably as long as those of the pauper apprentices. The results of the harsh treatment to which children were subjected and of the exacting conditions under which the mothers worked, were terrible infant mortality, and twisted limbs and short life for those who survived the rigours of childhood. Poor law children, whose mothers were usually unmarried and unable to support them, were sent away almost as soon as they could walk to whichever factory owners would take them. Male and female were treated alike and were herded together indiscriminately. Sometimes they ate and slept and existed by their machines. The exceptional houses, like the Shrewsbury House of Industry, where an attempt was made to treat the children like human beings, served to emphasise the disgraceful conditions in the ordinary parish poor-houses. As the factories increased in number, the demand for child labour grew, for the adult spinners and weavers could not get on without children to assist them. Parents were just as anxious to obtain the scanty wages of their children as the masters were to obtain cheap labour,

and were almost as much to blame as the employers for the abuses. Where the weavers and spinners engaged and paid the children themselves, the conditions were usually worse than elsewhere. The hours of work were from sunrise to sunset and sometimes there was night-work as well. In water mills, hours lost through the failure of the water supply had to be made up, and children had to stay to clean the machinery when the adults had gone home. As there was no supervision of conditions of employment and little experience of big factories, the new buildings were badly ventilated, and full of harmful dust and dirt, especially the spinning mills, where often also an artificially humid atmosphere was maintained to facilitate spinning operations. There were no sanitary arrangements and the unhealthy conditions of life frequently led to the rapid spread of infectious fevers not only among the poor, but also among their wealthy neighbours. Yet bad as the conditions were, it is doubtful whether they were more unhealthy than those that obtained in the cottages in which the home worker spun or wove, and they certainly were better than those under which the numerous cellar-dwellers worked. The domestic worker was, however, loth to go to a factory where he had to work during fixed hours and could no longer take days off to play football or cricket or race dogs. Even this independence was of doubtful benefit, for it meant that two days of slackness and hard drinking were followed by four days of excessive work for the whole family.

As early as 1784 there was a movement for reform in Manchester, headed by Dr. Percival, who pointed out the dangers to the public of the evil factory conditions. A committee of which he was a member urged the shortening of hours and the introduction of some form of instruction for the children. In 1793 an Act of Parliament was passed authorising justices to fine factory owners for maltreating apprentices,



and in 1795 Dr. Percival and his friends formed the Manchester Board of Health, which made some common sense proposals for the improvement of factories, hours and conditions of labour. Not much was demanded in this early stage, merely that the children should not be utterly worn out or be unable to write or read when they grew too big for the cotton factories and had to find other work. As yet, however, popular sympathy had not been aroused and, until it was, concessions could not be wrung from Parliament.

The earliest Factory Acts of 1802 and 1819 were really a continuation of the State's duty towards the pauper children which had been admitted in the Tudor Poor Laws. After there had been a number of prosecutions for the misuse of apprentice labour, Sir Robert Peel,<sup>1</sup> who was himself a great mill owner, introduced his Health and Morals of Apprentices Act of 1802, which limited the hours of labour to twelve, abolished night-work, and demanded that instruction in arithmetic, reading and writing should be given. Every apprentice was to receive a suit of clothes every year, there were to be separate dormitories for male and female apprentices, not more than two were to share a bed, all apprentices were to attend church once a month, and the justices were to appoint inspectors, one of whom was to be a clergyman. In addition, all factories were to be whitewashed once a year and were to be properly ventilated. Though the Act was ineffective through lack of proper means of enforcement, the principle of the limitation of hours by legislation had been established. The factories to which this Act was applied were nearly all water-driven; in the course of the following years the problem was changed by the introduction of steam power, which led to the concentration of factories in the towns and on the coalfields.

A further Act was passed in 1819, owing to the agitation of Owen, who had mills of his own where he

<sup>1</sup> The father of the great statesman.

employed no children under ten and where the twelve hours of labour included one and three-quarter hours for meals. Owen emphasized the benefits of reduced hours, the need for paid inspectors and the necessity for increasing the scope of the Acts so as to include other than cotton factories. The Act itself fell far short of Owen's proposals, for it forbade only the employment of children under nine; it fixed the hours of work at twelve, exclusive of meal-time, and left the administration in the hands of the justices of the peace. But the principle of limitation was extended from apprentices to all children.

The need for legislative action was clearly shown in the evidence given before the preliminary committee of inquiry when instances were given of children of three and four years of age working in factories. The worst conditions of employment were to be found in the factories established in disused cottages and barns where a few machines and a steam-engine was installed. The best conditions were in the properly constructed factories in the towns, which by reason of their size attracted the most attention and were the most criticised.

The factory legislation was continued by the Act of 1825, which limited the hours of labour of a person of sixteen to twelve, and nine on Saturday. Copies of the Acts of 1819 and 1825 were to be hung up in the factories, but the owners were relieved of all responsibility where the parents declared the child to be of the legal age. An Act of 1831 extended the provisions of the previous Act to persons of eighteen and prohibited night-work for all under twenty-one. All these Acts applied only to cotton factories; they were ineffective and inadequate, but they were a foundation upon which Oastler, Michael Sadler and Lord Shaftesbury could build. After 1825 and the repeal of the Combination Laws, those who were struggling for factory laws had the help, and sometimes the hindrance, of organised labour. The freedom of action which the capitalists

demanded in their operations was in part given to their employees. Though the history of the early unions, which will be described in Chapter VII, was one of failure, men like John Doherty used their powerful influence in favour of improved conditions. In spite of the hostility of Parliament and the Law towards the unions, the workers never fell back into their former powerlessness.

### THE COMMERCIAL REVOLUTION

A commercial revolution followed the changes in the means of production. There arose in the cotton, iron and woollen industries, a new class of capitalists who employed a large number of workpeople in single buildings or in numbers of large factories and whose methods were entirely different from those of the merchants who had given out the material to the domestic workers. Arkwright, Peel, Dale and Robert Owen were all cotton mill owners who attained wealth through their business abilities, owing nothing to birth. Nasmyth, the Walkers and the Wilkinsons and many others could be named among the ranks of the iron-masters. As the scale of industry grew, even those whose resources were greatest felt the strain of providing capital for extensions and renewals of machinery and there was a general striving towards the joint-stock principle. Legally, partnership was the nearest approach to joint-stock ownership, but in fact many unincorporated companies were organised on a basis resembling that of a joint-stock concern by 1830, though legal recognition for ordinary companies, as distinct from banking houses and chartered companies, was not obtained till 1856. The extension of the idea of divided ownership did not, however, lead to a diffusion of wealth. One of the most striking results of the Industrial Revolution was the concentration into a few hands of immense wealth. Even in the years

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1815-1830 the total wealth of the country increased enormously, though distress was widespread. The power of the comparatively few led to the elimination of the smaller manufacturers and eventually to the formation of the trusts and cartels of the later nineteenth and the twentieth century.

The organisation of trade underwent a change as fundamental as that in the organisation of industry. The improvement in communications, which has been described in Chapter IV, revolutionised internal trade. Until the later eighteenth century a great proportion of the trade in corn and produce had been conducted in markets where the producer sold direct to the consumer. Every town had its market day and the difficulties of transport prevented much competition in any one area. Some of the ancient fairs still survived, though they no longer attracted merchants from all over Europe. During the nineteenth century the fairs degenerated to the level of markets at which agricultural produce was sold, though they were still on a large scale. No longer were the clothes of East Anglia and Flanders, the pelts of Russia, the wine of France and the silks of Italy brought to Stourbridge or St. Ives. The days of the roundabout and the cheap-jack were nearer than those of pageant and pie-powder.

The pedlar had been a familiar figure in Elizabethan times with his

“ Fine knacks for ladies, cheap, choice, brave and  
new.  
Good penniworths ! ”

He had

“ Within his pack, pins, points, laces and gloves,  
And divers toys, fitting a country fair.”

He had been superseded by the pack-man or Scotchman, who with horses to carry his wares sold cloth or clothes

and traded in knives, or pots and pans. After 1800 commercial travellers, employed by the new big firms, appeared and called on local shopkeepers with goods or samples. Shops were established in the towns instead of stalls in the market-places since goods could be delivered with certainty. Though most of the trade in foodstuffs was still done locally, dealers were already coming between producers and consumers. Brokers were buying and selling grain, cotton and other commodities by sample and were dealing in futures. Transactions were becoming larger and larger; exchanges for grain, hops, etc., were formed in London and other cities. Another new class of merchants arose who made fortunes in distributing coal and other bulky goods, utilising the new roads and canals. All these additional members of the trading community required credit, and this resulted in an enormous increase in the use of bills of exchange and banking facilities.

By 1830 Great Britain had already become dependent upon its foreign trade. As the production of the great manufacturing industries increased, foreign markets became vitally necessary. An uncertain though almost unlimited world demand had to be gauged instead of a steady, known consumption. In 1830 the estimated value of exports from Great Britain was £38,200,000 of which more than half was in cotton goods. Woollens, linen, hardware, brass and copper goods were the other important exports. The United States was by far our biggest customer, though the colonies bought extensively. By the liberal policy of Huskisson, most of the restrictions on trade were swept away. Acts passed in 1822 and 1825 removed a number of countries from the operation of the Navigation Laws and prepared the way for their final abolition in 1849. The trade with India was now free, though the East India Company retained the monopoly of the trade with China. Most of the other monopolistic companies

had long since disappeared. The balance of trade was always in favour of Great Britain, who after purchasing abroad raw materials for her manufactures, food for her workers and luxuries for her new rich, was able to begin her career as an exporter of capital.

Among the imports the heaviest and the bulkiest individual item was timber, which came from the Baltic and from Canada, trade with the latter being assisted by a tariff preference. Imports of grain were still limited by the action of the Corn Laws, in fact England still grew nearly all the corn she required till about 1825. Huskisson's sliding scale of 1828 encouraged imports during bad years and in 1831 400,000 tons of grain came into the country. The succeeding harvests produced greater yields and by 1833 imports had shrunk to very small proportions. Other important commodities that came from abroad were cotton, wool, flax, hemp, sugar, tea and coffee. There was an extensive declared trade in brandy—in spite of much smuggling—but the imports of wine were small when compared with the quantities brought from Bordeaux in the Middle Ages.

The increase of commerce in the war years and the appearance in the post-war period of cyclical fluctuations, those curious phenomena of the modern economic world, made the establishment of a sound financial system an urgent necessity. Gold payments had been suspended in 1797, in order to prevent a drain of gold from the Bank of England. After the war, there was much discussion on the relative merits of gold and paper currency, but the protagonists of the former won and in 1821 the resumption of gold payments by the Bank, provided for in Peel's Act of 1819, was put into effect. This sudden return to a gold standard had a restricting influence on trade and imposed a burden upon the Bank that it found difficult to bear during the frequent crises between 1821 and 1830.

The disasters of the first ten years after the war

made the necessity of controlling the note issue of the country banks obvious to all. These banks had increased their liabilities, until they were out of all proportion to their capital and their reserves, through the unrestricted and unsystematic issue of notes of low denomination which were accepted instead of cash. London bankers did not issue notes, being content to use the notes issued by the Bank of England, which was their banker. Parliament decided to stop the issue of notes under £5 in 1822 and then granted an extension to 1829, but it did not discuss the question of banking reserves against note issues.

The position of the country banks was rendered the more insecure by the fact that no banks could have more than six partners, lest the monopoly of the Bank of England in joint-stock banking should be infringed. In this, the English banks compared unfavourably with those of Scotland, which had many shareholders and whose note issues were carefully watched. As there were over two hundred bankruptcies between 1815 and 1830 among the English private banks, the need for greater capital and better control was obvious. As a result, in 1826 the establishment of joint-stock banks outside a radius of 65 miles from London was legalised, though there was no idea of limited responsibility by the shareholders. The Bank of England was compensated by being granted the right to open branches in the provinces, whereas the country banks were forbidden to establish offices in London. The new banks were better able to give the long credit and big loans that industry demanded, but the financial situation remained uncertain till the Bank Charter Act of 1844.

As the risk of industry became greater and the amount of capital invested in buildings and machinery increased, there was a great development of insurance. Most of the famous companies had been founded by 1830 and were already in a sound position. Fire

insurance became general and life insurance common. Almost every ship that went to sea was insured at Lloyd's, which acquired a virtual monopoly of the marine insurance of the world. This domination was established during the Napoleonic wars, when neutrals even insured their ships and cargoes at Lloyd's against capture by British privateers. Other institutions received a stimulus from the money economy that was now universal—friendly societies, savings banks, chambers of commerce, exchanges for coal, cloth, corn and cotton. The Stock Exchange too began to re-establish itself after the century of obscurity and ignominy that followed the South Sea Bubble; its operations were, however, on a very small scale compared with those of to-day and stock-jobbing was regarded with much suspicion.

#### THE EXTENT OF THE INDUSTRIAL REVOLUTION IN 1830

Though Great Britain had by 1830 progressed so far along the road of industrial change that she could not have returned to the slow movement of the eighteenth century had she wished, in no industry was the change to mechanical processes and factory organisation complete. Industries as a whole could be divided into three groups, firstly, those in which most of the workers were gathered in factories, using power; secondly, those where the capitalist gave out the material to be worked up at home, and thirdly, those where the workers provided themselves with raw materials and marketed their own products.

In the first group was cotton spinning, which by 1830 was almost entirely a factory operation. Some of the mills employed from 300 to 400 workers, while some of the larger firms had 3,000-4,000 in their employ. The preliminary processes in cotton manufacture, cleaning and carding, were also carried out in



factories and weaving was becoming increasingly a power and factory operation. The first steam power loom was erected in Manchester in 1806. The spread of the power loom was at first slow, but it was extremely rapid in the 'twenties and 'thirties. In 1830 there were about 60,000 power looms and 240,000 hand looms in use. Bleaching, dyeing and printing, the final processes in the production of cotton goods, had been factory operations for a number of years. The preliminary processes in the woollen industry were mostly carried out in factories in 1830 and there was little domestic woollen or worsted spinning. Much the greater part of the weaving on the other hand was still done in the cottages of the Yorkshire dales on the outwork system, and where mills did exist they were smaller than in the cotton industry, employing on the average 40 to 60 hands. Machinery was not used at all in the weaving of heavy woollen cloths. As in the cotton industry, the final processes in woollen manufacture were carried out in factories, indeed fulling was the first textile operation to which power was applied. Power-driven machinery had been introduced for silk manufacture even before cotton spinning, but the silk factories remained small. Linen manufacture was in much the same position as the woollen industry in 1830, though the change to the factory system was proceeding with even greater rapidity.

The cotton industry was the subject of the first Factory Acts, because it was the only industry extensively organised on a factory basis, and it was the only industry in which steam power was generally used. The conservatism of the masters, the hostility of the men and the impossibility of obtaining delivery of the engines had combined to make the spread of steam power slow. The earlier Watt engines were made entirely by hand, and all had an individuality which made the attendance of a skilled worker necessary for

at least six months. The cylinders were frequently faulty and other parts were so badly made that no great extension of power machinery was possible until an improvement was made in machine tools. The Industrial Revolution thus called into being the class of engineers—not smiths or iron workers, but skilled men who devised machines and tools for making machines and tools—men like Joseph Bramah, the inventor of the hydraulic press and Henry Maudslay his pupil, and James Nasmyth, the inventor of the steam hammer, the pupil of Maudslay. Power-driven lathes and screw-cutting machines which worked far more accurately than the hand-workers were invented—Maudslay's lathe was correct to a  $1/10000$ th of an inch. Standardisation of parts and exact duplication of engines followed, so that between 1820 and 1840 there was a revolution in engine-making. Most of the engineering shops were small, since the demand for engines was not great enough to warrant a large supply, and engineers were few in number as they had to be trained from among the locksmiths, blacksmiths, watch-makers and cabinet-makers. Only the biggest shops employed more than a hundred hands.

There was an immense expansion of the iron industry in the early nineteenth century; by 1830 there were about 400 furnaces in blast. The production of iron was between 650,000 and 700,000 tons, of which two-fifths was produced in South Wales, and one-third in Staffordshire. From the Merthyr Tydvil area alone came 70,000 to 80,000 tons. A number of works like the Carron Company of Scotland and those of the Crawshays of South Wales employed over two thousand workers. The processes remained substantially those already described in Chapter III, except that coke was used instead of coal in puddling, and in 1829 the use of a hot blast in the furnaces was introduced.

The mining industry is by nature essentially capitalistic. The great mines of the eighteenth century had

been the Cornish tin-mines and the Parys Mountain copper mines in Anglesey. The latter had employed well over a thousand miners in 1800 and had three smelting works. The drain of the early nineteenth century exhausted the mines and left a "no man's land" with numerous shafts and heaps. The green colour of the water in the ditches still bears witness to the presence of copper. Coal and iron mines usurped the importance of the tin and copper mines though most of the coalpits were small. Deep shafts were seldom sunk, most of the pits being merely workings at the outcrops. Few mines employed as many as three hundred workers all told, men, women and children.

The textile industries, the iron works and the mines were the most universally capitalised, but other industries were becoming organised on a capitalist basis. The potteries of Staffordshire were in the hands of capitalists, though most of the undertakings were small. It is surprising that so world-famous a manufactory as the Etruria works of the Wedgwoods employed only 387 workers in 1816. Tennant established a vast chemical works at Glasgow, and Muspratt followed suit at St. Helens. Stafford, Northampton, Kettering and Wellingborough were centres of shoe and boot making, partly on a factory, partly on an outwork basis. Brewing in London and some of the larger provincial towns passed into the hands of a number of big firms who owned "tied" houses. Outside London and the big towns, many of the innkeepers still brewed their own ale. Among the biggest of the new undertakings on a capitalist basis were the gas works, essentially the product of the Industrial Revolution. By 1830 most of the larger towns were supplied with gas by private companies. In London, the Gas Light and Coke Company and the South London Gas Company laid hundreds of miles of pipes. The demand for gas piping reacted upon

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the iron industry just as did the demand for railway metals fifteen years later. Other industries that were affected by the changed conditions were shipbuilding and building. The shipyards expanded owing to the demand for new ships to deal with the increased overseas trade and to replace vessels lost during the war. The building trade became important with the development of new towns and though there were a few big firms of contractors, most of the work was done by small masters who employed a few bricklayers and labourers. Their jerry-built constructions found tenants readily enough.

Some important trades were still organised on the outwork system in 1830. One of the most important of these was the clothing trade, in which capitalist clothiers gave out their material to be made up by home workers who lived in garrets and cellars and worked under the worst possible conditions. Many of the hardware manufacturers also gave out material; the condition of many of the girls engaged in nail-making was so bad that it called forth comment not only from Cobbett but from foreign observers. Rope-making, sail-making, carpet-making and numerous other occupations were still carried out at home for entrepreneurs who supplied the material and collected the product.

There were and always will remain innumerable independent domestic workers—tailors, shoemakers, cobblers, smiths—supplying individual customers. In the early nineteenth century there were still many weavers who spun and wove their customers' own wool. Though in almost every trade the small master was fighting his losing battle, there was still in 1830 a good deal of fight in him.

## CHAPTER VI

### THE END OF MERCANTILISM AND THE ESTABLISHMENT OF FREE TRADE

#### THE WAR PERIOD

FROM 1793 to 1802 the Revolutionary Wars brought no great change in principle in English economic and commercial policy. France endeavoured to stop trade with England, encouraged her privateers to ravage British shipping in the Channel and fostered native manufactures while England's superiority at sea drove French vessels into harbour. America was the only country which profited, and by means of the "broken voyage" ruse she increased her carrying trade till by 1802 her mercantile marine rivalled that of England. American vessels would collect produce from the French West Indies, break their voyage at an American port, there entering their cargo for import and after obtaining a clearance, set sail for Europe. This continued till the Peace of Amiens put an end to war conditions.

Economically as well as politically the Peace of Amiens was only a truce. No commercial treaty was arranged to take the place of the Eden Treaty and the English were dissatisfied that the French colonies were meekly restored. War broke out again in May, 1803, amidst redoubled enthusiasm, and Napoleon's arrest of 11,000 British subjects in France made it apparent that the war was to be of a different character. Napoleon was determined to conquer the

world by crushing Great Britain. His schemes of a naval victory and an invasion of Britain were shattered at Trafalgar. He then resolved to conquer Europe and close that vast market to English manufactures and colonial produce and so destroy English commerce.

It is difficult to decide who fired the first shot in the economic battle between Orders in Council and Imperial Decrees. Orders in Council had been made to regulate trade before 1803, but not till the resumption of hostilities was the battle begun in earnest. On May 17th, 1803, the day before the formal declaration of war, an Order in Council laid an embargo on French and Dutch ships in British ports as a reprisal for the prohibition of English manufactures into France and Holland. This was followed by the English blockade of Hamburg when the French occupied Hanover. In spite of these measures, foreign trade was not really injured in the years 1803-5, and Britain did not lose the prosperity of the short period of peace. In 1806, however, Napoleon began to work out his scheme fully.

Spain, Italy, and Holland were already under his control and in March, Prussia closed her ports to English ships in return for the handing over to her of Hanover which the French had taken. Great Britain at once seized all ships under the Prussian flag and declared a blockade of the European coast from the Elbe to Brest. On November 21st, 1806, Napoleon issued his Berlin Decrees. He declared the British Isles in a state of blockade, prohibited all commerce between Great Britain and France or the states under French control and ordered the imprisonment of all British subjects found in countries under French control, and the confiscation of their property.

The British Government decided to retaliate rather than ignore these presumptuous threats. On January 7th, 1807, an Order in Council prohibited neutral vessels from engaging in coasting trade between ports under

French control. A further Order enforced the Elbe-Brest blockade and on November 11th, 1807, following the adhesion of Russia to the Continental System, France and all the countries she controlled were declared to be in a state of continuous blockade, all vessels trading with them being liable to capture unless they first touched at a British port and obtained a clearance.

In subsequent years the system was further extended by the Milan Decrees, which declared that the British dominions throughout the world were under blockade and that all ships trading at British ports or submitting to British search were denationalised. The Fontainebleau Decrees of 1810 ordered the destruction of British manufactures and colonial goods found on the Continent. Though this measure failed to stop convoys across Germany, trade was, of course, gravely injured, and hostility towards Napoleon was aroused among the Southern Germans who now had to pay so dearly for their tea, coffee and sugar.

As a result of the Orders in Council, the Continent was theoretically cut off from British manufactures and colonial produce. Great Britain was deprived of corn supplies and naval stores from the Baltic and other European sources, and the United States had to submit to ignominious conditions if they were to continue their vast carrying trade. In practice there were many modifications and exceptions which made the working of the system less rigorous than it appeared in theory. While smuggling on an unprecedented scale maintained a flow of British goods to the Continent, legitimate trade was made possible through the issue by each side of licences. As many as 18,000 English licences, which exempted neutral ships from search and hence from confiscation by the French, were in operation simultaneously. Napoleon, for his part, allowed the import of certain goods, especially colonial produce, on payment of a 40 per cent. duty.

He also issued export licences, the most interesting of which were those granted in 1810 for the export of corn to Great Britain. The British Government on its side allowed the export of cloth and boots which it knew were destined for the French armies.

While the Continental System was injuring the position of Napoleon in Europe and making his name universally hated, it was also having serious effects in England. Distress was acute in Lancashire, Yorkshire and Birmingham, the number of bankruptcies was four times the normal, and hundreds of ships were lost to privateers. The Orders in Council were denounced on all sides because they restricted our trade and shipbuilding while neutrals were granted licences. Certain it is that they involved the country in hostilities with Denmark in 1807, in disputes with Sweden and Russia, and finally in 1812 in war with our best customers, the United States, the one country whose fleet was beyond Napoleon's reach.

The trouble with America was due to a number of causes. In the first place, the Orders in Council interfered with its lucrative carrying trade, in the second place, the Baltic States were more favoured in the issuing of licences, and thirdly British cruisers frequently searched American ships, even ships of war, for British seamen. The United States Government, determined to end these iniquities, suspended commerce with Great Britain and with France by the Non-Intercourse Act of 1809. After being withdrawn in 1810, the Act was put into force against Great Britain alone in March, 1811, as Napoleon, having nothing to lose, relaxed his decrees. At length, failing agreement, the United States entered upon a war with Great Britain, who in vain withdrew the Orders in Council too late. From 1812-14, American privateers operating from French ports inflicted considerable damage upon English shipping.

Fortunately for Great Britain at the moment when



the American market was closed completely, the grip of Napoleon on the Continent was weakening. Sweden and Russia withdrew from the Continental System and Spain and Portugal readily took British manufactures. These countries provided markets once more which compensated for the wilful loss of United States custom, for the disappointing South American market and for the non-expansion of Eastern trade.

#### THE APPROACH TO FREE TRADE

When the coming of peace turned the minds of all statesmen to the best ways for consolidating the position and increasing the wealth of Great Britain, over a thousand laws stood between the country and free trade. The whole commercial organisation, in spite of Pitt's reforms, still bore witness to the days when trade was entirely secondary to national safety. Customs duties, export restrictions, navigation laws and colonial regulations prevented merchants from acting freely. During the next thirty-five years, the attack on the Corn Laws, the disappearance of protective customs duties, the crumbling of the navigation and colonial system and the freeing of industry from antiquated restraints showed clearly that the counsels of the eighteenth century had been superseded. So it came about that during the middle years of the nineteenth century Great Britain dominated the commerce of the world, in spite of the tariff barriers raised by other countries. In this section the gradual triumph of free trade principles which made possible the vast gain in wealth will be discussed, the question of customs and excise duties being examined first.

Customs and excise duties have served many purposes in fiscal and political history. They have been used to produce revenue; they have protected the consumer against scarcity and excessive price, and the producer against foreign competition; they have afforded the

Government a weapon in Foreign Policy; they have checked the consumption of luxuries or harmful liquors; finally, they have gone hand in hand with the Navigation Laws in the fostering of colonial trade and national power.

During the early nineteenth century, especially when the income tax had been allowed to lapse, Customs duties were still the chief source of revenue; indeed, customs and excise to-day provide a considerable percentage of the national income. By 1815 the use of customs duties as an instrument in foreign policy or for the protection of the consumer, perhaps the most frequent uses in Elizabethan times, had ceased to be of importance. The maintenance of duties to protect home manufactures was becoming of decreasing moment. In the case of the one industry which fifty years earlier had been able to look after itself, namely agriculture, Protection was a vital issue at the close of the Napoleonic wars, and from 1815-1846 the Corn Laws were as burning a topic as Tonnage and Poundage during the Personal Monarchy.

#### THE CORN LAWS AND THEIR REPEAL

The early Corn Laws were designed to make England "a famous kingdom for corn" and to ensure the interests of the consumer and the strength of the Kingdom in general rather than to protect the farmers and corn-growers. Thus in the reign of Elizabeth, frequent laws were made regulating internal trade, setting penalties for those who attempted to corner the market and fixing a price above which export was forbidden. In 1663, though the laws against regrating and forestalling were repealed, the price at which export was prohibited was fixed at 48s. and this lasted till 1670, when the pressure of landowners and corn-growers secured the removal of any limit. However, throughout the seventeenth and eighteenth centuries permission to export corn might at any moment be withdrawn.

Production of an adequate homegrown corn supply was encouraged by bounties. In 1670 a 5s. bounty on export was granted when the price of wheat was under 48s.; this bounty, though withdrawn on occasion, remained in existence theoretically all through the eighteenth century. It undoubtedly led to an increase in exports, as well as to a good deal of price manipulation locally. Imports were also allowed and varied in quantity with the price of corn. In 1670 there were high (16s.), middle (8s.), and low (4d.) duties, the first operating when the price was 53s. 4d. or below, the last when the price exceeded 80s. In 1683 following years of bad harvests, scarcity and rioting, an Act was passed allowing the entry of corn at 48s. on payment of a nominal duty of 6d.

During the second half of the eighteenth century Great Britain became a corn importing country. The population increased rapidly, and the Government encouraged manufactures with the result that whereas the amount of corn imported from 1700-33 was negligible, in the period 1767-1800 it reached 30 million quarters. It was impossible to keep prices level owing to the rigging of the market, the greater demand and the increased circulation of money. A further revision of the scale in 1791, restoring the three fixed levels for duties and granting slightly preferential terms to Canada and Ireland, failed owing to the coming of the war and the consequent rapid rise in prices. During the next twenty-five years the whole problem changed. The Government encouraged the extension of the area under cultivation and of enclosures and the formation of large estates. Prices varied enormously with the out-turn of the harvests, while rents rose and landlords flourished. The price of 100s. was frequently reached and became almost general after 1800. Occasionally the shortage of supplies became acute, so that free importation was allowed and the use of grain in distilling and the making of starch was for-

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bidden. In 1804 a new scale was introduced with 63s. as the low level at which the high duty was charged and with an increased preference for North American colonial corn. High prices, however, rendered the Act inoperative until the plentiful harvest of 1813.

When peace seemed imminent in 1813, landlords and farmers began to agitate for free export and protective duties. In 1814 the restrictions on exports were removed, but at the same time the bounties were done away with. A Parliamentary Committee reported in favour of protection for agriculture and in 1815 the hated Corn Law was passed in spite of widespread disapproval in the towns. When the price of wheat was below 80s. the import of corn was prohibited. Above this price corn was allowed in duty free. By passing this law, which was concerned with imports alone, the House of Commons, unreformed and unrepentant, defied the opposition of manufacturers, of artisans, of those who lived upon fixed incomes and of merchants who saw their bargaining powers in foreign trade restricted. The act defeated its own ends, for while it made the landowners unpopular, it did not prevent violent price fluctuations, as foreign supplies did not come in to correct the variations of home harvests.

Between 1815 and 1846, two laws amended the Act of 1815. The first in 1822 would have allowed importation at 70s. at a duty of 12s., but a proviso that a price of 80s. must first be reached rendered it inoperative. At length in 1828, after continual agitation, a sliding scale was introduced chiefly through the activity of Huskisson, who had unsuccessfully advocated a scale less favourable to home producers in 1827. The duty, which was 34s. 8d. when the price of wheat was 52s., was scaled down as the price increased until at 73s. a nominal duty of 1s. was imposed. During the ten years that elapsed between the passing of this Act and the formation of the Anti-Corn Law League

in 1838, there were many distractions which seemed to turn the minds of the people from the Corn Laws. Catholic Emancipation, the Revolution of 1830 in France, the Reform Bill and the Poor Law Amendment occupied public attention, while a period of bad harvests, high prices and large imports was succeeded by years of good harvests, low prices and agricultural distress. After the removal of some of the burdens of poor relief and the passing of the Tithe Commutation Act came another period of deficient crops and threats of serious shortage which led to the recurrence of attacks upon the landlords and to the formation of the League.

The stage had now been reached when Great Britain must finally decide whether she should risk all on the full development of the industries in which she possessed great, if temporary, advantages over other nations, or whether she should persist in the maintenance of barriers against the one commodity in which many of her potential customers could pay. By 1840 Great Britain had become dependent upon her manufactures and thousands were faced with starvation if there were any artificial interference with the cost of living and therefore with the costs of production. Interest in the Anti-Corn Law League therefore varied with the harvests. Bad harvests from 1839 to 1841 favoured its rapid progress among manufacturers and artisans; abundant harvests from 1842 to 1844 gave it a footing among agricultural labourers. Further failures in 1845 and 1846 brought both famine and repeal.

Sir Robert Peel modified the sliding scale in 1842, fixing a maximum duty of 20s. when the price was 50s. or under. He also gave a distinct measure of colonial preference which he extended in 1843 when the duty on Canadian wheat was fixed at 1s. This measure gave satisfaction to neither Tory landowners nor the League, but its effects were deferred by the favourable harvests of 1843 and 1844.

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In 1846 when the final battle was joined, Peel was convinced of the need for repeal. The disastrous harvests and potato famine of 1846 opened the way for a renewed onslaught by the League which owed allegiance to neither political party, and Lord John Russell, previously a supporter of a fixed duty, added his weight to the cause of repeal. Peel, forced to immediate action by the depression of the winter of 1845, proposed in an Order in Council the release of corn in bond at a 1s. duty, promising a bill modifying the Corn Laws in the following session. He had two alternatives; he could either extend colonial preference or free the trade altogether. He chose the latter course, as the former was likely to provoke retaliation from Russia and the United States. By the Act of 1846 all existing duties on corn were to terminate on February 1st, 1849, and thereafter wheat, oats and barley were to pay 1s. a quarter. Reduced duties were put into force immediately on the passage of the Bill on June 25th. It was in vain that Wellington stood by Peel and in vain that Peel tried to hide his measure amidst numerous other customs reductions. On June 29th, he was out of office, defeated on an Irish Bill by his own party. He had, however, sounded the death knell of the old Protection.

### THE GENERAL REDUCTION OF CUSTOMS

Walpole and Pitt were the first two great financiers who tackled the question of tariff revision; of these the former was frustrated by the ignorance and prejudice of the people, while the latter found his efforts cut short by war. Thus with the coming of peace in 1815 little advance had been made towards putting into practice the precepts of Adam Smith. There was, indeed, at that time no real notion of free trade. Even the manufacturers who were so loud in their condemnation of the Corn Law of 1815, showed no

disposition to forgo the cumbrous and useless protection which was afforded their products against competition which, except in the case of silk, did not exist.

No move was made till 1820 when the growing feeling that the customs duties and other restrictions were the prime causes of the continued depression, led to the presentation to the House of Commons of the famous Merchants' Petition,<sup>1</sup> in which Adam Smith's principles of foreign trade were reiterated. The petition which has been called "the originating impulse of the Free Trade movement", emphasized the importance of commerce to the country as it enabled merchants to buy in the cheapest and sell in the dearest markets, and to exchange the goods which could best be produced at home for those most advantageously supplied by other countries. It decried the protective system which, it declared, resulted in a heavy tax on the people and led to retaliatory measures by other countries. The principles of the petition were recognised as sound by the Committee appointed to inquire into foreign trade, but fiscal difficulties prevented the Government from taking immediate steps towards the simplification of the customs duties. The income tax, so hastily abandoned in 1815, was the key to Free Trade and until Peel found it again, the door to unfettered commercial intercourse was closed.

William Huskisson was the first minister who not only thoroughly understood the commercial laws, but also was resolved upon their improvement; as President of the Board of Trade he was able with the help of Robinson, the Chancellor of the Exchequer, to carry out a thorough reorganisation of the customs duties and the Navigation Laws (see pp. 130-3). Thus in 1824-25, the multiple and conflicting Acts and Orders which had accumulated in the course of centuries, were repealed and a Customs Consolidation Act

<sup>1</sup> See W. Smart, *Economic Annals*, 1801-1820, Ch. XXXIV, where the petition is printed in full.

substituted for them. Many prohibitions on trade were removed and a maximum tax of 30 per cent. ad valorem took the place of the excessive duties of previous years. In this way it was hoped to provide reasonable protection and to do away with smuggling. Foreign silk, the import of which had been forbidden, was allowed in on payment of 30 per cent., linen was to pay 25 per cent. (instead of up to 180 per cent.), woollens were rated at 15 per cent., and cottons at 10 per cent. Further, an "omnibus" clause allowed the import of other manufactures not specially dealt with, at 20 per cent. The duties on raw materials were also scaled down. Instead of 6d., imported wool paid only 1d. a pound; thrown silk was taxed only 3d. a lb.; and raw cotton 6 per cent. ad valorem. The duties on imported metals and minerals were reduced by 50 per cent. or more. It was confidently hoped that the reduced duties would lead to increased consumption, and during the prosperous years 1824 and 1825, it seemed that this would result. When, however, a commercial crisis came in December, 1825, the disasters were in part attributed to Huskisson's reforms. Thus, though during the 'thirties there were much needed changes in the excise duties on "articles of useful manufacture", there was no further revision of customs rates till 1842.

It should be noted that customs and excise duties remained the predominant source of national income after 1825. In the 1826 budget, they were expected to produce £37 millions out of a total revenue of £57 millions. During this and the subsequent years, the falling off in customs duties was to a small degree offset by the abolition of certain bounties, on whale-fishing and exported silks in 1824, on herring curing and fishing in 1830 and on linen in 1832.

After Baring's unsuccessful experiment in 1840 of a general increase in duties, it became clear to Peel that nothing but the reintroduction of the income tax



and the general simplification of the customs system would solve the financial difficulties of the time. Such a policy had long been urged by Sir Henry Parnell, the great advocate of Free Trade, and Peel had at his disposal the report of the Committee on Import Duties and the amazing powers of concentration of W. E. Gladstone, the Vice-President of the Board of Trade. In accordance with the principles decided upon, absolute prohibitions on trade were removed, duties on raw materials were reduced to a maximum of 5 per cent., duties on partially manufactured goods to 12 per cent., and on wholly manufactured goods to 20 per cent. No fewer than 730 out of 1,200 dutiable articles were affected by the changes, which it was estimated would reduce the revenue by £33¼ millions. There were further changes in 1845 and 1846, when the duties on 430 articles—chiefly raw materials—were completely removed. The excise duty on glass was dropped and the sugar duties, a fruitful source of revenue, were considerably lowered. During these years the prohibition on the export of meat and cattle was removed, and the bans on the export of spinning and weaving machinery and of coal were raised.

The Whigs who succeeded Peel did nothing to carry on his work until Gladstone, the converted Conservative, produced his budget in 1853. Just as Peel's budgets of 1842 and 1845 were complementary to each other, so the work that Gladstone began in 1853 was completed in the budget of 1860 which made Great Britain definitely a Free Trade country. In 1853, the duties on 123 articles were abolished and on 133 commodities were reduced, the general principle being that semi-manufactured articles should come in free and manufactured goods at not more than 10 per cent. Gladstone also believed in taxation for revenue only and favoured the concentration on a few commodities from which raw materials and necessary items among foodstuffs were carefully excluded. He also preferred

specific to ad valorem duties. All these rules he applied fully in his 1860 budget, which was preceded and foreshadowed by Cobden's treaty with France. Before this year there were still 419 dutiable articles, after it only 48, of which 15 contributed the bulk of the revenue. Spirits, wines, beer, tea, coffee, tobacco, dried fruits, figs, timber, hops, pepper and rice were the chief revenue producers. The 1s. registration duty on corn was retained till 1869 and the timber duty till 1866. The sugar duty which had suffered successive reductions disappeared in 1874. Dairy produce, which had been taxed in the interests of the agricultural section of the population, was freed in 1860. As Gladstone hoped, the reduction led to an expansion, not a contraction, of revenue owing to increased consumption and his programme remained the basis of the budgets of almost every Chancellor from 1853 to 1893. From 1860, for thirty years, the Free Trade movement was, it has been said, a "cause without a history".

#### THE END OF THE NAVIGATION LAWS

While the customs duties were receiving attention the Navigation Laws were under sentence of death. Following the advice of the Committee of Inquiry into Foreign Trade, Wallace and Huskisson set about the work of revision in 1822. Many of the clauses had been directed against Holland in the days when England was an infant commercial power fighting for a share in the world's carrying trade; by the 19th century a considerable part of the code had lapsed into disuse with the result that the illogicalities of the position overshadowed any usefulness which the system might still possess. The main principle of the Acts of Charles II's reign still held good.<sup>1</sup> The fishing and coastal trade and the trade between Great Britain

<sup>1</sup> See Chapter I, pp. 14-15.

and her colonies continued to be an exclusive preserve for British shipowners. The European trade in twenty-eight enumerated bulky articles was confined to British vessels or those of the country of origin; other commodities, however, could be brought in in any ships except Dutch. Further, the produce of Asia, Africa and North America could still be brought in only by British carriers, subject to an exception made in favour of the United States with which a reciprocity treaty equalising customs and port charges was concluded in 1815. There was as yet no special provision relating to the trade with the vast new countries which were arising in South America.

In 1822 Wallace swept away over 300 antiquated statutes and between 1822 and 1825, he and Huskisson wrought considerable further changes. Holland was placed on an equality with other powers; foreign ships were allowed to bring in any goods from the port where they were registered, though there was to be no importation in foreign ships from any port in America or the West Indies from which British ships were excluded. In 1822 direct trade between the West Indies and the United States was legalised and in 1825 trade with the West Indies was opened to all countries. Trade between Great Britain and the colonies was still reserved wholly for British ships, for Huskisson considered this law necessary for the strength and safety of the State. He supported his changes with a number of reciprocity treaties similar to that made with the United States in 1815. By these the discriminating port charges and differential customs duties levied on foreign ships and on cargoes carried in foreign vessels were dropped by the contracting powers. So complete was the network of treaties negotiated in the following twenty years that the Navigation Acts soon were of little importance in European commerce.

In the years following 1825, the movement for the

removal of the remaining restrictions of the navigation system became general. West Indian planters grew progressively more impatient as the duties on foreign sugar were reduced by the mother country. They realised that the restricting of trade with Great Britain to British or colonial bottoms meant high freights and sometimes a shortage of legal shipping while foreign ships were returning home under ballast. Canadian wheat-growers and timber-exporters had similar grievances which came to a head after the repeal of the Corn Laws and the reduction of the timber duties. Indian merchants were confronted with the difficulty of manning their ships for voyages to England, since lascars were counted as British subjects only in the Indian Ocean, and the law that British ships must have crews three-quarters British still held good. English shipbuilders too were not happy, as they felt they were not free owing to the timber duties to counteract Scandinavian and other foreign competition. Ship-owners who had everything else to gain resented the troublesome apprenticeship regulation, and the seamen feared the press-gang. Manufacturers for their part pointed to the fact that the difficulty of finding legal ships to bring raw materials (e.g., flax from the Baltic) often favoured foreign producers, while the embargo on foreign raw sugar resulted in the importation of refined Java sugar from Rotterdam.

In 1845, the Acts were again codified, and, following a further outcry against them when Prussia, whose policy was more liberal than Great Britain's, threatened reprisals, the whole code was redrafted in 1849. As a result of this Act, the coastwise trade alone was retained solely for British vessels. The "manning" clause was still kept, but lascars were now counted as British for this purpose and a ship need not have been built in Great Britain to secure British registration. In 1854 when the coasting trade was likewise thrown open, the Navigation Laws were defunct. In the years

immediately following their final repeal, British shipping and that of other countries increased rapidly. The new conditions seemed to be especially beneficial to the United States, which for a time bade fair seriously to rival Great Britain; but the American Civil War and the consequent economic problems checked their expansion and caused Great Britain to hold an unchallenged position in merchant shipping trade for a whole generation.

#### THE BANK CHARTER ACT

Of the numerous changes and reforms which helped to establish the commercial supremacy of Great Britain in the generation following Cobden's Treaty with France, none was more important than the stabilisation of the banking system by the Bank Charter Act of 1844. Some further points require to be added to the brief account given in Chapter V<sup>1</sup> of the situation with regard to currency and banking in the twelve years following the war. The post-war reform of the coinage began in 1816 with the establishment of a monometallic currency which depressed silver to the position of mere token money and laid down the principle of the free coinage of gold at the mint price of £3 17s. 10½d. an ounce. As the State, since the days of Elizabeth, had endeavoured to preserve the sound coinage essential to good trade, it was only proper that Banks should not be permitted to endanger financial solidarity by the reckless issue of paper money. Hence the Acts of 1822 and 1826 finally did away in England with notes of a denomination under £5 and the Bank Charter Act of 1833, which extended the right of joint-stock banking in London to other Banks, expressly retained the monopoly of note issue in that area for the Bank of England. The ideal that was aimed at was the issue of notes convertible into gold on demand by one Bank alone, the Bank

<sup>1</sup> pp. 110-11.

whose fortunes were linked with those of the country. This was achieved as a result of Peel's Bank Charter Act of 1844 which divided the functions of the Bank of England into two distinct sections—the note issuing and the banking departments. The Bank was allowed to issue £14 millions in notes against securities, chiefly loans to the Government. The rest of its issues had to be backed by gold or silver bullion. Other Banks were allowed to issue a limited number of notes, but the right of issue lapsed if a Bank amalgamated with another or if its notes were for any reason discontinued. The Bank of England was allowed to increase the amount of its fiduciary issue, i.e., the notes outstanding against securities, by two-thirds of the amount of a lapsed issue, and this at length brought the total sum up to £19½ millions when the last note-issuing house was absorbed by Lloyds Bank in 1914. The Bank of England had the further advantage that its notes alone were legal tender; for this and its other privileges it paid an increased sum to the Treasury after 1844. Though the Bank Charter Act was suspended in 1847, in 1857 and again in 1866 when Overend and Gurney failed, the banking system of England set the world an example of sound and conservative management. The position of London at the head of the country's finances was assured and gradually the provincial joint-stock Banks found it convenient to establish their head offices in London, in touch with the clearing-houses. Though during the last century the use of cheques has rendered the question of note issue of less importance, the amount of credit which the banks will give depends ultimately upon the extent of their claims upon the gold stored in the vaults of the Bank of England, as represented by the balances of their accounts at that Bank.

The position of the Joint-Stock Banks which became of more and more importance as the nineteenth century progressed, was strengthened by the extension to them

in 1858 and 1862 of the principle of limited liability, from the benefits of which they had been excluded under the Act of 1855. Successive amalgamations have at length brought about the domination of national finance by the Big Five of to-day. These have brought greater stability, but also less elasticity and less ability to understand and cater for local needs. They have swallowed up almost all the private Banks except the Merchant Banking Houses which are peculiar to the London Bill Market.

#### THE TARIFF POSITION SINCE 1860

In the Treaty with France which was signed in January, 1860, Cobden hoped that he was laying the foundation stone of World Free Trade. It is true that in the treaty itself Great Britain alone gave free trade by doing away with the duties on manufactured products, by abolishing imperial preference and by reducing the duties which she still retained for revenue purposes. France, on her side, made concessions to Great Britain by lowering the duty on coal and coke and by removing prohibitions on the import of many British products. As it was understood that there was no objection to the extension of "most favoured nation" treatment to other countries, Gladstone looked upon the treaty merely as the forerunner of his budget of 1860, which opened the trade of Great Britain to all countries on equal terms. France followed up the Treaty of 1860 with a number of other liberal agreements which held good until the nationalist reaction after the Franco-German War. The events of 1870-71 shattered all the hopes of the followers of Cobden and ushered in the period of Imperialism which led up to the Great War. France, Germany, the United States and almost every country of importance raised tariff walls to protect their existing industries or to foster new ones. Great Britain alone of

the greater industrial countries still retained a liberal system in 1881.

Even in Great Britain there was a movement in favour of a modification of Free Trade, owing to the inequality in the treatment which Great Britain gave and that which she received at the hands of others. Between 1881-1885, a small party was demanding Fair Trade and was advocating a Free Trade Empire and the imposition of small duties on foreign goods as a means of regaining bargaining power. This movement made little headway and never caused the stir that Joseph Chamberlain's campaign for Imperial Preference created. Chamberlain became Colonial Secretary in 1895 and soon adopted an imperialist policy which contrasted greatly with the reluctant maintenance of the Empire which had characterised the Gladstone governments. He tried to educate public opinion in favour of colonial preference, but though he won over some of the Conservative party, he was unable to counteract the effects of the cry "Hands off the People's Food." The Conservatives were routed in the election of 1906, and though they dropped the food tax issue they remained in the wilderness until the formation of the Lloyd George-Bonar Law Coalition.

The first real breach in the Free Trade stronghold was made in 1915, when Mr. McKenna imposed his famous duties on motor-cars, motor-cycles, cinema films, clocks and watches, musical instruments and gramophones, nominally to save ship-space. These duties were retained after the War with a measure of colonial preference as Empire products were allowed a reduction of one-third of the tax. In 1920, another Act was passed imposing heavy duties to protect the infant dye industry and in 1921 the Safeguarding of Industries Act extended protection to the so-called 'key' industries by putting duties on some 6,000 articles (ranging from optical glass to dolls' eyes).



A second part of the same Act was designed to prevent the dumping of foreign goods below the cost of production or at very low prices, made possible by the depreciation of foreign currencies. The Conservatives were turned out in 1923 when they sought the suffrage of the people on a whole-hearted protectionist policy, and for a short time they gave way to a Labour Government which during its few months of power repealed the McKenna Duties. In 1924 the Conservatives, having dropped the idea of wholesale protection, took office once more. In 1925 the McKenna Duties were restored and a further Safeguarding Act extended the range of the tariff to silk, artificial silk, cutlery, lace and embroidery. Protection under the Act might also be granted to other industries which on application could show they were efficient and of substantial importance. In this way it became possible to extend safeguarding in whatever direction it was felt there was unfair competition.

The Conservative Party, moving continually closer to Protection, remained in power till 1929, when a Free Trade majority was returned. The Chancellor of the Exchequer in the Labour Government, holding that tariff duties throw an inequitable burden of taxation upon the wage-earning classes, favoured the removal of all protectionist blots upon the Statute Book. He by no means completely achieved his aims: for revenue had to be raised to meet the drain of expenditure; some of the duties had been imposed for a term of years; and the repeal of others was strenuously resisted. Great Britain now stands indeed at the cross-roads. Will she trust her fortunes to the world-wide trade policy and freedom of imports that have served her so well in the past—or will she seek refuge from the stresses of a world in which she is no longer commercially supreme by imposing protective duties and producing more specifically for her own needs?

## CHAPTER VII

### THE GROWTH OF TRADE UNIONISM

BEFORE the end of the seventeenth century there was no organisation to which the term Trade Union in its modern sense could be applied, though there were bodies which at times carried on similar activities. Trade Unionists, though for the most part sound Socialists, do not despise ancient descent and have often sought and claimed origins where none existed ; Trade Unions in their present form are essentially products of the Industrial Revolution.

The mediæval guilds must not be regarded as Trade Unions. They were associations of masters rather than of men, though in some industries the so-called yeomen guilds gained some importance. The craft guilds were more often the dependants of the guild merchant which in many boroughs was almost identical with the Town Council. In the sixteenth and seventeenth centuries, the Government and the boroughs often saw to matters that now occupy the attention of Union officials. The Statute of Apprentices of 1563 attempted to secure " a convenient proportion of wages unto the hired person " and empowered Justices of the Peace to fix wages. The Craft Guilds often acted as friendly societies as well as being employers' associations, supervising prices and quality, and there was a degree of mobility between classes which made collective action by journeymen difficult. It was not, however, until industry was more developed that workmen could make themselves effectively heard. The In-

dustrial Revolution brought a concentration of labour and the development of new towns which lacked the old mediæval organisation and restrictions and new trades grew up which had no organisation at all.

There were clubs and trade organisations in the early eighteenth century which attracted the attention of the authorities so that in 1718 there was a Royal Proclamation against trade clubs. The London Printers had formed a chapel as early as 1666 and the Journeymen Taylors moved to increase their wages in 1720, while the Journeymen Woolcombers attracted the attention of the Law in the reign of George II. Trade organisation made no progress in areas where the domestic system was predominant. It is in the industries which first became capitalised that we find the true beginnings of Trade Unionism. Capitalists first established themselves in the woollen and hosiery industries, and it was there that extensive combinations of workers were first formed. The clubs of town artisans were seeking a way round combinations of small masters and rules of ancient guilds; the combinations of the woollen workers and the frame-work knitters were contending with a force that would divorce once and for ever the workers from the ownership of the means of production.

The history of the modern development of the Trade Union may be divided into four parts: (1) The beginning of Combination, interrupted by the Napoleonic Wars and revived by Robert Owen. (2) The New Model. (3) The Rise of the New Union or the reversion to the predominance of the unskilled worker; and (4) Twentieth-century development.

#### THE BEGINNING OF COMBINATION

In the years preceding the French Revolutionary wars, the old relations between masters and men were breaking down. Self-interest had led the former to support the policy of *laissez-faire* and the latter were

aroused to self-protection by a growth of group consciousness. Changed conditions, the displacement of labour by machinery, the development of power, and the consequent concentration in factories, the change from South to North, violent price fluctuations, the breakdown of the apprenticeship system, and the failure of the old system of the state regulation of wages to conform to new conditions—all these depressed the position of the wage-earner. As a result combinations and trade clubs became common, but they were strongly opposed by the masters and were in danger of being denounced as illegal. Indeed long before the general Acts of 1799-1800, prohibitions against Combinations had been issued.

Before the passing of the Combination Act organisations of workmen seem to have been of two kinds, of which one aimed at getting the existing law enforced, and the other at securing better wages and conditions for employees. During the second half of the eighteenth century, Parliament saw the necessity of doing away with the regulations of the Middle Ages which still fettered industry. Before this time the workers formed combinations to petition Parliament for the enforcement of the old regulations which allowed to the journeyman a convenient proportion of wages, or to prevent the introduction of machinery which would overthrow the apprenticeship. Up to 1765 Parliament seems to have listened to the petitions of the workers, but thereafter common sense and the persuasions of the masters led it towards *laissez-faire*. The workmen still invoked the system of the Middle Ages to protect their livelihood and Parliament made no attempt to provide other means of protection to make up for those that had been withdrawn. Long after the passing of the Combination Laws, cries went up to the Justices of the Peace to fix wages. In 1812 the magistrates in Edinburgh drew up a list of rates for cotton-weavers which were refused by the employers.

A widespread strike followed, during which the Government arrested the strike-leaders for illegal combination. Following this action, the powers enabling Justices to fix wages were revoked in 1813.

Societies to improve wages or to change conditions of employment were always regarded with suspicion: legally they could be indicted under the laws of conspiracy. In fact, in the eighteenth century, the statute of 33 Edward I against Conspiracy was invoked to secure the condemnation of the leaders of the cotton spinners, and even when Parliament listened to petitions it gave warning against illegal combination. Then came the Revolutionary Wars and the Government obsessed with the fear of revolution passed the Combination Laws of 1799-1800. These forbade workmen to organise for the purpose of raising their wages or of shortening hours. Workmen could not leave their masters in a body, but employers could do as they pleased with wages. Nominally associations of employers were illegal too, but in practice the prosecutions were of workmen only. As a result, "Any artisan who organised a strike or joined a Trade Union was a criminal liable to imprisonment." The Acts did not do away with Combinations, but they gave them a revolutionary bias and drove their members to secrecy. Instead of making for stability, the Acts made conditions less certain. Their incidence on masters and men was unequal; indeed by the 1799 Act the defendants were compelled under heavy penalties to give evidence against themselves.

There was no systematic hunting down of Trade Unions and their leaders, though prosecutions were the masters' method of meeting demands by their employees. In old-established industries, especially in skilled handicrafts, there was little effective action against combination. It was in the new industries that conditions were hardest: in the recently established textile industries the artisans were depressed and

debased and it needed all the help of Place and Lovett to rescue them. In these industries where the master workman had disappeared, the capitalist and the *entrepreneur* usually had none of the personal touch, though, of course, there were families who owned factories and took a fatherly interest in the welfare of all. The Luddite riots of 1811-12 were brought about by the introduction of machinery which was followed by widespread distress. In the uncertain conditions of the years after the wars other grievances became acute—there was the question of Truck or payment in kind instead of money, there was the general cutting of wages and there were organised attempts by employers to lower wages. Strikes and secret oaths and riots were common, and as a result the Combination Acts were supplemented by the Six Acts in 1819. All public meetings were suppressed, the magistrates were allowed to search for arms, newspapers were made so expensive by a crushing stamp duty that public opinion was muzzled. Indeed, as has seldom happened in English history the Government had lost its head and was applying by constitutional means the methods of the Holy Alliance.

The excesses had their effect. In the depth of depression an opposition to the Combination Acts began which did not cease until they were repealed. The part that Francis Place took in this movement has been clearly set out by Professor Graham Wallas and is an epic of constant endeavour. From his shop in Charing Cross he directed operations, preferring always to remain in the background and act through such men as Joseph Hume, whom he won over to the cause. Place was above all struck by the inequality which allowed the masters to combine. He cared nothing for trade unions; indeed, he believed that they would disappear when they were no longer forbidden and that freedom of contract would follow.

Hume was a man of importance in Parliament, a

great supporter of unlikely causes, and at length in February, 1824, he secured the appointment of a Parliamentary Committee to examine not only the question of the combination of workmen, but also to collect evidence as to the advisability of retaining those relics of mercantilism, the embargoes on the emigration of skilled workmen and on the exportation of machinery. Hume was Chairman of the Committee and he and Place saw that the first was the really important question. Place was not a member of the Committee, but he carried out a preliminary examination of the witnesses, drilled them, saw that they appeared at the right time, prepared for the Committee a *précis* of this evidence and manipulated affairs so that they went entirely as he wished. The Committee recommended the abolition of the restraints on Trade Combinations and on the free emigration of workmen. In 1824 a Bill was passed which repealed the Combination Acts of 1799-1800—so quietly that some leaders of the cotton spinners in Lancashire were imprisoned for breaches of the laws after they had been done away with. Trade Societies now sprang up like mushrooms, much to the bewilderment of Francis Place, and others emerged from darkness into light. Strikes and sabotage were reported from all parts of the country, aggressive acts and excesses were common. The employers grew alarmed and petitioned Huskisson, who declared that the Act had gone too far; another Committee was appointed and once more things might have gone badly had not Place enabled Hume to show the exaggerations of the masters. In 1825 the Act was modified and Combinations were legal "except associations for regulating wages and hours of labour"—in other words, the usefulness of the Act was lost. Strikes and disturbances continued, however, and the attempts of the Government to use the weapon of repression turned the workmen towards revolutionary agitations and socialistic ideas. For the next

fifteen years, Trade Unions had a definitely political tendency.

The Unions that sprang up after 1825 were of two kinds, political and industrial. The former, which paid little attention to economic matters, included the Political Union of the Lower and Middle Classes founded by Thomas Attwood of Birmingham, and the National Union of the Working Classes and Others, which was strongest in London. The aim of these Unions brought upon them the dislike of Robert Owen, who thought political agitation useless. The industrial organisations were Trades Unions rather than Trade Unions. Though in origin connected with some particular trade, these Unions strove to embrace workers of all trades and such all-embracing Unions were characteristic of the revival of Unionism after 1825.

John Doherty, the leader of the Lancashire cotton-spinners, was the first who tried to establish a nation-wide association. He was at first secretary to the Manchester Cotton-Spinners, then he founded the Grand General Union of the United Kingdom, which aimed at the limitation of working hours by law. This disappeared about 1831 and was succeeded by the National Association for the Protection of Labour, which sought to unite in a body the whole working class. This body became strong enough to publish a weekly paper which attained a circulation of 30,000. The National Association was as the grass upon the housetops—it grew with great rapidity and then about 1832 withered away when John Doherty, who was an organising genius, broke off his connection with it.

Its place was taken by the Builders' Union, which had an elaborate constitution, with oaths of obedience and secret ritual, probably borrowed from freemasonry and encouraged by the hostile attitude of the authorities. Within the Union were all the trades connected with building, delegates of which met yearly in the



Builders' Parliament where methods of wresting satisfactory terms from the employers were discussed. The Unions of those days were militant: they wanted action and in spite of the jiggery-pokery of skeletons and swords and surplices that seem to have been inseparable from the organisations of the time, they inspired wholesome respect in the hearts of the employers, who on their part offered a solid front to the workers and retaliated with the "presentation of the document," by which no man was to be given work unless he solemnly abjured the Union. Great was the indignation in the Builders' Parliament when it met in September, 1833. Robert Owen threw himself into the fray; the parliament talked, as only parliaments can, for six days; the workers were exhorted to obtain for themselves the wealth of which their labour was the sole source. Lecture-rooms, papers, offices, schools—all were proposed. The Grand National Gild of Builders would show the employers that labour was more important than documents. The "Pioneer" would expound its policy to the world. Yet within six months the Builders' Union was moribund and the "Pioneer" belonged to another.

The Grand National Consolidated Trades Union rose on the ruins of the National Association. This was started by Owen himself in January, 1834, and grew with such amazing rapidity that in a few months its members numbered 500,000 and included even farm labourers and women. The country went Trade Union mad. Lodges of the Grand Consolidated sprang up everywhere. Mystic ceremonies of initiation took place in public-houses in every village with skulls and cross-bones and crossed swords and effigies of Death. It was at such a ceremony that the Dorsetshire Labourers were assisting when they were arrested. The Government was losing its head and sought an opportunity for exemplary punishment, which these poor muddle-headed labourers provided. On the

pretext that they were administering an oath on behalf of an illegal society, the victims were sentenced to seven years' transportation and so acquired fame: they were on the way to Botany Bay before public opinion could insist on the cancellation of the sentences. The case of the Dorsetshire Labourers served to reprieve, for a short space, the Grand National Consolidated. It had acquired a widespread influence, but like all these early Unions it was weighed down by its pretentious name. Although in April, 1834, it organised a monster procession in London, by August it had collapsed. Several strikes had proved failures and the cumbrous frame of a nation-wide Union had been unable to withstand the shock.

Everything was disillusionment. The great Reform Act gave nothing to the mass of the population and merely added an ever-increasing lawyer element to Parliament. Though Owenite ideals could not stand against the materialism and the resources of the *laissez-faire* party, they did not disappear, but remained buried deep in the minds of the more educated artisans. The small local clubs which had been swept into the great Unions now resumed their work though in many places the employers were able to crush them. The non-political Unions of Owen were as powerless as those which hoped to achieve their ends by political means.

The years after 1834 saw the disappearance of Unionism as a national force. There were still strikes in plenty, for they were the only weapons the workers had. Negotiations were seldom possible owing to the bitterness between masters and men and the ignorance of the artisans. The stronger Unions were often guilty of acts of violence, and many of the leaders of Unionism became identified with Chartism. Yet in spite of the pressure of Government and employers and the folly of some of the leaders, Trade Unionism survived and when the first violent flood of Chartism

had abated, the stream of Unionism was diverted into another channel by the "New Model."

### THE NEW MODEL

After 1840 Trade Unionism struggled to rebirth. It soon found it had lost none of its enemies and was not surprised to find that it could make little headway against them, for it had no legal standing and it had not the support of public opinion. In the course of the next thirty-five years things were gradually changed. The form of Trades Unions altered: an aristocracy of workmen took the place of the old masses led by a few bourgeois. Legitimate political action supplanted Revolution in the minds of their members and won legal recognition.

In 1841 the miners of the North, who had been seeking to emancipate themselves from what was virtually serfdom, formed the Miners' Association. They determined to fight against the unequal incidence of the law. Why should a worker under threat of criminal proceedings be bound by a contract which did not compel a master to find employment? They gave evidence of their spirit by retaining at a fee of £1,000 a year a solicitor to defend their cases. This movement led to the introduction of a Bill into Parliament which, had it succeeded, would have given a single Justice of the Peace power to issue a warrant for the summary arrest of any workman against whom a complaint was made and to condemn the accused to two months' imprisonment. Fortunately, owing to the opposition of the Radicals and Young England Tories, the Bill did not pass; it showed, however, the nature of the opposition that had to be fought.

Before the idea of the "New Model" was conceived, there was another unsuccessful attempt to form a nation-wide union. The National Association of United Trades for the Protection of Labour which

emerged, resembled the later unions in its opposition to strikes and its favouring of Parliamentary action. But it was unable to survive a renewal of the presentation of the document and its power soon declined. It was obvious that not by such means would the workers reach to power. There was not enough coherence and the local branches too often involved the Unions in disputes which broke them. As the Ironmoulders and Stone Masons found, a strong central executive was wanted, with a policy of protection for their crafts and a limitation of apprentices. The Friendly Society became as prominent as the Trade Union, and as the functions increased salaried officers became necessary.

It was the Amalgamated Society of Engineers formed by William Newton and William Allan that supplied the New Model. They overcame local rivalries and elaborated a constitution by which the amalgamation of numerous societies was achieved. The most powerful of the component societies was the Journeymen Steam Engine and Machine Workers' and Millwrights' Friendly Society. The scheme was adopted at Birmingham in 1850, and by October, 1851, there were 11,000 members, each contributing a shilling a week. The A.S.E. immediately began a campaign against piecework and overtime which the employers met with a lock-out in January, 1852. For the first time a certain degree of public sympathy was given to the Unionists. Public subscriptions enabled the A.S.E. to support 10,000 labourers as well as its own members for three months, although in the end the men had to resume work on the employers' terms. Once more the document was presented, but the engineers accepted it only as an oath given under duress. The failure, far from crushing the A.S.E., gave it notoriety and it became predominant. Between 1852-59 its constitution was the general model. The Society was essentially exclusive ; it sought, by insisting

on apprenticeship for its members, to protect the trade against interlopers; friendly benefits were a primary object and for this purpose the funds were concentrated in the hands of the central body. Strike pay, too, was controlled from the headquarters and unnecessary strikes were avoided by the exercise of a strong control over local branches. The position of the Society was consolidated by the accumulation of large balances and a campaign of publicity was undertaken to dispel the old prejudice against Unions as being only societies "in restraint of trade". The most important imitators of the Engineers were the Carpenters, who formed an amalgamated society under Robert Applegarth in 1860, and the London Tailors and Compositors, who also adopted similar constitutions.

The failure in 1852 led to a period of quiescence in which councils of conciliation and arbitration boards were given a trial. Strikes, however, occurred in 1859, culminating in a great drawn battle between the Building Trades Societies and the employers. This was almost the first time that the Unionists had forced a draw: they still had no victory to their credit. The old democratic general unions had now been displaced by an aristocracy of labour whose policy came to be absorbed by a cabinet of five, called the Junta. William Allan, Robert Applegarth, George Odger, a member of a society of highly skilled shoemakers, Edwin Coulson of the London Order of Bricklayers and Daniel Guile of the Ironfounders were the members of this unofficial body which directed Trade Union politics for twenty years. They were all men of sound judgment and the highest integrity, not middle class enthusiasts or professional agitators, but organisers of skill and tact. They gathered round them a body of advisers and helpers, among them Alexander Macdonald and Thomas Burt, the miners' leaders, and devoted themselves to removing the legal anomalies that surrounded the Unions'

position. While showing extreme caution in trade policy, they agitated for political reforms, for it was to political action that they looked for progress. Unlike the old trade unionists they supported State action and the extension of the franchise: it was largely owing to the influence of the Unionists that the 1867 measure was carried through.

The London Trades Council was the body through which the Junta influenced opinion and similar bodies in constant close touch with London were permanently established in provincial cities. All concentrated their efforts on securing the repeal of the Master and Servant Acts by which, whereas a master could be sued only for damages or loss of wages in a breach of contract case, a servant could be prosecuted for a criminal offence and was liable to imprisonment for three months. A single Justice from whose decision there was no appeal could order the arrest and hear the case of a workman. The Glasgow Trades Council, led by Alexander Campbell, organised the campaign and called a meeting of the delegates of Trade Unions in 1864. Constant lobbying and continual deputations led to the appointment of a Select Committee and the Master and Servant Act of 1867 was secured.

The Junta made enemies, of course. The Old Unionists who drew their ideas from Owen disliked political action; and the employers determined to oppose with their whole might the legalisation of the Trade Unions. Several serious industrial disputes strengthened the position of the opponents of the Unions, who were much troubled by the united front shown by the workmen in their conference at Sheffield in June, 1866, protesting against lock-outs. Unfortunately, Sheffield was notorious for outrages and stabbings, and in October, 1866, a can of gunpowder exploded in a workman's house there. No one was clear as to the purpose for which it was intended, but it was a good enough *casus belli*. Public opinion now ran strongly

against the Unions and in 1867 the Lord Chief Justice decided that Trade Unions were illegal organisations whose funds could not be protected at law against the embezzlements of Branch Secretaries or the defalcations of Treasurers.

In the Queen's Speech of February, 1867, the appointment of a Royal Commission to inquire into Trade Unions was announced. No Trade Unionist was appointed, but Thomas Hughes and Frederic Harrison, specially chosen by the workers, looked after their interests. In order to organise the defence the Junta examined witnesses and marshalled the evidence just as Francis Place had done fifty years before, and in their efforts received invaluable help from the Christian Socialists and the Positivists. First they had to ensure that the employers would not crush the Unions and then they had to secure legal status. The Unions' witnesses won over many by their evidence, which showed that the workers were no longer actuated by the revolutionary notions of 1833, while the employers alienated sympathies by their uncompromising attitude. The friendly society aspect of the Trade Unions was stressed and the employers strove to prove that the obligations entered into could not possibly be met. The Commission half-heartedly recommended legalisation on terms, but it was the minority report of Hughes and Harrison that provided a basis for constructive action. Harrison fully recognised that the acquisition of legal personality with liability to be sued in a corporate capacity would be even more dangerous than illegality, for no Trade Union could be at the mercy of any disgruntled member. There were plenty of Unionists who did not care a jot about recognition and who opposed what they considered the useless policy of the Junta.

The Junta and Frederic Harrison now drafted a Bill which would meet their requirements. The Liberal Government was not favourable, but so many individual

Members were won over that the Cabinet gave it a second reading and then announced they would bring a bill of their own. In 1871 a bill was thus introduced which proposed firstly, that no Trade Union should be deemed illegal because it was in restraint of Trade; secondly, that Trade Unions should be entitled to registration if not contravening the criminal law and that such registration should entitle them to protection of their funds but not render them unable to be sued in a court of law; thirdly, that there should be no violent threats directed against, or molestation of, employers or other workers. The sting was in the third clause, which was held to bar peaceful picketing and was passed as a Criminal Law Amendment Act, not as part of the former bill. Even the exemption from the action of the law of restraint of trade, which had been devised to protect consumers against monopolies, was almost nullified by the fact that a number of functions including collective bargaining between a Trade Union and a Federation of Employers, were not enforceable in the Courts of Common Law.

From this a violent opposition arose that gave birth to the Trade Union Congress which was called into existence by the Junta in 1871. The Act was rigorously enforced and seven women went to prison merely for saying "Bah" to the blacklegs. The country said "Bah" to the Liberals in 1874; undoubtedly the Trade Unionists who had acquired the vote in the towns by the Act of 1867 had a great influence on the result of the Election. Indeed, the first two Labour Members, Thomas Burt and Alexander Macdonald, were elected in 1874. A Royal Commission with three Trade Unionists among its members was appointed to enquire into the Labour Laws. The result was the Employers and Workmen Act of 1875, by which at last employers and workmen become equal parties to a contract; peaceful picketing was allowed and it was expressly



stated that no act was illegal for a group if not illegal for an individual.

The legalisation of the Trade Unions had been attained. The Junta had triumphed: political action had achieved success. The leaders of the aristocracy of labour had won dignity for themselves and their cause. It is true that they were not always consistent in their views, as they held for instance that every Englishman should be allowed to bargain in his own way, while they supported workers who refused to work with non-Unionists. They were at once supporters of Marxian Communism in the International and of peasant proprietorship at home. These were but trifling insincerities when weighed against the sacrifice and patience they all showed. But the period 1840-1875 was one of success only in the political field. In the industrial world the strike weapon still proved remarkably ineffective owing to the weakness of the Unions. The most impressive failure was that of the Agricultural Labourers led by Joseph Arch, who formed them into a Society in 1872. The Society spread through twenty-six counties, but met everywhere with opposition from squires and lords and the Church. Lock-outs followed, the funds became exhausted in spite of help from other Unions and in ten years the membership had dwindled until it was almost negligible.

Towards the close of the period, a severe slump in industry and agriculture led individual Unions and the various sections of the trades to take up a defensive attitude—even against one another. Unemployment was general, subscriptions were difficult to collect, funds were running low. Conditions of life deteriorated, wages were reduced and hours increased. Indeed, it seemed that no progress had been made. The "New Model" was violently attacked and the Trade Union Congress alone held the workers in any kind of unity. What use was legalisation when bread was lacking?

## THE RISE OF THE NEW UNIONISM

The year 1875 saw the "New Model" Unions at the height of their power. It seemed that the aristocratic Unions would establish a dictatorship over labour. They had obtained at the hands of a Conservative Prime Minister their radical demands, and collective bargaining had been legalised once and for all; but, though the Junta retained the advice of Frederic Harrison and other able sympathisers, its comparative inaction during the years 1875-1885, when conditions of life were steadily growing worse, lost for it most of its influence. At first the Parliamentary Committee appointed by the Trade Union Congress was controlled by Odger and his friends, who still pinned their faith on Parliamentary Action. Year by year bills were introduced designed to impose proper liability for workmen's injuries upon employers, until at last after twenty years a measure was obtained that met the workers' demands. The policy of the "New Model" group was governed by the ideas of *laissez-faire*. It included a number of individualistic schemes, but gave little prominence to measures that would have relieved the Trade Unionists of some of their worst burdens.

Some improvements were made, however, in the conditions relating to employment. Truck was prohibited; wages were not to be paid in public-houses, where the coin would be put into too rapid circulation. The Factory Acts were consolidated. The part the Parliamentary Committee played in obtaining these was an ignoble one and the workers saw they could hope for little from the Radicals of the New Model—something more virile, perhaps more violent, was needed. The A.S.E. numbered among its own members two of those who held that the "New Model" had outlived its usefulness, and the Trade Union Congress included among its delegates an

increasing body of the advocates of Socialism, who in the course of about ten years after 1883 completely won the Trade Union Congress. Socialism, no new doctrine, was revived by the work of Henry George, *Progress and Poverty*, which dangled before the eyes of the proletariat the possibility of acquiring all the necessary revenue from a single tax on land, and land nationalisation became an accepted doctrine of the Socialists. Hyndman, William Morris and others exposed the evils of the capitalist system which had divorced the worker from the ownership of the means of production and had brought in its train unemployment and cyclical fluctuations. It only needed a period of good trade to make the influence of these opinions a serious political and economic factor. The time, however, was not yet: Socialism could never become even remotely possible when only the exclusive artisan class was organised. Let the ranks of the unskilled be marshalled and progress would be possible.

John Burns led the attack on the all-powerful Unions. He disliked the friendly society functions they performed, which he contended should be taken over by the State. Too much care for the security of assets had led to too little zeal for Eight Hours Bills and Nationalisation. The individualism of the New Model could never bring about the collectivist ideals that had permeated the minds of the more active Trade Unionists. They were tired of the exclusiveness of the New Model organisations; they did not want insurance, they wanted uninsurable risks. By 1888 the Trade Union Congress was supporting the Socialist demands. Publicity was gained by the demonstrations of unemployed in London and elsewhere, which reached their climax in London on Bloody Sunday, November 13th, 1887, when cavalry and infantry were called out and John Burns and Cunninghame Graham were arrested. They spent six weeks in prison.

## 156 INDUSTRIAL REVOLUTION

In 1888 the strike of the London Match Girls, organised by Mrs. Annie Besant and given publicity in her paper, *The Link*, won the first victory for the cause of the unskilled. The new leaders understood the psychology of the public and gained support that had been lacking previously. Subscriptions were raised and the employers were shamed into concessions. The "New Unionism" in its infancy had achieved a greater measure of success than the "New Model" in its prime. In 1889 further successes were won, when the Gasworkers and General Labourers unexpectedly obtained their demands for an eight-hour day, under the leadership of Will Thorne and at the instigation of John Burns, Tom Mann and Ben Tillet.

Then came the Dockers' Strike. Ben Tillet had striven before 1889 to organise the dock-labourers under conditions that were difficult in some ways, though the Docks were concentrated in London in a small area. The dockers at this time lived a most uncertain existence since they presented themselves to the contractors at the docks only for particular jobs. As the supply of labour exceeded the demand, the position was weak and Tillet's Union numbered only about 300. At this juncture an incident occurred, in itself in no way unusual, but in its results of the utmost importance in Trade Union history. There was a dispute at the South West India Dock about a question of bonus over one cargo. Tillet called for the support of other dockers and with the aid of Burns and Mann brought out 10,000 men within three days. Even the more skilled and better paid stevedores came out and the Port of London was at a standstill. The dockers' demands were: the abolition of the contract system, a minimum engagement of four hours, 6d. instead of 5d. an hour, and a higher rate for overtime. John Burns marshalled public opinion on the side of the men with such success that subscriptions poured in. Violence was avoided and blacklegs were not forthcoming.

The Dock Companies stood alone and through the mediation of Cardinal Manning and Sydney Buxton granted the demands of the men. Thus unskilled labour had gained its second success. The Dockers with public opinion had done what the A.S.E. with a big bank balance had never done—it had coerced the employers.

Unions of unskilled workers sprang up everywhere; dockers, agricultural workers and general labourers formed Unions with ill-defined rules for qualification. The railway servants and sailors and firemen too organised themselves. Often there were rival organisations which were engaged more in mutual combat than in fighting the common enemy, but that was an unavoidable stage in development. The new Unions, numbering 200,000 members by July, 1889, for the most part avoided all friendly society functions—their one benefit was strike pay. They were fighting organisations whose members could only afford a small contribution and they were determined to avoid the shackles that had bound the "New Model" Unions in their industrial disputes. The unskilled workers' Unions later found it necessary to become Friendly Societies, but they remained comparatively free from ties.

Though the full force of the new Unions was not felt until the twentieth century, the predominance of the Crafts Unions was broken. The bubble of Parliamentary action was burst and the strength of properly organised Labour was shown. The success of their efforts checked the revolutionary ardour of the leaders. Although Mann, president of the Dockers' Union, and Burns, a member of the London County Council, withdrew from the Social Democratic Federation when they had more practical experience, the influence of Socialist opinion was clearly seen in the great spread of municipal undertakings, in housing schemes and slum-clearance, in Factory Acts and Sanitary Acts, in improved conditions of labour.

In some respects the new Unionism was a reversion, for it had at first much of the hatred of political means that characterised the Owenite Unions, and it surged forward on a flood of revolutionary opinions. On the other hand, it was not an idealistic dream, it was a practical movement, organised by skilful leaders whose whole-time job was the running of their Union.

By the end of the century a marked increase in solidarity among workers was evident: even the A.S.E. widened its doors and the Trade Union Congress ceased to look down upon International Congresses as the inventions of foreigners who knew nothing of orderly constitutionalism.

#### TWENTIETH CENTURY DEVELOPMENT

Trade Unionism made little progress in the first years of the twentieth century, though the Taff Vale case awoke it from its somnolence. The old Unions of the New Model were steadily losing ground. The Engineers, who had reorganised in 1892, were especially hit by disputes both with employers and with other Unions. They had admitted semi-skilled workers to their ranks, but there were continual disputes between them and the other members. The preponderance gradually passed to the Railwaymen, the Miners, the Transport Workers and the General Workers.

It was the Railwaymen who were involved in the Taff Vale case in 1901, which had such momentous results in the Trade Union world. The Railway Unions previously had been concerned chiefly with friendly society functions and protests against victimisation, though there had been strikes, for conditions generally were bad. The Railway Companies denied the right of the men to combine, declaring that they were like soldiers under discipline. The London and North Western Railway had in 1897 dismissed some

men who were suspected of being members of a Union, and so had forfeited all public sympathy and made for the Unions many powerful friends. The Unions now demanded general increases in wages for all grades, with a working day of ten or eight hours, with extra pay for overtime; but the companies refused to listen and it was ten years before the Unions had sufficient power to compel them to hear.

The Taff Vale case was a blow not only at the Amalgamated Society of Railway Servants, but at the whole Trade Union movement. After a strike on the Taff Vale Railway in 1900, the Railway Company sued the Union and it was held that the Union was responsible for the illegal acts of its members and could be sued for damages in the courts. The case cost the Union £50,000 in damages and costs. Much pressure and increased labour representation were needed before immunity from legal action was restored by the Trade Dispute Act of 1906, which laid down that no civil action could be taken against a Trade Union in respect of an act committed by itself or on its behalf.

The Trade Unions suffered another set-back in the Osborne judgment of 1909. W. V. Osborne, a branch secretary of the Amalgamated Society of Railway Servants, objected to his Union's expending money on political objects and sued it to prevent such expenditure. He lost his case in the High Court, but was successful in the Court of Appeal and later in the House of Lords, and the payment of Members of Parliament from Trade Union funds was adjudged illegal. The political levy was legalised in the Trade Union Act of 1913, which gave members the right to contract out; the general question was alleviated by the payment of Members of Parliament by the State.

The Liberals with the support of Labour members did something for the workers. The threat of a Railway Strike had led Mr. Lloyd George, as President of the Board of Trade, to set up local and central

Conciliation Boards on which the Unions were represented. These did not prove successful and the contest was merely deferred. In 1908 the Eight Hours Act for miners was passed, Old Age Pensions relieved many of the Unions of some of their friendly society burdens and, in 1909, by the Trade Boards Act, boards were set up to fix wages in sweated trades. In 1911 the National Insurance Act was passed, by which everyone earning £150 a year or less had to belong to a friendly society or become contributors through the Post Office. Even the most intransigent of the New Unions now added friendly society functions to their objects and the total membership of the Unions went up enormously. The Labour Party, which was represented by 40 members after the Election of 1910, did not gain in prestige by the passing of these measures. The New Unionists looked upon its work as a failure, especially in regard to National Insurance, where they opposed the payment of contributions by the workers. Parliamentary methods fell into discredit also through the influence of Syndicalism, which aimed at the gradual amalgamation of unions into one big union to assume the functions of the State for the benefit of the workers. The Syndicalists did not favour State Socialism and they would have no negotiations with employers. Their eyes were turned towards the General Strike as the great weapon in the cause of liberation with sabotage and direct action as auxiliary arms. The influence of German ideas also led towards large and comprehensive Unions; in 1912 there were only 52 Unions in Germany, as compared with over a thousand in Great Britain. The Guild Socialists, too, favoured big Unions for they proposed the association of all concerned with one trade in a guild which would control the trade for the benefit of the members of the guild. There would be no unemployed, for all members have an equal right to a share in the product. Unlike the Syndicalists, the Guild



Socialists had no wish to interfere in Government affairs. Just after the War an attempt was made to put these ideas into practice in the Building Trade, but after a successful beginning the scheme ended in bankruptcy.

The years 1911-1914 were momentous. The movement against Parliamentary methods and towards Big Unions was gathering strength and the leaders were anxious to test their organisations and to get to grips with Capital. They had difficulties enough to contend with in attempting to bring about the necessary amalgamation of Unions, differences as to objects, differences in friendly society benefits and fear among the officers that they would lose their jobs and have to go back to their trade. Tact and patience were needed to overcome these.

In 1911 the struggle began, with the strike of the Sailors' and Firemen's Union for a uniform scale at all ports and improved conditions of work. The Dockers and other workers at the ports, formed into the Transport Workers' Federation, came out in sympathy and the Port of London was soon at a standstill. In spite of the obstinacy of the Port of London Authority and Winston Churchill's desire to use troops as strike-breakers, the Cabinet saw that the Port of London Authority must give way and the strikers obtained most of their demands. Another strike in May, 1912, which had less cause was defeated, but the power of the unskilled worker had been shown and the General Workers' Union enrolled labourers and municipal workers whose organisation in the past had been negligible. The Railway Strike of August, 1911, was perhaps the most spectacular of pre-war strikes. The Conciliation Boards had worked badly and following the success of the Transport Workers, a general railway strike was demanded. After a Royal Commission had been refused, threats of the use of troops were ignored, and the die was cast. For-

tunately, once more the Cabinet acted wisely and a meeting of the General Managers, the men's representatives and two representatives of the Labour Party formulated proposals which resulted in a national agreement. The strikers were to be reinstated, proper use was to be made of the Conciliation Boards and a Royal Commission was set up. Though a golden age for railwaymen did not result, the National Union of Railwaymen was formed in 1913 and included all railway workers except the clerks and locomotive engineers and firemen. The Miners struck in February, 1912, for a national minimum wage, seeing that many men who worked in unprofitable and exceptionally difficult places and were paid by piece-work were unable to obtain a living wage. The dispute was settled not by the mineowners, but by the Minimum Wage Act, 1912, by which minimum rates were to be fixed by joint boards of masters and men in each coalfield. This did not give a national minimum, but was a great victory for the men.

These partial successes did not dispel discontent which increased in the boom year of 1913, when unemployment fell to a minimum and wages were high. The Triple Alliance of Miners, Railwaymen and Transport Workers was formed and everything was ready for a renewal of hostilities, the Miners, who were demanding a Six Hours day, and the Railwaymen, who were dissatisfied with the 1911 settlement, leading the discontent. Clouds were gathering in the industrial world as well as in Ulster when the attention of all was diverted elsewhere.

The Trade Unions found themselves without a policy in August, 1914. In spite of the anti-militarism of many individual members the Unions were swept along with the country and an industrial truce was declared which held good with few exceptions till 1918. There was a strike on the Clyde in 1915, where the Engineers came out, but the scope of the Munitions

of War Act was gradually extended, making illegal any strike unless three weeks' notification to the Board of Trade had been given. There was, however, a stoppage in the South Wales coalfield, which was settled on the miners' terms; after this for the rest of the war period the mines were virtually nationalised. Many difficulties remained; the Leaving Certificate practically gave an employer the right to decide whether a man should have to join the Army; there were disputes between unions; the Trade Union regulations worked in strange ways and often resulted in the skilled man getting less than half the wages of the girls he taught; and there was the ever-present fear of industrial conscription. On the other hand, the numbers enrolled in the Trade Unions steadily increased, and with the appointment of Union officials to a place in the Coalition Cabinet, Labour's right to a place in Government seemed to be recognised. An improved lot for the worker seemed to be foreshadowed by various enactments: by the setting up in 1917 of the Whitley Councils, i.e., joint committees of employers and workers to consider questions of progress and well-being in a trade; by the extension of the franchise in February, 1918, to 12,000,000 new voters, mostly of the wage-earning class, and by the Education Act of the same year, which kept all children at school till the age of fourteen, and provided for continuation classes.

The war period was only a break in the policy of militant Trade Unionism that had been adopted in 1913-1914. It is true there had been temporary changes, but in 1919 there was a general anxiety to get back to the Unionism of pre-war days. The eighteen months immediately following the War formed an era of false prosperity, of rising prices and wages, during which the membership of the Unions increased rapidly to the record of eight millions. As in 1913, the boom brought a crop of wild ideas, and frequent stoppages

resulted, especially when the prosperity began to wane. In the eighteen months from January, 1920, to July, 1921, 107,000,000 working days were lost. Discontent became general. The disappointment of the election of 1918 and the influence of ideas that had been rapidly spreading in the last years of the War encouraged extra-parliamentary action. Marxism joined forces with Syndicalism in pouring contempt upon Constitutionalism. It seemed that less than ever was being done for the worker. True, an eight-hour day had been obtained for the railway workers and had been restored in many other industries, but violent strikes and threats of still more trouble showed the extent of the unrest.

The greater struggles were foreshadowed by the demands of the Miners' Federation in 1919, which included nationalisation of mines, an increase of 3s. a shift and a six- instead of an eight-hour day. The mineowners, who were as well organised as the miners, made an offer of 1s. 6d. a shift increase, but the men met this with the issue of strike notices. The Government, who still controlled the mines, set up a Commission of which Mr. Justice Sankey was Chairman. An interim report was issued on which the Government acted; it gave the miners a seven-hour day, an increase of 2s. a shift and continued the governmental control of price. In the final majority report nationalisation was recommended; this was a victory for the men, but the Government did not keep its promise to abide by the findings of the Commission.

Meanwhile negotiations were in progress between the National Union of Railwaymen and the Ministry of Transport for a wage settlement. The Ministry made a "definitive" offer, which would have involved enormous reductions. This the N.U.R. did not accept, and a complete stoppage occurred on September 26th, 1919, in which the Locomotive Engineers and Firemen joined. The Government used to the full

its powers under the Emergency Powers Act and a bitter struggle ensued. At length a mediating Committee of the Trade Union Congress intervened successfully and on October 4th a settlement was reached which established existing wages for a year and set up a Central Board on which the Unions and the Companies were equally represented.

This second period of partial success was followed by a number of failures which showed the weakness of the strike as a political or economic weapon. The Railwaymen and Miners found their funds severely depleted in 1919; they had made inadequate preparations for the payment of strike pay; indeed, had not the Co-operative Wholesale Society come to the aid of the N.U.R. the Railway Strike would have failed. The first and greatest failure befell the Miners. When Mr. Lloyd George declared he could not proceed with nationalisation, the Miners determined to make a stand, and, in spite of lack of support from other Unions, struck on October 14th, 1920. The strike lasted a fortnight and then the Miners seemed to have won the first round by securing the award of a rise of 2s. a shift. The victory was ephemeral, for the Government, knowing that the industry could not support this additional burden, withdrew its control on April 1st, 1921, instead of August 1st, as previously arranged. The Mining Association terminated the wage agreements on March 31st, and for the second time in six months the mines were closed. This time things looked more serious, for it seemed that the Railwaymen and Transport Workers would join in. The firmness of the Government and the difficulties of the move broke down the Triple Alliance and on Black Friday, April 15th, it was abandoned. The Miners were left alone, and, in spite of the temporary surrender of their Secretary, Mr. Hodges, stood out for pooled profits and equalisation of wages in the different districts. They held out till the beginning

of July, when a settlement was reached, largely on the basis of a Government subsidy, which was supposed to amount to £10 millions, but which eventually cost the country £23 millions. Profits and wages were to be in the proportion of 17 to 83 and surplus profits over a certain figure were to be divided in the same ratio.

Following this failure and the exhaustion of the Miners' Federation, there was a lull during which there was an extremist movement to cast aside the Unions. Communists became increasingly active and could point to the failure of the strikes and the inability of the first Labour Government which took office in January, 1924, to help the workers. The numerous strikes during its few months of office almost all ended disastrously for Labour. Everything was leading towards a renewal of the main struggle in the coal-mining industry. The Miners' Federation, led by Mr. Herbert Smith and Mr. A. J. Cook, succeeded to a remarkable extent in keeping the diverse interests of the component Unions from asserting themselves. On the other hand, there was the Mining Association, under Mr. Evan Williams and Mr. W. A. Lee, strong and determined to avoid everything in the shape of national agreements or pools. That the industry was in a bad way even the Miners' leaders admitted, and on June 30th, 1925, the Mining Association gave notice that the scale of 1921 would be withdrawn and a lower one substituted.

The Government again instituted an Inquiry and continued the subsidy during its deliberations, in which the Miners' Federation refused to participate. The Report held that the wage reductions were unjustifiable, but the notices were not withdrawn. Thereupon, on July 30th, the Trade Union Congress gave notice that after midnight, July 31st, there would be an embargo upon the movement of coal. This action the Government staved off by another inquiry and a

prolongation of the subsidy till the following spring. Sir Herbert Samuel's Commission<sup>1</sup> made exhaustive enquiries and once again nationalisation of royalties, though not of mines, was recommended; the Commission also recognised that the Miners would have to accept a wage reduction or an hour on the working day. The Miners were uncompromising; they refused to discuss such terms and the Trade Union Congress stood by them, never dreaming that the Government would oppose the whole Trade Union world. The Cabinet began to look to the Emergency Powers Act and the Organisation for the Maintenance of Supplies enrolled volunteers. Time slipped by; the Mining Association issued its last word, a 13½ per cent. reduction for an eight-hour day; the Trade Union Congress' support of the Miners was ratified, but discussions between the negotiating committee and the Government were not broken off.

There was still hope of a settlement when the printers of the *Daily Mail* refused to set up its leading article. This stiffened the back of the Cabinet, who demanded an unconditional withdrawal of the instructions for a General Strike. This the T.U.C. refused and so on May 3rd, 1926, came the day for which the extremists had been longing; the General Strike was declared; the "front line" troops were called out, the Railwaymen, Transport Workers, Engineers, Iron and Steel Workers, Electricians, Shipbuilders and Printers. All came out; the unanimity was amazing; no one doubted that victory would be won. There was little violence, for in most places the local councils of action maintained good discipline. On the other side, the Government organisation grew daily more efficient. Food supplies were delivered, ships unloaded, skeleton train services were started, the Press was muzzled, but the public spirit was kept up. Every day that the strike lasted meant a

<sup>1</sup> See also Chapter VIII, p. 184.

step nearer financial ruin for the Unions; though the Co-operative Wholesale Society again did its best, the T.U.C. grew panic-stricken.

Then came Sir John Simon's declaration that, in his opinion, the strike was illegal and that the strikers were liable to be sued for damages. When on the eighth day of the strike, Sir Herbert Samuel offered his services as mediator, on the basis of the Report, the T.U.C., glad of the opportunity to call the strike off, left the Miners to fight their own battles. Mr. Baldwin appealed to the employers to take back the strikers, but his appeal in some cases fell on deaf ears. The Railwaymen had to sign an ignominious document by which they promised never to do it again. The Miners held out till August, when they had to give in and accept an eight-hour day and wage reduction. Thus ended a struggle which brought the country to the verge of ruin.

The most important result of the General Strike was the passing of the Trade Disputes Act of 1927, by which "any strike having any object beyond the furtherance of a trade dispute within a trade or industry in which the strikers are engaged is an illegal strike, if it is designed to coerce the Government or to intimidate the community or any substantial part of it." No member of a Union was to be liable to expulsion for refusing to join a strike; there was to be no intimidation by pickets, to intimidate meaning "to cause in a person's mind a reasonable apprehension of injury to his person or his dependants." A very important clause enacted that in future those wishing to contribute to the political levy should contract to do so, instead of the old arrangement of "contracting out". Finally, Civil Servants' Unions were not to be affiliated to the T.U.C. or the Labour Party, and local authorities were not to insist on their employees belonging to a Union.

The effect of this Act and the General Strike was a



reduction in the membership of the Unions and in their political funds, as well as the exhaustion of their other resources. There was a swing back to counsels of moderation and towards Parliamentary action. This resulted in the Labour Party's gaining a large number of seats at the General Election of 1929 and in the formation of the second Labour Government. In spite of this the Trade Disputes Act still remains on the statute book. But times are bad and there can be no great forward movement in the Trade Union world until improved trade has brought increased funds. For the time being there is little hope of "Socialism in our time" in the minds of the leaders of the T.U.C. That this Act of 1927 needs revision is fairly obvious; at the same time the opportunity should be taken to revise and codify the whole of the law relating to workmen's combinations. There are so many anomalies, so many contradictions, so many denials of the obvious rights of citizens, so many precautions omitted, that some such remedy is urgently needed.<sup>1</sup>

<sup>1</sup> See Robson, W. A. Article on the Future of Trade Union Law. *Political Quarterly*, Jan., 1930.

## CHAPTER VIII

### THE IMPROVEMENT OF WORKING AND SOCIAL CONDITIONS

THE Industrial Revolution created a changed world for thousands who were drawn to rapidly growing towns where they experienced the horrors but not the ameliorations of civilisation. They spent their days in factories unable to do anything to help themselves, face to face with conditions which they had not the wit or the education to understand. They lived in foul-smelling alleys, which they had neither the will nor the means to make healthy. They were subject to town councils which they did not elect and their life was ordered by a Government of whose workings they had no comprehension. Parliament, influenced by the "philosophic spectre of *laissez-faire*", was unwilling to come to their help, for the age of regulation was past, the Statute of Apprentices had been repealed and the Navigation Laws were gradually being rendered inoperative. All checks on individual action were denounced and the functions of government were regarded as restricted to the protection against enemies abroad, protection against the violence or injustice of evildoers at home, and perhaps the provision of some degree of education.

The Industrial Revolution undoubtedly gave great opportunities for individuals to rise to positions of wealth and title from poverty and humble birth, but it also gave great opportunities for oppression and

degradation. The adherents of individualism were often humanitarians like Bentham, but their theories were divorced from fact and even the firmest supporters of *laissez-faire* came to realise that the new industrial system led to an order of life in which individuals and classes were more dependent than ever upon the actions of their neighbours. The basis of liberty they saw must still be the observance of law, for centuries of education would be necessary before all men acted only for the greatest good and happiness of the greatest number.

The Individualists drove out the old-time Tories who stood for the unreformed franchise and Church and the maintenance of the Corn Laws. *Laissez-faire* flourished for a period because circumstances encouraged freedom of movement, freedom to choose an occupation, freedom to trade where one listed, freedom to manufacture when and how one wished, freedom to hire whatever labour one needed. But even in the halcyon days of Individualism when the railways were being constructed, the beginning of factory regulation and the establishment of trade unions showed the way to the protection of the weak against the strong. Gradually the Individualists yielded ground to those who supported some degree of regulation, so that the State should take in hand the winning of concessions which the worker could not obtain for himself. Slowly the factory owner learnt that the laws were interfering with his right to exact the maximum of labour for the minimum of reward; slowly the educated realised that the benefits of education must be more widely spread; slowly the elected councils, which replaced the old corrupt corporations, made the towns less injurious to health; slowly the artisan and workman saw that it was not by riot and unlawful assembly but by the gaining of the vote and by the organisation of labour that his position would be improved.

## THE FACTORY ACTS

The first Factory Acts were the unwilling work of the generations that lived when *laissez-faire* held sway. The enthusiasm of a few great men wrung them from a grudging Parliament which developed them with a lack of logic that is still apparent to-day in spite of codification. To describe chronologically the nature of successive Factory Acts would be to emphasize unduly this illogicality. It will be more profitable to show how age and sex, hours and conditions of labour, were brought within the scope of the Acts, and how Great Britain led the way in the appointment of Government inspectors. A number of kindred topics will also come up for discussion—the Mines Acts, the question of truck and the regulation of wages, and the activities of the International Labour Office. The organisation of labour, so important in the vast field of adult male labour which is left almost untouched by factory legislation, is discussed in Chapter VII.

The earliest Factory Act dealt chiefly with Poor Law apprentices,<sup>1</sup> while following Acts brought in children and young persons, female workers and in a few specified industries male workers. By the Act of 1819 the employment of children below the age of nine in cotton manufacture was forbidden and young persons between the ages of nine and sixteen were placed under the protection of the law. Progress after this was slow, for though humanitarians were deeply concerned with the horrors of negro slavery, they considered the youngest child a free agent in industry at home. The efforts of Oastler, Owen, Hobhouse, Sadler and Ashley Cooper were at length rewarded with partial success in the passage of the Factory Act of 1833. The minimum age of employment in all textile factories was fixed at nine and a certificate of age was required. The protection of Parliament was extended

<sup>1</sup> See Chapter V, p. 105.

to young persons up to the age of eighteen, and a further differentiation was made between children under thirteen and young persons. In spite of the introduction of inspection as an integral part of the Act, its administration was made difficult by false statements of the parents with regard to the age of their children; this trouble continued until compulsory registration of births provided an effective check.

In 1844 women were brought under the same restrictions as those applying to young persons, and thus adult labour was regulated for the first time. Unfortunately, the same Act reduced the minimum age for the employment of children to eight. In 1864 young persons and women in certain non-textile trades were brought within the scope of the Acts, and in 1867 and 1879 workshops which used no mechanical power were put under the same laws as factories. The minimum age of employment was gradually raised to ten in 1878, to eleven in 1891, to twelve in 1901, to fourteen in 1918. Since 1891 the age has been governed by the requirements of the various Education Acts, which compel the attendance of children at school until a certain age, and grant permissive powers to local authorities to raise the age by bye-law. The Act of 1918 finally prohibited the half-time system which had persisted in the textile industries in spite of the Education Acts. After a further Act in 1920 women and young persons could not be employed on night-work—children, of course, had already been excluded.

It will be seen that adult male labour in general has been the subject of no legislation. A few manufacturing processes have been virtually prohibited by embargoes upon the use of all kinds of labour (e.g., White Phosphorus), and in fact most manufactures require the labour of protected persons which is restricted by law. Parliament has interfered directly with freedom of contract in the mining industry and

indirectly with working conditions on the railways; in other industries it is the Trade Unions who have secured improved standards by negotiation or strikes.

Regulations as to hours were embodied in laws concerning the age of employment. The Act of 1819, which applied only to cotton mills, limited the labour of protected persons to twelve hours a day, including one and half hours for meals, but as most mills were then water-driven, the provision that time lost through the irregularity of the water supply could be made up at the rate of an hour a day gave opportunity for evasion, and the lack of effective inspection made the passing of such a law a farce. The agitation for general regulation and a ten-hour day at length stirred public opinion, but the resultant Act of 1833 was disappointing since the hours of employment of young persons between thirteen and eighteen remained at twelve on full days and nine on Saturdays. For children under twelve the maximum was forty-eight hours a week and a certain amount of schooling was made compulsory. Actually the hours of school seldom corresponded with the hours of release from work, and the schools maintained in the factories were of no value (see Ch. V, p. 106). An attempt was also made to establish a normal working day by prescribing the hours of 5.30 a.m. and 8.30 p.m. as the limits between which young persons could be employed, but, unfortunately, the relay system by which children worked for eight-hour stretches and then resumed after a break, made supervision almost impossible.

In 1844 further progress was made by the provision of a maximum day of six and a half hours for children from eight to thirteen, but as this did not satisfy the reformers, the agitation for a general ten-hour day was renewed. As a result, an Act was passed in 1847 which fixed the maximum hours of labour for protected persons at sixty-three hours a week, and this was supplemented by an Act in 1850 which checked the

relay system by establishing a normal working day of 6 a.m. to 6 p.m. in summer and 7 a.m. to 7 p.m. in winter. The next step forward was not taken till 1864, when the limitations previously in force only in textile factories were extended to some non-textile trades such as pottery, match-making, cartridge-making and fustian-cutting. These regulations applied to workshops as well as to factories, but not to home industry. To some extent they prevented parents from sending their children to work in the potteries or brickfields until they were old enough to enter a textile trade. In 1874 a slight reduction of half an hour a day was made in the textile industries, this being the last law that fixed hours in factory industries. Legislation with regard to hours since 1867 has been concerned chiefly with the limitation of overtime. Since the codifying Act of 1901 permission for protected persons to work overtime has only been granted after careful investigation. The regulation of work in such a trade as the clothing industry is still beset with innumerable difficulties, many of which seem insuperable.

Holidays may be considered at this point. The short day on Saturday was introduced in 1825; statutory holidays—Christmas Day, Good Friday and the four Bank Holidays were fixed in 1833 for children and young persons and were extended to women in 1844. No further legislation on this subject has been passed, though of recent years proposals have been put forward for compulsory summer holidays on full pay. It is necessary to note that not only is there no law requiring holidays to be given to adult male workers, but even Sunday is not secured to them as a day of rest. In practice, of course, the strength of labour organization has won a limitation of hours for all, as well as the half-day and Sunday holiday. Where Sunday work is done, special rates are usually paid.

The Factory Extension Act and the Workshop

## 176 INDUSTRIAL REVOLUTION

Regulation Act of 1867 brought under the factory laws the vast majority of places of work. A factory was defined as a place employing fifty persons or more and using mechanical power, whereas a workshop was any place controlled by an employer, including a workshop where children were employed by their parents. The process of extension and consolidation was continued in the Act of 1878, which defined a factory as any place where mechanical power is used irrespective of the number of workers.

In 1863 bakehouses were brought under the regulations, and by Acts in 1895, 1901, and 1907 control was imposed upon laundries. The greatest difficulty has been experienced in regulating the conditions under which work in private houses is done (see p. 186-7). In 1891 the keeping of a list of outworkers was made compulsory, in 1895 a copy of such a list had to be sent to the inspector, but even a select Committee in 1907 failed to devise effective means of supervision. To-day most occupations are subject to the provisions of the Factory Acts, an increasing number of dangerous trades being put under special rules drawn up by the Home Secretary under the Act of 1901. House decoration and navvying, however, are still subject to no other regulation than that of the Workmen's Compensation Acts.

In addition to the regulations with regard to age, sex and hours of labour, there have been numerous statutory clauses relative to sanitation, health and safety. The Act of 1802, though dealing primarily with the health and morals of apprentices, made regulations about the lime washing and ventilation of cotton factories, but general laws were not passed until the Act of 1864 made binding on all factories regulations which previously only applied to textile factories. The same Act made the provision of separate sanitary conveniences for men and women compulsory. The Acts of 1867 and 1878 repeated the same rules and



required a standard of general cleanliness, which it did not attempt to define. In 1867 an inspector was given the power of insisting on the installation of fans so that artificial draughts should be created to carry off noxious gases, smells and dust. Special additional regulations were laid down for grinding works in which no boys under twelve and no women were to be employed.

During the last fifty years the State has shown its increasing interest in the health of factory employees by legislation and Home Office orders. In 1889 special regulations were laid down with regard to humidity in cotton factories which have been carefully worked out in subsequent Acts in 1897 and 1911. In 1883 white-lead workers were the subject of special legislation, which provided that respirators and special overalls should be supplied and hot and cold baths and acidulated drink should be available. Great progress has been made since 1901 in the regulation of dangerous trades under the powers given in the Acts of 1891 and 1901. Medical practitioners are compelled to notify the chief inspector of factories of certain individual diseases such as anthrax, lead, mercurial, arsenical and other poisonings. Codes of regulations have been drawn up for many trades in which there is danger from dust, poisoning, fire, accident, excessive heat or cold, excessive bodily strain or bad lighting. Strict rules are enforced against the performing of outwork upon premises where there is notifiable infectious diseases. Electrical works, railway sidings, docks and wharves, shipbuilding yards and building operations are specially regulated as well as factories where danger arises from manufacturing processes. Among the general regulations applying to all factories is the provision that a first-aid outfit shall be kept in an accessible place in each building. The result of these Home Office orders has been a remarkable fall in the number of accidents. The health and

welfare of workpeople were also affected indirectly by the provisions of the Health Insurance Act of 1911.

The safety regulations have lagged behind somewhat, though the compulsory notification of accidents and the operation of the Workmen's Compensation Acts have remedied some of the defects. The fencing of machinery was first made compulsory by the Factory Act of 1844 and the cleaning of machinery by young persons—a frequent cause of accident—was prohibited. Subsequent modifications showed the strength of the opposition to the taking of the most elementary precautions. The inspectors who had insisted on the casing of all shafts within seven feet of the floor found their judgment overruled by the Act of 1856, which limited compulsory fencing to those parts with which protected persons might come into contact. The law has not been greatly altered since then, but the improved relations between inspectors and employers have led to many common-sense improvements, and the insurance companies with which the masters effect their employers' liability policies often insist on protection that the law considers unnecessary.

The Factory Acts of 1802 and 1819 were rendered ineffective because no proper means of enforcement was devised. Inspection was left in the hands of the local Justices of the Peace, who were to appoint for the duty two of their number, one a clergyman. In 1833, after the patent failure of the voluntary method had led to a great deal of agitation, four paid Government inspectors were appointed. They were required to report to Parliament four times a year and to hold conferences twice a year. The number was quite inadequate, but the zeal with which the inspectors worked is clearly shown in their reports. They were undaunted by opposition, and to men like Horner and Redgrave factory workers owe an immense debt. The inspectors had until 1844 the powers of Justices of the Peace, but then they were deprived of these, wisely

in all probability, since we have no *droit administratif*. The inspectorate was more closely organised under the Act of 1878, by which the country was divided into areas, each under a supervising inspector. Inspectors to-day have the right of entry into any factory and the right to ask questions of workpeople. They can prosecute offenders, though the penalties, apart from the publicity, are small. Since 1869 there has been a kind of dual control, as from that date the Government inspectors have worked with the local sanitary authorities who have the supervision of workshops. This arrangement was not found satisfactory at first, with the result that from 1871 to 1891 the inspectors had the supervision of workshops as well as of factories. There were, however, many inconsistencies, and in 1891 the sanitary arrangements and precautions against fire in the workshops were given back to the local authorities while the enforcement of the other provisions of the Factories and Workshops Acts remained in the hands of the Home Office. In recent years this system, though entailing some overlapping and occasional misunderstanding, has worked reasonably well.

The duties of the inspectors are manifold, as a study of the Annual Reports of the Chief Factory Inspector will make abundantly clear. Sanitation, welfare, the regulation of dangerous trades, the fencing of machinery, the hours and conditions of employment, and the enforcing of the Truck Acts, are all under their jurisdiction. They are hampered occasionally by the fact that workpeople are deterred from making complaints through the fear of dismissal, and more frequently by the obscurity of the statutes. The inspectors, however, are becoming "less and less a set of policemen", and instead of meeting with obstacles at every turn, find themselves the valued advisers of employers and employees. The inspectorate which since 1893 has numbered women in its ranks, includes not only two

hundred factory inspectors but also medical, electrical, engineering and textile experts, as well as specialists in other industries. The extent of their operations may be judged from the facts that there are 270,000 factories and 8,000 docks, quays and warehouses as well as many buildings in the course of erection under their control, and that they make 350,000 visits a year. The difficulties of their work may be gauged from the fact that the administration of the laws relating to conditions of labour is shared between the Home Office, the Ministry of Labour, the Ministry of Transport, the Ministry of Mines, the Ministry of Health and the Local Authorities. In spite of this division of authority, efficiency of inspection is maintained.

#### MINES ACTS AND REGULATIONS

The coal mines of to-day, with electrical machines, mechanical cutters and elaborate safety devices, bear little resemblance to the Bell pits of the eighteenth century, which were abandoned when it became impossible to send the hewn coal up by basket. Coal was mined in this, and in even more, primitive ways for hundreds of years before the first regulations became law in 1842. Little attention was paid to draining; there were no precautions against explosions or poisoning; and means of ventilation were not specially provided except at a few pits where there were surface furnaces. A great step forward was at length made in 1815, when Sir Humphry Davy perfected the safety lamp, which besides providing light, aided the detection of poisonous gases and stimulated further research.

The social position of the miner was low until the demand for coal made the skilled hewer a valued workman. Serfdom was not finally abolished in Scottish mines till 1799; criminals were often sent to work in the pits of South Wales, while the ignorance and

bestiality of the miners of the Forest of Dean, Northumberland and other areas can be gathered from the experience of Wesley and Whitefield among them. Of a village near Newcastle, Wesley wrote: "It is inhabited by colliers only, such as have always been in the first rank for savage ignorance and wickedness of every kind. Their grand assembly used to be the Lord's Day, on which men, women, and children met together to play at chuck-ball and spun-farthing."<sup>1</sup> In all districts women and children were employed underground; in Scotland the proportion of women to men was as high as one to four. The men worked naked and the women with the scantiest of clothing. Women and children dragged along the sledges on which the coal was placed; they could never stand upright and often had to remain all day in a cramped position. In this occupation they often had to work longer than the men, for all the coal had to be raised to the surface each day after it had been cut; fifteen hours' labour a day was not uncommon. Women were also employed in winding windlasses—a job which the men disliked because it was too hard—and the children in opening and shutting the air-gates. The skilled men received good wages—perhaps 16s. a week; the drawers less than half of this, the women only about 2s., and the children a few pence. The conditions were worst where the owners let their pits to "butties" or small contractors, who paid the owners more than they could afford for the right to work the pits and hired the cheapest labour they could get. Pauper apprentices were often sent to the "butties" at the age of eight and then were apprenticed for twelve years, during which time they received no wages. Everyone in the pitmen's families from the age of three upwards worked, the children being kept underground from 4 a.m. to 5 p.m.

The terrible story of the mines was clearly told in

<sup>1</sup> Quoted by J. R. Raynes, *Coal and its Conflicts*.

the Report of the Commission on the Condition of Children employed in Mines, as a result of which an Act was passed in 1842 "to prohibit the Employment of Women and Girls in Mines and Collieries, to regulate the Employment of Boys, and to make other Provisions relating to Persons working therein." No boy under the age of ten was to be employed, no boy under that age was to be apprenticed, and no apprenticeship was to last for more than eight years, except at the skilled trades connected with the collieries. There was to be no payment of wages at public-houses, where "butties" usually paid their workers. An inspector was to be appointed, but he was to have no power of interference with the management of the mines. The minimum age was subsequently raised in 1860 to twelve and in after years has been governed by the requirements of the Education Acts.

The Acts of 1850 and 1855 did something further towards securing efficient inspection of underground workings. Under the former, four inspectors were appointed; owners had to report accidents and to produce maps and plans when required, and the obstruction of inspectors in the performance of their duties became subject to penalties. As there were 1,200 collieries, it was obvious that efficient inspection was still impossible and frequent accidents led to the Act of 1855, by which coal mine regulation was really begun. Ventilation, the fencing of shafts and pumps, the provision of adequate brakes and of indicators as to the position of lifts, and numerous other precautionary measures now became the subject of statutory enactments, which were supplemented in 1862 by another Act which made illegal the working of a mine unless there were two separate shafts, at least ten feet in breadth.

An Act of 1872 codified the existing law and added some new regulations, thus forming the basis of the present system. It was seen that the management

of the collieries was often in the hands of ignorant men who had perhaps begun as miners themselves. Henceforth it was necessary for mine-managers to pass an examination and to hold a certificate of competency. The examination principle has since been extended to undermanagers, surveyors, firemen and deputies. The Act of 1911, which once more codified the law, added no new principle, the regulations still being centred round the prevention of accidents, efficiency of management and government inspection. In 1920 the inspectorate was placed under the Secretary of Mines instead of the Home Secretary, and the power of legislation on minor points which the Home Office exercised under the Act of 1911 was transferred to the Mines Department of the Board of Trade. In the last twenty years regulations have been issued in this way concerning the use of explosives, the approval of safety lamps, the provision of rescue apparatus, the testing of electrical machinery etc., so that the responsibilities thrown on managers and inspectors become greater every year.

Coal mining stands in a position different from that of any other industry, as in it alone has the legislature fixed the hours of labour for adult male workers and prescribed that there should be a minimum wage. The latter principle was only gained through the power of the Miners' Federation, which had been working steadily, though with varying success, since 1841. It had achieved some of its objects, such as the appointment of checkweighmen, quite early in its history, and had provided the first Labour Member of Parliament, but its real power was not shown till the twentieth century. In 1908, the Eight-Hours Act was passed, which fixed a maximum working day for underground workers, whether they wished to abide by it or not. In 1912, after a nation-wide strike, the Minimum Wage Act set up joint district boards of employers and men with an independent chairman, usually appointed by the

Board of Trade. As no national minimum was prescribed, the boards were left to fix minimum wages for their districts to ensure that men working in unremunerative seams should have a living wage. In South Wales, 13,000 out of 18,000 haulers and 10,000 out of 12,000 labourers gained increases through the decision.

In 1916, the Eight-Hours Act was temporarily suspended and from 1917 to 1921, the coal industry was under Government control. Even during this period there were labour troubles, and the miners prepared to launch a vigorous campaign for a six-hour day immediately peace was declared. After a series of strikes, the miners advanced a step towards their goal by the Coal Mines Act of 1920, which gave a seven-hour day, while by the Mining Industry Act a national wage board was set up, wage increases were given (2s. for men, 1s. for boys), and provision was made for the installation of pithead baths, housing schemes and general social improvements through a welfare fund. The other findings of the Sankey Commission, which included the nationalisation of the mines and of royalties, were not embodied in the Act. The State, however, was unable to stand the enormous losses that resulted from its management of the industry and withdrew from control on April 1st, 1921.<sup>1</sup>

Since that date, the coal industry has been unsettled. The fact that disastrous strikes in 1921 and 1926 brought the Miners' Federation almost to bankruptcy, has not resulted in stabilisation, though for the time it has decreased the bargaining power of the workers. A Royal Commission presided over by Sir Herbert Samuel, in 1925, recommended the nationalisation of royalties, but not of the mining industry. It, however, advised rationalisation, more efficient management, marketing organisation and many welfare improvements. Its proposals, except with regard to hours and the nationalisation of royalties, were included in the

<sup>1</sup> See also Chapter VII, p. 164.



Mining Industry Act of 1926. In the matter of hours the Coal Mines Act of 1926, which permitted an eight-hour day once more, rejected the advice of the Commission which advocated a maintenance of the existing law, with a possible reduction from a six to a five-day week. By the General Strike and Coal Strike of 1926 the Miners gained nothing; they lost the principle of national negotiation and the National Wage Board and they were forced in most districts to accept an eight-hour day and wage reductions. The funds of the Miners' Federation were almost exhausted and the situation of the industry itself was rendered most critical.

The Mining Association has since 1926 continued its opposition to national agreements and resolutely refused to take part in any conference to consider them. Legislation which was forced upon the owners has caused them to take up an attitude of obstruction. They lay the troubles of the industry at the door of Government interference, which, they hold, has hampered, if not killed, individual enterprise. The miners, on the other hand, look upon the evils as due to the failure of successive Governments to carry out the nationalisation of the country's key industry. It is certain that the coal mines will not regain their pre-war prosperity while they are hampered by inefficient management, excessive labour costs and Government red tape. Their future depends at least as much upon the appreciation by the owners of the fact that the miners deserve the highest wage the industry can afford, as upon the realisation by the miners that the deep roots of capital cannot be torn up in a day. The elimination of numerous small companies, the co-operation of all who are interested in the industry and a progressive policy of reconstruction may provide a solution which Royal Commissions, Committees of Inquiry, and successive Acts of Parliament have failed to achieve.

## WAGE REGULATIONS

The fact that no law has been passed that fixes the wages of adult factory workers is surprising, since the legislation of the present century has moved in the direction of State regulation of industry. The idea of State regulation is not new, indeed in the Middle Ages the fixing of wages was regarded as an essential part of the social system. Modern legislation has touched upon the fringe of the subject without attempting to establish a legal minimum of wages and leisure.

One form of wage regulation—that dealing with truck—has long been the subject of legislation; an Act of 1464 forbade the compelling of workmen to take payments in goods. The law from that time onwards has always been in favour of cash wages. In recent times the abuse has almost disappeared, though the position in the catering trade has not yet been legally defined. From 1887 the administration of the Truck Acts has been in the hands of the Factory Inspectors. The Acts of 1831, 1887, and 1896 form the basis of the modern law; they lay down that the payment of wages except in current coin of the realm is null and void, that a workman may sue and that the employer cannot recover the value of the goods he has handed over. Exemption from the action of these laws is made in the case of domestic servants and “servants in husbandry”. The constraining of workers to spend their wages in any particular shop is also illegal; and a kindred Act of 1883 prohibited the payment of wages in public-houses.

Direct legislative interference with the wages of adults in modern Great Britain dates only from 1909, when by the Trade Boards Act committees consisting of an equal number of employers and employed with one or more independent members were set up to fix wages in four sweated trades—ready-made and wholesale bespoke tailoring, paper-box making, machine-made lace, net-finishing, and chain-making. These

trades were notorious for the workers' lack of organisation and their depressed condition. The Board of Trade was given power to apply the regulations to other trades and in the last twenty years Trade Boards have been established in a large number of industries. A further Act of 1918 gave the Trade Boards power to fix a normal day and week (9 hours and 48 hours respectively). These hours were to apply in such industries as the clothing trade, where most of the work was done at home. Of recent years the general tendency has been towards the elimination of 'home work,' but the scope of the Trade Boards has been widened to include a number of trades where the workers—most of whom were women—had no organisation, but where the wages were not abnormally low. The present administration of the Acts is in the hands of the Ministry of Labour, which took over some of the functions of the Board of Trade.

The Coal Mines (Minimum Wage) Act of 1912, which has already been mentioned, went further in the direction of State Regulation than the Trade Boards Act, while the Munitions Acts of 1915-1916 introduced, in certain trades, the principle of compulsory arbitration. The Agricultural Wages Act of 1924 established Courts for the determining of the wages of agricultural labourers. Other bodies set up under legislative direction are Whitley Councils, Conciliation Boards and Arbitration Courts.

Though there is no compulsory arbitration in this country, as there is in Australia and New Zealand, the Ministry of Labour is empowered to set up Courts of Inquiry. The temporary interference with wage rates during the War and the period immediately after, when wages were fixed by an Interim Court of Arbitration, was abandoned at the earliest possible moment. The bulk of the work now, as in the days before the War, falls upon the Trade Unions, which have concentrated on the questions of wages and

hours to such an extent that their usefulness in other directions has been affected.

#### THE INTERNATIONAL ORGANISATION OF LABOUR

International co-operation in factory legislation and the regulation of hours and wages is an essential condition of future progress. Great Britain especially has felt the difficulties that arise from the competition of countries whose workers are less favourably placed than her own. Since the time of the visions of Robert Owen and Le Grand, the idea of an international Parliament regulating the conditions of labour has appealed to social reformers, but it was not until one hundred years after Owen had petitioned the Quintuple Alliance to fix a uniform working-day that the Peace Treaty of 1919 set up a definite International Labour Organisation.

Those who wished to see the establishment of an International Organisation were helped by the experience and efforts of the Socialist Internationals. The First International met in 1867 and held meetings till 1872, when a split occurred. The Second International first met in 1889, when representatives of Trade Unions and Socialist and Anarchist Bodies gathered at Paris. Their objects then seemed extravagant: they demanded an eight-hour day, one day of rest in seven, the prohibition of work by children under fourteen, the limitation of night-work, an international minimum wage, the establishment of effective inspection and the improvement of health standards. A permanent organisation was established in 1900, and this and the International Federation of Trade Unions gained increasing influence up to the outbreak of the Great War.

From 1890 onwards, there was also a number of meetings of officially-appointed representatives to consider labour questions. The first conference met at Berlin at the invitation of the Kaiser, William II.

This, and the succeeding conferences made recommendations to the various governments, some of which accepted them. The greatest success was achieved by the Berne Conferences of 1905-1906, which passed resolutions in favour of the prohibition of night-work for women and of the use of white phosphorus in matches. These resulted in legislation in many of the countries represented.

On the conclusion of peace in 1919, the League of Nations came into being having "for its object the establishment of universal peace." It was realised that "such a peace can be established only if it is based upon social justice." By Part XIII of the Peace Treaty, therefore, there was set up an International Labour Organisation consisting of a General Conference of Representatives of the Members of the League and an International Labour Office, charged with the collection and distribution of information concerning the international adjustment of the conditions of industrial life. The principles that were to guide the deliberations of the former body were laid down: that labour is more than a mere commodity; that both the employers and the employed should have the right of association; that there should be in every country a minimum wage which would make possible a reasonable standard of living; that the eight-hour day and the forty-eight hour week should be universally accepted; that there should be one day's rest in seven, preferably Sunday; that child labour should be abolished and that limitations should be placed on the work of young persons and women; that there should be equal remuneration for men and women doing the same work; and that there should be efficient factory inspection in all countries. The similarity between these objects and those of the Second International will at once be seen.

The International Labour Organisation has a governing body of twenty-four, twelve representatives of

governments, six of employers and six of workers. Its head is M. Albert Thomas, a Frenchman, and its headquarters is at Geneva. The I.L.O. has held conferences every year since 1919, and as a result has drawn up a number of conventions, many of which have been ratified by the constituent States. The most important of these conferences was that held at Washington in 1919 to deal with the agenda fixed by the Peace Conference. As a result a number of Conventions were signed, one embodying the principle of an eight-hour day and forty-eight-hour week, another forbidding the employment of children under fourteen or of women at night or in unhealthy processes. The prohibition of the employment of women within six weeks of confinement was also recommended. Most of these conventions have been ratified by the national legislatures. The forty-eight-hour week has been accepted in theory by most of the industrial countries, except Japan. Unfortunately, however, the failure of one nation to come into line has so far been sufficient to destroy the benefit of the convention in the countries that have agreed to it.

Succeeding conferences considered the question of the hours of seamen and the drafting of an International Seamen's Code; the problem of unemployment has been examined afresh at each session; attempts have been made to standardise inspection; the difficulties attending the regulation of the conditions of labour have been thrashed out. On the whole, however, good intentions have outrun performance. In this branch of its activities, as in others, the chief weakness of the League of Nations is discernible: for though laudable resolutions can be passed at the conferences, no adequate sanctions exist to force members to ratify conventions adopted in the Assembly. To her credit, it may be said, Great Britain has kept ahead of the recommendations of the International Labour Office.

## CHAPTER IX

### THE RELIEF OF POVERTY, SICKNESS AND DISTRESS

#### THE POOR LAW

THE chaotic condition of the Poor Law in the early 'thirties, resulting from the changes in industry and employment, has already been described in Chapter V. The whole country realised the urgency of the situation. The propertied classes were appalled at the continually rising cost of the administration of relief. The poor were discontented at the inadequacy of the dole they received. Riots frequently occurred in consequence, increasing the alarm of the country gentry and the bourgeoisie. The philosophers disliked state interference in any form; many of them were disciples of Malthus, who saw in outdoor relief only an incitement to cast aside the restraint which fear of starvation imposed. There were also those Puritans who having themselves acquired wealth and comfort thought that the poor must be sinners and unworthy of support by the State.

Under the leadership of Nassau Senior, an influential writer on economic subjects, and of Edwin Chadwick as secretary, the Commissioners who were appointed in 1832 to inquire into the administration of the Poor Law set about their unenviable task with the greatest energy. Not only did they meet every week for two years, but they enlisted the services of twenty-six Assistant Commissioners, whom they sent out to investigate local conditions. At the end of a year they received detailed reports of the working of the Poor

Law in three thousand of the fifteen thousand parishes into which England and Wales were divided. The Commissioners thus obtained some idea of the difficulties and diversities of the problems before them. The units with which they had to deal were of vastly differing size, population and wealth. There was no uniformity in the matter of relief and of workhouse administration. Moreover, they knew that their decisions would make them unpopular either with the wealthy or with the poor. The result of their work forms the best tribute to their courage, and the good fortune which aided the application of the law that was based on their report was not more than their due.

The Poor Law Amendment Act of 1834 has been described as "the first piece of genuine radical legislation". The Commissioners, who believed that every penny spent on the outdoor relief of the able-bodied men was "a bounty on indolence and vice", secured the reimposition of the Workhouse Test, for all but the aged and infirm. A Central Authority consisting of three Poor Law Commissioners—afterwards known as the Three Tyrants of Somerset House—and a secretary, Edwin Chadwick, was set up to enforce some degree of uniformity. They were empowered to devise rules for the workhouses and to compel parishes to form suitable Unions. They imposed rigid supervision upon the elected Boards of Guardians, in whose hands was the local administration, and they watched over the relieving officers and workhouse masters. Especially careful were they to prevent any excessive expenditure. Twenty-one Assistant Commissioners were appointed, each to a district, to see that the orders of the Central Authority were obeyed.

There were but few serious disorders in the South as a result of this measure, which in the eyes of many was likely to lead to revolution. Three good harvests together with a period of increased industrial prosperity and railway construction, helped the Com-



missioners through. In the North, where the Speenhamland policy had been less generally adopted, there were a number of riots, because the new law was thought out in terms of agricultural and rural, not manufacturing and urban conditions. Loathing of the workhouses, or Bastilles as they were called, was, however, not confined to any one district; nor is this to be wondered at by anyone who has read the opening chapters of *Oliver Twist*. Tradesfolk, clergy, and professional men took up the cause of the poor, of whose feelings and prejudices the Commissioners were strangely ignorant. The opponents of the new Poor Law saw that increased pauperism was the inevitable consequence of the industrial changes and that the poor were victims, not criminals. But they were powerless to overthrow the philosophy of *laissez-faire*, though they caused the Commissioners to flinch in the execution of their duty.

The "Three Tyrants", who were all men of considerable ability, held office for thirteen years, their tenure being renewed from time to time after the original five years had expired. Their unpopularity, however, did not diminish, chiefly because of their continued lack of understanding of the class with which they had to deal. Of this their prohibition of the tolling of a bell at a pauper funeral is an illustration. So close a check did they keep on expenditure that they would not allow the payment of twopence a week for the education of pauper children. At length the internal differences among the Commissioners, the caustic remarks of the Secretary and the disclosures about the Andover workhouse, where the inmates were found sucking the marrow from putrid bones, led to the supersession of the Commissioners by the Poor Law Board in 1847. From that time till 1900 there was little change in the letter of the law, except that the Local Government Board took over the work of the Poor Law Board in 1871. The spirit in which

the law was administered underwent considerable change; the history of the Poor Law in the second half of the nineteenth century shows the gradual mitigation of the severity of the Act of 1834.

The twentieth century has seen the break-up of the Poor Law. Old Age Pensions payable at seventy, first introduced in 1908, and the more recent contributory pension schemes for widows and orphans, relieved the rates at the expense of the Treasury. The National Health Insurance Act made less onerous the task of the Unions in dealing with the sick, while the Workmen's Compensation Acts succoured the "wounded soldiers of industry". Unemployment insurance and benefit, the "dole" and outdoor relief abolished the workhouse test for the able-bodied. Thus the great task of relieving poverty and infirmity has been subdivided and distributed among various agencies, the working of each of which will be discussed later.

In the Poor Law itself there have been three stages in the last thirty years; firstly, the whittling down of the regulations against outdoor relief by permissive legislation such as the Relief Regulation Act, 1911; secondly, the utter chaos consequent upon the coming of peace in 1918, and thirdly, reorganisation in 1930. The first period was also marked by the investigations of a Royal Commission which was set up in 1905, and which presented its report in 1909. The chief criticisms made therein were that the Poor Law areas were too small, that the Boards of Guardians were too unwieldy in size, that there was no uniformity in administration and that the general workhouse did not provide a suitable test. The most important suggestions were the substitution of control by county and borough committees for that of the Guardians, the abolition of the general workhouse in favour of separate institutions for indoor relief, the extension of the boarding-out of children, the granting of outdoor

relief in special cases after thorough inquiry and the provision of machinery, such as the establishment of Labour Exchanges, for dealing with unemployment. The Minority Report added many further and more drastic suggestions. The Reports were shelved and the question passed over until 1917, when the Maclean Committee was set up and made similar recommendations.

The Poor Law functions of the Local Government Board were transferred in 1919 to the Ministry of Health, which was given control over the Boards of Guardians by means of poor law orders, inspection, audit and the sanction of loans. Unfortunately, these restraints proved insufficient to check the policy of those Guardians who realised that the law was antiquated and were resolved to wreck it. Outdoor relief, supplementary to unemployment benefit, was given on such a lavish scale that the rates in some areas rose to prodigious heights and huge debts were rapidly accumulated. Poplar, West Ham and Chester-le-Street led the onslaught, which continued until the Ministry of Health refused to sanction fresh loans. In 1926, when the abuses were worst, the Boards of Guardians (Default) Act was passed which gave the responsible Minister the power to supersede the Guardians where he deemed necessary. In West Ham and Chester-le-Street the administration was put into the hands of three paid experts, who soon reduced expenditure without imposing needless hardships.

In 1927 a codification of the Poor Law was carried out, by which ninety-nine statutes were reduced to a single Act. No vital change in principle was made in that year, but in 1930 when the Poor Law was again codified the Guardians were abolished and a system of administration by local committees and salaried officials was substituted; relief to the able-bodied was limited and correlated with unemployment benefit; the registration of births and deaths with which the

Guardians had been burdened was transferred to the electoral registration officers; certain changes were made in matters of settlement and removability and in the methods by which Treasury grants were calculated. The changes thus introduced were chiefly concerned with local administration. The Ministry of Health now supervises closely a number of paid officers, whom it can remove for incompetency, whereas previously it watched over Boards of Guardians, which it could replace if necessary. The newest Poor Law came into force on April 1st, 1930; the first nine months' working (to December 31st, 1930) has shown satisfactory results which promise success for the measure.

#### HEALTH INSURANCE AND PENSIONS

The question of compulsory insurance was first mooted in Great Britain early in the twentieth century, but until 1911 when the National Health Insurance Act was passed, only voluntary schemes worked through Friendly Societies and Trade Unions were in operation. Thus Great Britain followed far behind Germany in this matter, for in that country Bismarck's law of 1889 had made insurance obligatory for all workers earning less than £100 a year. The Act of 1911 provided against sickness and unemployment (see p. 198), and was designed to decrease the poor rates by reducing the number of paupers. Non-manual workers earning less than £160 a year and all manual workers were affected by the scheme, which involved the payment of contributions by employers, workers and the Treasury. The benefits included free medical attention and medicines, treatment in sanatoria if necessary, a payment of 10s. a week to a man and 7s. 6d. a week to a woman during illness (if twenty-six contributions had been paid), and a sum of 30s. to the wife of an insured person on confinement. The fund has prospered and shows a considerable

balance, while the approved societies which insured persons are encouraged to join are almost all in a sound position: these are able, indeed, in many cases to offer additional benefits, such as dental and ophthalmic treatment. They were, however, much criticised by the Minority Report of the Commission of 1924, which investigated the whole question of Health Insurance. Their abolition was then recommended on the grounds that the societies had accumulated huge reserves and that their administration was seldom in the hands of the insured.

Few changes have been made in the underlying conceptions since 1911; most of the subsequent legislation on the subject has dealt with alterations in contributions and benefits. The contributions are 4½d. for men and 4d. for women, the employers adding 4½d. in each case, while the State adds one-seventh of the total for men and one-fifth for women. The benefits, after 104 contributions have been paid, are 15s. for men, and 12s. for women; these last for 26 weeks after which a disablement benefit of 7s. is paid. The maternity benefit has been increased to 40s. Many approved societies with the permission of the Ministry of Health give higher rates, as well as additional benefits, out of the profits of their accumulated funds.

As an appendage to the National Health Insurance system, there has been in existence since 1926 a contributory Pensions scheme, in virtue of which provision is made for the widows and orphans of insured persons; insured persons between the ages of 65 and 70 are eligible for pensions, as are their wives if they are between these ages. The contributions required are 4½d. from both employer and worker in the case of a man, and 2½d. from the employer and 2d. from the employee in the case of a woman.

At present the fund is not self-supporting, as many are receiving pensions under the scheme who have

not been contributors. The pensions paid under the Act of 1926 must not be confused with the Old Age Pensions payable at the age of 70, which were introduced in 1908, and the cost of which falls upon the Exchequer. No person who is in receipt of poor relief or is in prison is eligible for an old age pension, which is now 10s. a week. Insured persons are granted their pensions without restriction, but uninsured pensioners may not earn more than £26 5s. or be in receipt of a total income of more than £39 per annum, if they wish to receive the full 10s.

#### UNEMPLOYMENT INSURANCE

In compulsory unemployment insurance Great Britain was the pioneer. There was an "ill-judged and disastrous" experiment at St. Gall in Switzerland in 1895 and there was a system of aid for the unemployed in Ghent, but there was no nation-wide scheme, until the National Health Insurance Act, 1911, laid down the terms for compulsory insurance in certain trades where unemployment was chronic. Prior to this date, systematic relief for unemployment existed only on a voluntary basis, through Friendly Societies, Clubs and Trade Unions.

In all, 2½ million workers were affected by the unemployment insurance clauses of the Act of 1911. As with the National Health Insurance, employers and workers paid contributions and the Exchequer supplemented the total. The Labour Exchanges, set up under an Act of 1909, were used for the keeping of records and the contributions were collected through the Post Office by means of stamps, a plan borrowed from Germany. The benefit, which was at the rate of 7s. a week, was intended not as a subsistence allowance, but as a supplement to savings. It could be claimed after a waiting period of six days, but not unless twenty-six weekly contributions had been paid. Fifteen weeks was the maximum time for which full benefit

could be drawn. In its original form unemployment insurance was meant to be a preventive of poverty, but not a permanent substitute for relief.

The scheme was put into operation in 1912. A period of industrial prosperity, followed by the war years, in which unemployment almost disappeared, resulted in the accumulation of a large balance in the fund, amounting in 1920 to £21 millions. The out-of-work donation, a subsistence allowance to ex-service men, granted by Parliament and paid by the Exchequer, preserved for a time the reserve, but it heralded the introduction of a new principle into unemployment insurance. The Unemployment Insurance Act of 1920 brought into the scheme all workers except agricultural labourers, domestic servants, certain permanent employees, and non-manual workers earning £250 or over. Contributions and benefits were increased; the waiting period was reduced to three days and modifications in the qualifying period were made for ex-service men. The Act contained clauses whereby industries might contract out of the scheme subject to their drawing up approved plans of their own. It was expected that this would be much appreciated by industries in which there was little unemployment, but in fact only the banking and insurance houses availed themselves of it, and the right was withdrawn in 1927. In the Act of 1920 a distinction was drawn between covenanted benefits which are the right of the insured person and uncovenanted benefits which might be granted for an indefinite period at the discretion of the Minister. Thus, as Sir William Beveridge says, "Relief was grafted on insurance" and the bankruptcy of the Unemployment Fund was inevitable.

The Act of 1920 was launched into a sea of trouble; the exceptional conditions of the period of post-war depression caused the rapid exhaustion of the balance in the fund when the out-of-work donation was

withdrawn and a large debt rapidly accumulated. The situation, already getting out of hand, became more serious in 1924, when the Labour Government took away from the Minister of Labour his discretionary powers. Fifteen separate Acts were passed between 1920 and 1926 modifying the conditions of unemployment insurance. Most of these were genuine if ineffectual attempts to put the fund on a sound basis, but a few were dictated by sectional interests rather than by regard for the national welfare.

The most important legislation since 1926 is the Act of 1927, in which were embodied many of the recommendations of the Blanesborough Committee which was appointed to investigate the problem. This Act was amended by an Act of 1930, terminable in 1933. Under the present conditions of administration, every insured person has a book which is lodged at the Labour Exchange when its owner is out of work and with his employer when he is working. To obtain relief a man must show that he is unemployed, capable of and available for work and normally in an insured trade. No one, however, can be forced to take work in an industry in which there is a trade stoppage, or for less than the standard wage. Disputes as to eligibility for benefit are settled by a Court of Referees, from whose decision the Insurance Officer can appeal to an Umpire. Under the Act of 1930 the maximum contributions payable for an adult male were 8d. by the employer, 7d. by the worker, and 7½d. by the State; the rate of unemployment benefit, which was paid to insured persons without inquiry into circumstances was 17s. for a man, with additional benefits of 9s. for an adult dependant and 2s. for each child, 14s. for a woman, with lower rates for young persons under 21. Uncovenanted or transitional benefit was paid after 52 weeks' continuous unemployment or when a minimum of 30 weeks' contributions had not been paid. The Treasury, under the Act, contributed



the whole cost of transitional benefit and its administration. The Insurance Fund was, however, insolvent, and during the early part of 1931 money was borrowed at the rate of £1 million a week; during October, 1931, the total indebtedness approached £100 millions.

The Economy Measures of October, 1931, brought considerable changes in the administration of the Unemployment Insurance Acts. Not only were some of the abuses, pointed out by the Interim Report of the Royal Commission under Judge Gregory, rectified, but the scale of contributions and benefits was revised. The maximum contributions payable by both employer and employee became 10d. for a man and 9d. for a woman; the maximum benefits were 15s. 3d. for a man and 13s. 6d. for a woman. The allowance for an adult dependant was reduced to 8s. Covenanted benefit was limited to 26 weeks, and all borrowing for the Fund was stopped.

#### WORKMEN'S COMPENSATION ACTS

The Workmen's Compensation Acts are supplementary to both the Factory Acts and the National Insurance Acts. Their history began in 1880, when legislation was introduced which first gave the workman a claim against his employer which could be sustained in a court of law. Prior to this Act, the workman's only remedy for injury was a common law action in which he had to prove the personal negligence of his employer. Contributory negligence and the risks arising from employment were usually sufficiently strong arguments to secure the rejection of the injured workman's plea. The Employers' Liability Act of 1880 did little more than define more closely the employer's responsibilities in the matter of fencing and other safeguards, and to give the workman a claim where the injury was due to the carelessness of a fellow-worker. The Act was rendered ineffective by a clause that allowed "contracting out" and by the fact that

contributory negligence was still a sufficient defence.

This non-committal attitude of the law remained until 1897, when the Workmen's Compensation Act of that year marked a definite step towards greater security for workpeople, in that it was based upon the knowledge that accidents sometimes occur which are due to no one's fault. The question of damages did not arise in such cases as the employer's negligence was not pleaded; the principle of compensation was therefore introduced. The Act applied only to certain dangerous trades, but "contracting out" was forbidden unless there were some other scheme. In 1900 agricultural labourers were brought under the Act, and in 1906 Workmen's Compensation was widely extended to include non-manual workers earning up to £300 and all manual workers, excepting only casual labourers working for an employer but not at his trade, outworkers, members of the employer's family dwelling in his house, policemen and members of the Army and Navy. Industrial disease, contracted in the course of work, could be preferred to validate a claim. Compensation took the form of a weekly payment made through the County Court, and in the event of death, of a lump sum paid to the dependants in instalments through the same channel.

The Act of 1923, which consolidated the law in this respect, added no new principle. It gave better chances to workers who suffered injury through admitted carelessness, raised the maximum sum that could be given in compensation to £600, and increased the salary limit to £350. It left unremedied some of the weaknesses of the Workmen's Compensation Acts. Firstly, employers are still under no compulsion to insure against accident. This may mean that an injured employee may be unable to secure the compensation he has been awarded. Secondly, the worker himself, or his dependants, must make his claim. Many make their claim through their Trade Union

solicitor, but where this aid is not available, the worker, ignorant of and unused to negotiations, must bargain with a powerful insurance company, as the vast majority of the insurance is carried out by private companies who make a considerable annual profit on what should be a national concern.<sup>1</sup> An indirect remedy against insufficient payment exists in the fact that the Registrar of the County Court may refuse to record the compensation when it passes through his hands. In Germany the first difficulty is overcome by the formation of Employers' Associations in the various industries; this example has been followed in Great Britain in the "refractory industries", where employers contribute to a special fund to compensate those who contract fibroid phthisis.

#### SOCIAL SERVICES AND LOCAL GOVERNMENT

The laws framed for the improvement of working conditions and for the provision of protection against poverty and sickness form only a small part of the mass of social legislation that has been placed upon the Statute Book in the last century. Sanitation, public health, housing and education are among the other topics that have occupied the attention of Parliament. The resultant growth of State Socialism is directly due to the Industrial Revolution, which has also caused the extension of the suffrage from a handful of landowners, householders and freemen of boroughs to the entire adult population of the country.

The great Reform Act of 1832 proved a bitter disappointment to the workers of the Midlands and the North who helped to get the Bill through, for the balance of power passed to the middle class, which was even more distrusted than the nobility and gentry. Many trade unionists therefore turned to the Chartist

<sup>1</sup> See W. A. Robson. Article in Sept., 1930, No. of *Political Quarterly*—"Industrial Relations and the State."

movement which seemed to the bourgeoisie to threaten revolution, but which failed to achieve its immediate objects owing to the unskilful tactics of its leaders. At length in 1867 the enlightened Conservatism of Disraeli extended to the artisans the voting privileges they had not been able to win for themselves; and in 1884 the Liberalism of Gladstone enfranchised the agricultural labourers and made manhood suffrage general. Subsequent Acts in 1918 and 1928 have extended the vote to all men and women over twenty-one years of age. Thus later reforms have been due not to the beneficence of aristocratic philanthropists like those who struggled to preserve a few shreds of their proposed Factory Bills, but to the work of Parliaments elected on a wide franchise.

The administration of the great volume of social legislation that has resulted from the economic changes and the increase of wealth needs a knowledge of the special local conditions which could never be gained by the army of officials which would be required to work a centralised system. The laws would remain inoperative were it not for efficient local government, which, though under central supervision, still retains powers of discretion and independent action.

It has been rightly affirmed that the Municipal Corporations Act of 1835 wrought a more important change in English life than the Great Reform Bill. The conditions that existed in the towns before 1835 have been briefly touched upon in Chapter V. The Municipal Corporations Act was a brave attempt to produce order from chaos by equalising the franchise and standardising the methods of government in all boroughs except the City of London. The corrupt oligarchies and close corporations were swept away and the middle classes were marshalled into the elected borough councils. Shopkeepers and the smaller householders were pressed into the unpaid service of their country to put right affairs that were beyond

the control of the mediæval limpets whom they displaced.

The new brooms could not at first make a clean sweep because they found obstacles in the Improvement Commissions which had obtained powers from Parliament similar to those held by the Turnpike Trusts. "These Commissions were the most important Local Authorities of the time (i.e., before 1835), and most of the work which we associate with municipal government was in their hands. They could borrow or levy rates within strict limits for special purposes."<sup>1</sup> They sometimes controlled roads, paving, drains, street lighting and water supply. At length their duties passed to the Borough Councils, which already had charge of police, markets, harbours, corporate property and the rates. As the Councils were elected by all adult male ratepayers, they could justly claim to speak for their constituents. As the nineteenth century progressed, the duties and activities of the Borough Councils expanded owing to the addition of various forms of municipal trading as well as of other social services.

It was not until 1888 that local government outside the boroughs was based upon the principle of electoral representation. In that year, elected county councils, urban and rural district, and parish councils were created in those areas which were not affected by the Municipal Corporations Acts of 1835 and 1882. Previous to this, the Public Health Act, 1875, had divided the country into sanitation districts, which continued to exist until 1894. No vital change has been made in the system of local administration since 1888, though the Local Government Board was abolished in 1919 and the Ministry of Health constituted in its stead. The Onslow Commission in 1925 made various suggestions with regard to the creation of boroughs and county boroughs, most of which have

<sup>1</sup> Mr. and Mrs. Hammond, *The Age of the Chartists*.

since been accepted. The effect of the Local Government or De-rating Act of 1929-30 upon Poor Law functions has already been mentioned; otherwise it affected local authorities only in matters of finance.

The citizen is more interested in the activities of the Government Department presided over by a transitory Minister than he is in the efficiency of the local authority, to which the central authority delegates most of its powers. This is clearly shown in the lack of enthusiasm at the council elections. Yet incompetency in the local authorities would immediately result in some disaster, such as bad drainage, burst water-mains, poor gas supply or unrepaired roads. In spite of the tutelary care of the Ministry of Health, little real progress could be made towards the production of a healthy race without the voluntary services of county and borough councillors.

The most important of the functions of the Local Authorities are connected with the well-being of either the bodies or the minds of the people and with the raising of the necessary rates. The responsible body may be a rural or urban district council, the council of a county or borough, or even a parish. The Local Authority must appoint a qualified Medical Officer of Health, an Inspector of Nuisances and a Sanitary Inspector. It must provide adequate drainage and sewerage. It must make arrangements for the notification and treatment of certain infectious and contagious diseases. It must inspect dairies and slaughterhouses and test samples of food and milk. It must see that the roads are properly cleansed and repaired. It must hold a house-to-house inspection every five years; it must devise schemes for slum-clearance and provide such new houses as are necessary. The Local Authority must see that refuse is properly disposed of, that nuisances are abated, that rivers are not polluted and that burial places are available. It must organise a fire-fighting service. The county or county

borough authorities must see that there is an adequate police force.

The Local Authority also has permissive powers. It may control the water supply and may supervise the provision made by a private company. It may provide Hospitals, Maternity Homes and Day Nurseries. It may supply free milk or free meals where they are needed. It may establish baths and washing places and it may purchase parks and pleasure grounds.

The supervision of education is in the hands of the administrative county councils (that is, the councils of counties and county boroughs). The larger borough and urban districts, however, usually look after elementary education and may obtain control of higher education. Attendance at school is now compulsory for children between the ages of five and fourteen, and it is within the power of the local authorities to provide for the care of infants under five, as well as for the education of adolescents over fourteen. The Local Health Committees usually co-operate with the Education Committees by arranging for the inspection of the children by medical and dental officers. Education has advanced far since the passing of the Elementary Education Act of 1870. The extension of education is dependent upon the enlightenment of the Government, the wealth of the nation and the exigencies of the economic situation. The country has not yet been able to afford to put into practice all the clauses of the Fisher Act of 1918 regarding continuation classes, but the general movement resulting from the modern organisation of industry is to raise the age of entry in trade or manufacture.

The exponents of *laissez-faire* who banished the remnants of the Elizabethan system would, indeed, be filled with sorrow if they could see the results to-day of the Industrial Revolution, which they looked upon as a means of salvation. In so far as equality of all

citizens before the law is the basis of liberty, the Englishman to-day is as free as his great-grandfather. His actions are, however, circumscribed by Acts of Parliament and convention. His allegiance to a Trade Union prevents him from making his own contract with his employer. Compulsory health and unemployment insurance, compulsory house inspections, compulsory education and compulsory inspection of school children deprive him of the right of free action in important spheres of life. The individualist of 1850 might well pause horror-stricken, but on consideration he might admit that "the greatest happiness of the greatest number" is often obtained through the shepherding of the masses down paths which they would not dare or would not care to travel alone. Good working conditions, provision against poverty and sickness, and the best social services the country can afford are the birthright of the descendants of those who suffered in the Industrial Revolution. Discrimination in aims and a careful scrutiny of expenditure are, however, the debts that the present generation owes to the men who made Great Britain the creditor nation of the world.<sup>1</sup>

<sup>1</sup> The estimated cost of social services for 1931-32 is £237 millions; the cost for 1906 was £18 millions.



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Part II

THE PRESENT-DAY ECONOMIC SYSTEM  
AND ITS PROBLEMS

## CHAPTER X

### THE STRUCTURE OF MODERN CAPITALISTIC INDUSTRY

THE present-day organisation for production in Great Britain, though similar in its framework to that which became established in the latter half of the eighteenth century, differs from it in a number of important ways. On taking a comprehensive view of the existing system we find that some features in it are developing more rapidly than others throughout the western world as a whole and that progress in this direction or that is by no means equally advanced in the various countries in which the system has taken root. We cannot safely keep our attention fixed upon a single representative country, for the network of organisation within the system has spread beyond national territories over a large part of the civilised world. In spite of tariff barriers, the nations are becoming more closely interlocked than ever in the economic sphere through agreements between Governments and through ordinary commercial enterprise. Thus changes in the method of conducting industry or of financing it, in customs tariffs or in the prosperity of trade in any particular important country, give rise to reactions both soon and certainly in many others.

In western countries knowledge is being accumulated constantly, and, when applied in conjunction with capital to industry, leads to changes mainly in the form of improvements in the material equipment for production. These together with developments in technical processes and administration lead to changes by

way of adaptations in the methods of organisation, always with a view to economies. The same search for improvements is extended to social life generally. As a result, changes take place in the modes of production and distribution, in the relation of the various partners in production towards one another, and in the economic activities and policies of governments. These developments suggest a measure of adaptability of means to the end of satisfying human needs. The aim throughout is to economise effort in the business of supplying wants, or to secure greater satisfaction with the same effort. In practical life the stimulus is supplied by the expectation of greater profits on the part of the capitalist-organisers, of a higher standard of living on the part of the workers, and of greater general welfare on the part of the consumers at large. Hence we must beware of regarding the detailed features of the economic organisation existing at any one time as fixed with any degree of permanency. It is now recognised, for example, that the "laws" framed by the nineteenth century English economists to explain a system those writers knew, are not of universal application, but require modification to meet other conditions of time and place.

#### THE IMPORTANCE OF KNOWLEDGE AND MATERIAL EQUIPMENT IN ECONOMIC PROGRESS

Nature, the source of raw materials, food crops and industrial power, is the starting point of all economic activity. Man has made material progress simply by finding ways of applying his efforts more effectively to nature. In primitive societies where the accumulated knowledge and material equipment were both scanty, human beings could add little, even with great efforts on their part, to the free gifts of nature. In societies like those common in Europe in the Middle Ages, in which the possession of greater knowledge and some stock of domestic animals and equipment

added to the product resulting from each unit of human effort, it has generally been possible to win something above mere subsistence. The surplus could be devoted to the ornaments of life or wasted in warfare, as much of it has been consumed by the rulers and others who have been able to appropriate it. On the other hand, part of it might be used to increase the stock of material equipment; which has happened more especially at the times when discoveries of new lands or increases of knowledge have rendered the surplus greater and the equipment unusually productive. In societies of the advanced modern type there has been an immense accumulation of knowledge as well as of equipment. Not only is each unit of human effort made vastly more productive than that of primitive peoples, but many things can be done that were formerly beyond man's physical power and skill.

In view of the outstanding part played by material equipment on the modern economic stage, great emphasis has been laid upon inducements for preserving and accumulating it. Chief among these, perhaps, is the institution of private property by means of which society at large guarantees to each person the possession of any fruits of his economic efforts, including in particular the unconsumed surplus which has taken the form of equipment. The stock of such things owned by a person is called his capital; and the term capitalistic industry simply indicates a form of organisation for production in which the stock of instruments is large and is mainly in private ownership. Owing to the effectiveness of these instruments for productive purposes, the owners have enjoyed a very strong strategic position in their bargainings with the workers, who have hitherto had little share in the ownership of these or any other things.<sup>1</sup> The stigma that has

<sup>1</sup> On the other hand, with the rise of organised labour in recent times, highly fixed capital assets, such as railways which are costly to maintain whether worked or not, have placed their owners at a disadvantage in bargaining with employees.



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unfortunately fallen upon the name capitalist has largely been due to the abuses of their strategic position by the owners of equipment, with whom the owners of land also have been closely associated.

There is no doubt that the people as a whole of any advanced country are better off in a material sense in this mechanical age than their predecessors were before it began. They may not be more contented, but that is a different matter. Among the gains that have been made three are outstanding. First, arduous human drudgery has been greatly lightened, if not entirely dispensed with; and work in general is performed under more sheltered, easier and healthier conditions. Second, the hours of labour per day or week have been considerably shortened. Third, the volume of goods and services available to the average member of the community has notably increased; the real wages of workers in Great Britain are estimated to be about four times as great now as they were a century ago. In spite of these advances the existing system has been subjected to much criticism, mainly with regard to the distribution of the product, but also as to its whole money-ridden structure. These criticisms will be dealt with in the course of the account which follows of some of the main features in the structure and operation of the so-called capitalistic system.

### THE IMPORTANCE OF EFFICIENT ORGANISATION

Of the three factors which enter into the production of goods—nature, human effort, and material equipment—the first yields very little in the way of useful things ready for human consumption in long-settled areas, without considerable expenditure of the second: the land has to be carefully tilled for crops to grow, minerals cannot be extracted without vigorous mining operations, fish would remain in the sea were it not for the work of fishermen. In other words, the term “free gifts of nature” has very small application, except

perhaps in regions rich in natural resources occupied for the first time by an intelligent race of people. The two other factors then, human effort and material equipment, become increasingly important in the business of production, as time goes on.

In its narrower sense human effort means manual labour, that for which wages are paid. In its wider sense it must include the work of clerical staffs and of those who undertake the organisation and direction of industry. The hours of labour for the average wage-earner have diminished, as we have seen, with the progress of the Industrial Revolution. By no means the whole of the reduction that has been accomplished in the amount of labour required per unit of output has resulted from the growth of instruments of production, or capital goods. Some of it has been due to the increase of knowledge and to greater skill on the part of the workers ; some to the development of specialisation ; and some, probably an important part, to improved organisation, to a better choice of ways and means on the part of those responsible for the direction of business. Enterprise, good judgment and initiative in these people are invaluable in achieving economy in production and in rendering the whole productive system adaptable to changing times and changing needs. If the commercial groups are included, as they must be, in this system, it is found that as time goes on, there is more work for the closely associated organising and clerical classes, and that their numbers therefore increase at a faster rate than do those of the manual workers. There is, indeed, a tendency in those countries in which industrial changes have proceeded furthest for a vast lower middle class to emerge, consisting of the better-paid skilled workers, the clerical and the professional groups, leaving below it a smaller class of lower-paid unskilled workers, and above it a still smaller class of highly-paid organisers and administrators.

## THE HUMAN FACTORS IN PRODUCTION

In analysing the structure of productive organisation, the earlier economists recognised three factors, nature, labour and capital, the remunerations for which were called respectively rent, wages and profits. They were thinking mainly of the organisation of British agriculture with the landlords, labourers and tenant-farmers. This analysis was never very satisfactory when applied to industry as a whole, especially with regard to the third factor. In order to indicate the organising and risk-taking functions of the employers working mainly with their own capital, the term entrepreneur came into use, and has remained. Even with this change, the classification of productive agents does not fit present-day conditions over large tracts of manufacturing industry and commerce, in which far-reaching developments have taken place in the last fifty years. In the first place, with the growth of joint-stock companies and publicly-owned enterprises, many people, including numbers of the workers themselves in some countries, contribute capital to industry without taking any active share in the management of the concerns in which they invest. In the second place, a class of salaried managers of business enterprises has sprung up, who may not have any capital holding in the concerns they manage, and whose remuneration depends only partly, or perhaps not at all, on the net revenues earned by these concerns. In the third place, many capable business men start with scarcely any capital of their own, but manage to win sufficiently the confidence of those who invest savings, to have large sums entrusted to them to finance the business they personally conduct. It is to be noticed that each of these three modern developments points to a growing separation of the management of industry from the ownership of the capital employed. In other words, the double function of the entrepreneur tends to get

split up, part of his "profits" going as interest and remuneration for risk to those who supply the capital, and the rest to the specialised class of organisers as a return for their services. A striking illustration of this is afforded by the way in which successful enterprises, when they require capital for development, are converted into public companies which are in a position to attract investment in debentures or shares from the general public. The advantage of this development lies in the wider field of choice in the search for organisers of ability, especially for large enterprises, when the personal possession of capital resources is no longer an essential qualification in such persons.

In spite of the continued existence of many small businesses and some large ones in which the owners are at once capitalists and organisers, it seems more appropriate with reference to large-scale production to think of four factors in production, namely, nature, capital, labour and organisation. When we try to divide the income-receiving population of any advanced country into groups according to these factors, nothing is clear-cut. The rents received by landlords usually contain some element of interest on capital; those who invest capital in industry almost always take some risks, and get larger or smaller returns (profits) according to the combined effect of the whole range of economic factors upon the fortunes of enterprises; organisers and even workers contribute capital out of their savings; and there are whole groups of people, such as the professional classes, domestic servants and others, who contribute useful efforts that cannot easily be assigned to the class either of labour or of organisation in the economic structure.

#### OUTSTANDING FEATURES OF MODERN INDUSTRY

We now pass to a consideration of the leading features of the modern system of production, which may be summarised as follows: the system is capitalistic;

it makes a wide and constantly growing use of the principle of specialisation; it allows within limits complete freedom of enterprise to those who occupy a place in it; and it is based primarily upon competition (now considerably modified) under which human agents follow the indicator of value in deciding what to produce and how to produce it. In connection with what follows, it must be clearly understood that the term production is to be taken in its widest economic sense, so as to include not only the extractive, farming or manufacturing operations, but also all services rendered in the movement or marketing of goods, and further, any services rendered directly and paid for by those who receive them, for example those of a doctor or house agent.

### THE CAPITALISTIC BASIS

Reference has already been made to the essential importance nowadays of material equipment as an instrument of production in manufacturing and in transport industries, and to its growing importance in agriculture. Equipment of every kind is the result of accumulation on the part of persons who might have consumed what they saved. Those who accumulate get a return for what they ordinarily call their capital, expressed as a rate of interest or a dividend; and the price of accumulation, or interest, is broadly determined like that of most other things by the exchange value of the last unit absorbed by the market, in other words, by its marginal value.

The demand for capital is not, however, confined to what can be profitably embodied in machines and similar instruments. Most of the land occupied by civilised man, is far from being in its original state. Something has been done to it to make it more productive, or more useful, and what has been done represents accumulation of effort in the expectation of

greater returns or greater satisfaction at a later time. Wherever improvements of this kind are being made now in any part of the world which is in touch with the great international market, there is an effective demand for capital.

A third source of demand for capital arises from the specialisation in production whereby in normal times large stocks of raw materials, of partly made and of finished goods have to be held for longer or shorter intervals, in readiness for use, either in the course of production or awaiting consumption. With developments in productive capacity, through which manufactured or transported goods form an increasing proportion of all the goods consumed, these stocks tend to expand in total volume. The yearly additions to such stocks in any single country or even in the world as a whole are probably not very great, nor can they be easily estimated. Yet whatever additions are made are clearly in the nature of accumulation, and constitute a demand for capital.

Thus equipment, land and goods on hand, are all expressed in terms of capital in the working of the economic system, and the persons who can get command of capital can get control of these material essentials in production. These people together with the salaried organisers whom they employ, have in their hands the planning and the direction of the day to day operation of the productive system. The whole directing class, commonly but rather inaccurately called either the capitalist, or the employing class, is best distinguished as that of capitalist-entrepreneurs.

#### SPECIALISATION

Specialisation of human agents, of equipment and of regions for productive purposes is an essential feature of the modern economic system. The gain in efficiency following upon specialisation of occupations among workers is so obvious as to have been recognised at a

very early stage in civilisation. Before the introduction of modern methods of transportation, however, the obstacles to the movement of large quantities of goods from one place to another were so great that each district was compelled to be more or less self-contained as to its requirements; large-scale production of goods in particular places to meet the needs of wide-spread distant areas remained impossible till raw materials, finished products and food-stuffs could be transported at will both cheaply and quickly. This condition became realised with the introduction of railways and steamships, which began about a century ago and made extraordinary progress in the next twenty years (see Ch. IV). Prior to the railway era specialisation in manufacturing industry, and with that most other forms of productive specialisation, was limited in scope, in that it was limited in place, to districts which had facilities for transportation by water. That is one of the reasons why Northern England, no part of which is far from the sea, remained the only considerable manufacturing region in the world for well-nigh a century after 1750.

Some parts of even a small country like England, still more of the world as a whole, are much better suited to the production of particular things than others are; not only of agricultural products, which is self-evident, but also of manufactured goods, owing to differences in resources, in climates and especially in the aptitudes of the populations. From about 1850 the Industrial Revolution took a new lease of life, or rather it then began to become a world-wide development. Thenceforward regional or territorial specialisation in both manufactures and in agriculture grew apace, embracing many new areas, intensifying the economic life of already-existing specialised districts, and yielding great economies in the human effort needed for a given volume of production. Nowadays, indeed, the tendency is for regional special-

isation to be carried so far that each area concentrates more and more on a limited range of industries, sometimes on a single industry, the products being distributed far and wide over the world at large.

When we turn to the separate regions or industries, we find that the gains due to specialisation of activities within them are no less evident. In manufactures costly labour-saving plant can be installed, because the owners can anticipate a reasonable return on their outlay when the volume of the output taken by a world market is large enough to keep the plant in more or less continuous operation. A kind of traditional knowledge and skill grows up among the workers who are specialised in working complicated machines and in handling uncommon materials. Subsidiary industries complementary to the main ones are established. Progress is made in invention and discovery since the ingenuity of inventors is stimulated and promising results can be readily tested and applied. Above all, those who conduct the industries are able to concentrate their attention upon the problems of organisation peculiar to them, and to keep in touch with the conditions affecting their special industries in the world at large. The more able leaders find opportunities for employing their talents in building up huge large-scale undertakings, in which full advantage can be taken of the economies of concentrated production, the utilisation of by-products and world-wide marketing organisation. In agriculture, the gains arising from specialisation are less spectacular than in manufactures, but are perhaps not less real. Good illustrations are afforded by such areas as Denmark and the Canadian Prairie among many others. There specialisation has been accompanied by great advances in technique and scientific knowledge, together with improvements in transport facilities and especially in marketing arrangements.

Since no specialist consumes more than a fraction



of what he himself produces, the developments just described involve an ever-increasing number of exchanges of products between those attached to the various industries in any area, and also between the population-groups of the various specialised areas. To carry out these exchanges is the function of a large group of agencies, including merchants, produce-brokers, retailers and credit institutions. With the increase in the volume and complexity of the exchange services to be performed, these agencies have grown more numerous and influential, and have at the same time themselves become highly specialised.

Questions have sometimes been raised as to whether these intermediaries are really essential to the productive system, or at all events, whether the remuneration they get is justified by the services they render. There can be no question, however, as to the importance of getting the work which they do carried out properly. For on this depends the proper co-operation and the efficient working of the specialised producers up and down a country and throughout the world. Whereas formerly producers and consumers were in fairly close touch with one another, in modern times the gap between them has greatly widened both in time and place. In order to take advantage of the economies of specialisation, production of necessity proceeds largely in anticipation of demand, and in the interests of efficiency should be as uninterrupted and as free from fluctuations as possible. Someone's business it must be to work the exceedingly complicated machinery by means of which innumerable exchanges of products are daily made between all sorts of producers.

The machinery is far from automatic in its working. The element of uncertainty that lies in all things anticipated makes that impossible; more especially when the forecasts have to do on the one hand with the vagaries of nature (in the yield of crops and so on), and on the other with the vagaries of human psychology,

in the varying demand for products. As things are, serious miscalculations occur, due partly to mistakes by those who organise production and by the intermediary class, and partly to factors which cannot be foreseen by the average intelligent business man. Yet, however caused, miscalculations are apt to leave unfortunate effects upon production through the interruptions they bring in their train, and the losses due to them must be set against the gains of specialisation. Since the specialised intermediary or exchange agencies are nearest to the centre of the whole system and have some control over its working, it is clear that much depends on the skill with which they handle their business, and upon the guidance they give through market indicators to the separate producing industries.

#### FREEDOM OF ENTERPRISE

On comparing the modern system of production with those which preceded it, we find that no feature distinguishes it more clearly than that of the freedom of industry and enterprise, or economic freedom. As explained in detail in the historical chapters above, the Industrial Revolution has broken up the older order in which custom and status held such a prominent place. Each producer, whether employer, salaried servant or wage-earner, is free from legal or social restrictions as to what business or occupation he will devote himself to, and is at liberty to make the best terms he can in the contracts he enters into with others. The apprenticeship system has more or less disappeared, and the only restrictions imposed on workers seeking employment in any trade, provided of course that they understand their job, are those which Trade Unions manage to enforce by direct or indirect pressure. Scarcely any technical qualifications are required in those who engage in business on their own account. Anyone, for example, can set up as a boot manufacturer, or start a banking business or engage in dis-

tributive trade who can command the necessary capital. All this appears to run counter to the marked feature of specialisation in modern industry already described. As a matter of fact, however, while everyone is free to engage in whatever business he chooses, he will have little chance of making a success of it or of remaining in it, unless he masters the necessary specialised technique or manages to find someone to work for him who can supply it. Once people have devoted considerable effort to the understanding of a business, they naturally tend to remain in it if they can; more especially if they have sunk in it large sums of capital which cannot be readily realised. They are always free, however, to try something else in which they think they have better chances of success.

Several factors have further contributed to the obliteration of restrictions upon people's choice of economic activity and upon the terms under which they work. First, general semi-mechanical intelligence in workpeople and general business ability in employers are often more valuable qualities nowadays for efficiency and success, than is expert knowledge acquired as a result of long training. The latter can be supplied by a relatively small number of persons attached to each industry who specialise in matters of technique. In a large manufacturing works a few highly-trained mechanics are required to set up machines and keep them in running order, the great body of the workers acting chiefly as machine-minders. A number of small firms can rely upon the services of a single professional accountant to guide them in the essentials of business-like procedure. Second, since modern industry is organised on a very wide territorial basis, and has to be ready to adapt itself to constantly changing conditions of production and demand, it must preserve the utmost fluidity of structure consistent with efficiency. It can achieve this only by allowing human agents the maximum economic freedom, so that each

may vary his methods or the terms of his fresh contracts, or change his business or employment according to the needs of changing times.

Third, it is desirable in the interests of society at large that each person's efforts should yield the maximum return of produce that is wanted. There is no question that people differ very much in aptitudes, and that they do not always find when they start out in life the occupation for which they are best suited or one the products of which are in active demand. Given economic freedom, each person has opportunities of discovering what he can do best; and that is likely as a rule to be not only most congenial to his bent, but also most remunerative to him and most productive of general material welfare. Further, in a general sort of way, relative value is the indicator which is used to show relative demand for the various commodities and services that are available. But relative values are constantly changing, and it is only by giving the fullest possible freedom to producers to follow this indicator, changing their activities in response to it, that the supplies can be adjusted to what society needs.

Valuable as economic freedom has proved, it has in the past been badly abused, particularly perhaps in England in the early nineteenth century. In order to check obvious abuses, various restrictions have been imposed by Government in most countries. The most striking of these are embodied in Factory Acts and Company Legislation, the former of which are aimed at securing fair treatment of workpeople by employers, and the latter at the prevention of the worst frauds in the promotion and management of share companies. In addition, we have a whole series of enactments, such as the laws relating to the sale of food and drink, which have been designed to protect the public from unscrupulous dealings on the part of those who are tempted to abuse economic freedom in special ways.

Apart from the restrictions imposed by legislation, others have come into existence through the action of voluntary bodies such as Trade Unions and the various associations of business men. The pendulum has swung away from belief in the virtues of the extreme form of economic freedom of the *laissez-faire* period. Each producer finds himself forced in self-protection into membership of some association representing his economic group, and his personal freedom of action may be hampered a good deal by the policy dictated to him by his association. In extreme cases under militant Trade Unionism, there is a tendency for a return to status as a controlling factor in the worker's economic life.

#### THE COMPETITIVE FRAMEWORK

Competition is no new thing in the world, but with the coming of the Industrial Revolution in England this force became enormously intensified in economic life. Improvements in equipment initiated a struggle in which the simple type of domestic industry was driven out of the field by manufacturing industry (see Chapters III and V). Improvements in transportation, though slow at first, gradually enabled the cheaper produce of especially-favoured, machine-using districts to compete in more and more distant and widespread markets. Since the returns of manufacturing industry, unlike those of agriculture, tend to increase greater in proportion as the output expands, employers competed with employers to secure the largest possible share of business. Since also, success in industry clearly lay in keeping down working costs to the minimum, ruthless competition among employers in this direction forced the wages of workpeople to a level that barely provided subsistence. It was all rather grim and sordid: the personal touch between employers and employed, and between producers and

consumers was lost in the rather inhuman competitive system which grew up.

Modern industry as a product of the Industrial Revolution, works largely within a system having an underlying competitive framework; international economic competition has grown rather than slackened with the development of new productive areas and improvements in communications; within national territories too, the producing units in many industries are still in active competition, and spare no efforts by advertising and other methods of attracting custom, to secure the largest share of the market they can for their products. In some notable directions, however, as we shall shortly (see pp. 234-40), the sting has been taken out of the competitive system. The last fifty years have seen the emergence of great semi-monopolistic enterprises in some industries, and the establishment of numberless combines and associations in others, together with the development of collective bargaining by workers and collective marketing by farmers.

The competitive system, in spite of the excesses which have arisen under it through unfettered private enterprise, has obvious advantages: it appeals to a healthy spirit of emulation widespread among human beings, and thus provides a strong stimulus for producers to exercise initiative and to put forth their best energies; within limits it acts as a serviceable regulator of values through market prices, protecting consumers against exploitation by producers; it secures rough economic justice in that each productive agent tends under it to be remunerated according to the manner in which what is contributed by that agent meets a public demand; it is more or less automatic in its working and enables the world's day to day business to be carried on mainly by private initiative, governmental action being limited to general controlling and regulative functions. The economic system is likely to continue working within a broad competitive frame-

work subject to considerable modification, as the best means for securing efficiency and progress. This does not mean that the competitive system is free from criticism, nor that it is impossible to modify it further in certain directions so as to eliminate, or at least diminish, the evils which are associated with it.

Some of the evils cannot be lightly accepted. It can hardly be contested that the competitive motive, based as it is largely on an appeal to self-interest, may bring out an ugly side of human nature—does sometimes lead to a harshness in business dealings, to a sacrifice of public to private welfare, and to a general blunting of the finer moral feelings. The competitive system in its cruder forms also produces a sense of insecurity in the business world. Too much of the energy of producers is consumed through anxiety as to the strategy of rivals and through attempts and counter-attempts to snatch custom. Though healthy competition undoubtedly acts as a spur to efficiency, competition of the ruthless, cut-throat kind which has been far from uncommon, diminishes efficiency through the uncertainty, if not open injustice, associated with it. Public opinion among business men may lead to the establishment of some fairly definite code of fair-dealing, but such a code has no binding force, and experience shows that there will always be some to whom it means little or nothing, if it stands in the way of what they consider to be their personal gain.

The competitive system is, moreover, partly responsible for the fluctuations in industry, which are dealt with at some length below (see Ch. XII). By tending to make business men secretive, it is apt to keep them in ignorance of material facts as to one another's operations; and by exaggerating their emotions of fear and mutual suspicion, it magnifies the vagaries of crowd psychology. Both of these features contribute their share towards making the fluctuations more serious than they otherwise would be.

Worst of all, perhaps, the competitive system results in waste of both material wealth and of human energy. Over and over again in the newer countries natural resources in soil fertility, in forests and in minerals have been plundered under competitive enterprise so as to skim the cream without a thought for the morrow. It has been no one's business to provide against squandering by enforcing conservation; on the contrary, competition has compelled everyone who wished to be successful to follow the pace set in exploitation by the more wasteful. In a wider and a more serious way, the competitive system frequently leads to waste by causing larger aggregate quantities of goods of particular kinds to be produced than are really wanted. A fundamental defect of the system is that in its unmodified form it provides no means for controlling output other than the indirect one of market values. This so lacks sensitiveness, that it often serves as an indicator only when positive harm has been done. Over-production of particular commodities is wasteful; it would certainly be better for the producers, and possibly in the long run for the community at large, if the surplus were destroyed.

There is perhaps no need to dwell upon the obvious waste due to competitive services covering the same ground, nor upon that arising from the energy expended by rival firms in attempting to forestall and checkmate one another. There is, however, one feature closely connected with the competitive system, namely advertising, that is apt to be much more wasteful than is generally supposed. Though advertising does in certain directions discharge a useful economic function, no small part of it simply represents efforts on the part of rival business firms to filch trade from one another. When the majority of the firms engaged in a particular line of business come to regard charges for advertising as part of their regular outlays, the cost is ultimately loaded on to the prices charged to the consumers,



and it tends to be quite out of proportion to the value of the special services or facilities provided in exchange. Whether the rival advertisers are offering the same line of goods or widely different lines does not matter very much. Socially they must be regarded as competing for a limited purchasing power, which they diminish rather than increase by adding to the final costs of what they have to sell. Because individual firms become successful through extensive advertising, it by no means follows that society has gained correspondingly. The incentive to expenditure on advertisement on the producer's part lies in the economies accompanying the increased output, but if that expenditure is very heavy, no part of the economies may be available for the consumer. If the advertiser succeeds in establishing a kind of reputation monopoly, he is even free within limits to lower the quality of his goods. Recent investigations into this subject point to some rather striking conclusions: first, the direct effects of advertisement in raising prices become more serious as more firms in different lines of business are tempted to use it as a means of pushing sales; second, the indirect effects of advertisement are the restriction of competition by price and quality and the establishment of reputation monopolies; and third, reputation (by advertisement) offers a very slight insurance against the risk of getting a bad article. The general conclusion appears to be that advertisement in its exaggerated forms may be, and often is, abused so as to substitute a form of competition which is harmful to the consumer for one which is beneficial to him. In short, it is apt to be anti-social in its effects, though not necessarily so in its purpose.

#### TOWARDS THE RESTRICTION OF COMPETITION

If the competitive system is open to criticism from the standpoint of society as a whole, the organisers and producers within the system have likewise found it

not altogether satisfactory and have sought over a large and growing field to modify what to them are some of its worst features by means of combinations of various kinds. Given freedom of enterprise, producers have the same liberty to combine with one another that they have to compete. In doing so they have been guided by the principle of self-interest, and since their motives have been regarded as somewhat predatory, they have received hitherto but little encouragement from public opinion. Whatever conflicts of interest the unadulterated competitive system has revealed between producers and society as a whole, the movement towards combination has led to much more serious conflicts, especially in so far as it has been successful in establishing monopolistic enterprises or associations. The interest of society lies in getting the maximum output of the goods and services it wants at the lowest cost, while that of producers lies in securing the highest value for what they have to offer, which usually means some limitation of the supply. Under pure competition the producer must look for a large return for his efforts to a small margin on a great number of units of output; under monopolistic combination he can secure the same result by getting a relatively high margin on a controlled and limited output.

The movement towards trade combination has developed along two rather different lines—by elimination and by association. The forces of competition tend to drive out the weaker firms engaged in certain trades, the survivors then get to grips with one another, and the final result is that either one comes out victorious, having killed off or absorbed the other serious rivals, or the several remaining giants being more or less equally balanced arrive at a working agreement as to markets, prices and other matters. In other trades, association predominates over elimination, which is restricted to something less than its ordinary

competitive force by arrangements among the existing firms both strong and weak to delimit markets and to maintain uniform scales of prices something above competition level. There are all sorts of variations in matters of detail, and the resulting consolidations bear different names according to special features. Thus we have associations, combines, rings, conferences, amalgamations and cartels among others. The term "trust" originated in America, but the special super-company devised under this form of combination was held to be illegal since its existence involved contracts in restraint of trade. The favourite method now employed in America as well as in other English-speaking countries is that of the central share-holding company, controlling the policy of all allied companies, which become subsidiaries to it. On the continent, where trade combinations are recognised by law, ordinary agreements for pooling resources and price-fixing are widely used, as in the form of the German cartels.

There has been much criticism of the so-called trusts, especially in America, where industrial agglomerations have assumed vast monopolistic proportions and have got out of public control. Once established, these are able to dictate prices and to secure sales against rivals by means of large-scale advertising, which the resources at their disposal make possible. Their chiefs become immensely wealthy and powerful, can flout the government and thereby create problems which democracy seems incapable of solving. On the other hand, it is claimed that great combinations make for efficiency in industry and mitigate the severity of trade cycles through their control of output. Neither of these claims can be admitted as proved; nor can it be said that great combinations do away with the evils of competition, since their effect often is simply to substitute a special and undesirable kind for general open competition. In other countries, where trade

combinations have not grown to such size and power as in America and have generally been less unscrupulous and self-seeking in their methods, public opinion has never been very hostile against them and has recently even begun to accept them as a necessary feature in the industrial structure. The problem of control remains in all countries, since automatic control through open competition largely disappears. Legislation has so far been hesitant and ineffective, but it is thought that the publication of full reports on the operations of these concerns by public accountants might do something to keep them in check. It has been maintained that there is a limit to the growth in size of large-scale enterprises because sooner or later they become too large for effective control by a single management. This may apply to those engaged in a complex type of business in which various products are handled, but recent experience shows that large-scale enterprises are very vigorous in those fields of industry where single products or single types of business are dealt with, that is, where mass-production methods can be usefully employed. There does not appear to be any difficulty in securing managerial ability to ensure the continued existence and expansion of very large enterprises and amalgamations.

Thus, whether semi-monopolistic enterprises and combinations are good or bad for society, they have come to stay. Associations of one kind or another, not necessarily of the monopolistic form, are still making headway as the most effective means from the producer's standpoint of counteracting the strain and anxiety, of reducing the waste of resources and energy, associated with unrestricted competition. Quite recently indeed, in the guise of what is known as rationalisation, a modified form of industrial combination has received Government blessing in Great Britain and has been urged upon the competing producers in various staple industries as the most effective means

available, perhaps the only means, of reducing production costs and so rendering the industries in question more efficient against foreign competition. The term rationalisation originated in Germany where some years after the close of the European War business conditions were so bad that wholesale reconstruction in the staple industries became necessary, involving the closing down of inefficient plants. It is now coming to be understood that rationalisation wherever applied is no royal road to prosperity. It is, in fact, a painful process of adjustment, only less painful than that brought about by competition which destroys the inefficient units through bankruptcies that injure the survivors. It aims at making the material equipment and the labour employed in the industry as a whole yield the maximum return. It will do so by means of widespread consolidations of existing firms, thus eliminating wasteful competition. "The basic idea . . . is the systematic reduction of costs by conscious and deliberate planning, not of this or that individual enterprise, but of each industry or group of industries as a whole." The unremunerative plant of the weaker firms will in the most probable event be closed down, and production will thus be concentrated in the best-equipped and otherwise most efficient works. Unless the demand for the product expands readily in response to the reduced costs, which is likely only if it happens to be elastic, the immediate and possibly the final result at a given level of wages rates will be less employment in the industry as a whole.

#### CO-OPERATION *versus* INDIVIDUALISM

The extreme individualism of the nineteenth century has been modified to such an extent that in practice perfectly free competition between business units now rarely exists. Owing to its imperfections the latter carries with it the seeds of its own destruction. Clearly enough association, which implies co-operation, has

many actual or potential advantages for all concerned, including the community, over the destructive, warlike methods of unrestricted competition; but with the growing substitution of co-operation for competition among producers, problems have arisen, as we have seen, as to how to safeguard the interests of society at large, in other words, how to secure the economies of conscious economic control while retaining the benefits of competition. How far free competition has already been superseded is not perhaps clearly understood. In addition to the whole genus of trade combinations described above, there is the very widespread producers' co-operative movement among farmers in many countries outside Great Britain; among firms professedly in competition there are countless trade associations which control prices and conditions of business; and there are all sorts of interlockings between nominally independent firms and public companies by means of share-holdings. The rule of the business world now seems to be, unite or perish. There is little room for the individualistic spirit of the last century which caused each entrepreneur jealously to guard a staunch independence.

All this suggests the need for a new orientation of society *quâ* consumers towards those who supply its requirements. Since the automatic controls of competition are fast disappearing or have disappeared, *laissez-faire* in this matter is dead. Machinery specially adapted to handling the new situation is required, and the only organisation as yet in existence capable of operating it is the State. Whether that rather shadowy body is the best that can be devised for dealing with the whole mass of economic problems that are already and that are likely to be thrust upon it, is an open question. Yet both producers and consumers, unable to grapple with the difficulties that beset them, turn with a kind of blind reliance to the State for salvation. In the common phrase "The Government

must do something." There is but little progress so far towards self-government among producers whereby their associated interests may be secured and at the same time may be directed under a sense of responsibility towards the whole community; there is scarcely any among consumers whereby they may protect themselves.

### THE ECONOMIC FUNCTIONS OF GOVERNMENT

Since the early nineteenth century, when it was held that the less the State interfered with what was regarded as the beneficent automatic system the better, great developments have taken place in the economic activities of Government in all countries, especially in Great Britain. In recent years this expansion has been more rapid than ever. For an account of Government activity in respect of taxation, of protective tariffs and of trade fluctuations and of unemployment the reader is referred to the chapters on these subjects. What we are here especially concerned with is the directions in which the State has become more or less directly involved in the working of the economic system. First, it has made itself responsible for the provision of various services in almost all countries and has definitely entered the field of industrial production in some. Secondly, it performs a variety of important supervisory and regulative functions as to wage-rates, hours and conditions of employment, settlement of industrial disputes, as to prices of necessities and so on. Third, it is called upon to facilitate the working of the national productive system by means of consular services, international trade agreements, commissions of enquiry into important commercial matters, and the setting up of special councils and administrative bodies to advise upon economic matters or to conduct semi-public enterprises. Thus a bewildering range of questions, many of them of the greatest public moment, come up for review and for decision

by modern Governments. Many of these can be left to the various administrative departments, such as the Board of Trade, or the Ministry of Labour, but in recent years it has become apparent that rapidly changing times such as ours make the framing of a clear-sighted economic policy by experts essential, if the necessary adaptations are to be rightly made and serious blunders avoided under Government leadership. For this reason an Economic Advisory Council was set up by the British Government in 1930.

In this transition age, the State tends to become more and more the pivotal point in the economic structure, at all events in Great Britain. Its modern rise in this field began with the reaction from *laissez-faire*; it has been accelerated by the partial breakdown of competition and by the inability of industry to settle its own problems or those connected with the conflict between producers and consumers; it has been further stimulated by the growing complexity of international economic relations. Some urge a vast further advance into industry on the part of the State by a policy of nationalisation, others regard any further encroachments as superfluous. Among the latter are the leaders of the great industrial combinations who are powerful enough to pursue their own way with ever-increasing international fusions, understandings and ramifications. In one way the economic structure of advanced countries is becoming more centralised on national lines, in another it is becoming more international. Will there be a turn of the tide from the present growing intervention of the State in the economic field? Externally, only if the intense nationalism that has marked political feeling throughout the civilised world in post-war years loses strength; internally, only if industry as a whole shows itself more capable of self-government and stands more for the ideals of public service than it has done in the recent past.



## CHAPTER XI

### THE FINANCING OF INDUSTRY—CURRENCY AND BANKING

THE greater part of the capital wealth of any country is represented by the equipment and other material things employed directly or indirectly in industry, that is by the land, factories, machinery, transportation systems and stocks of raw materials and finished goods which it possesses. The other part of the capital of wealthy countries such as Great Britain and the United States consists of foreign investments. Enough has been said in the last chapter about the gains in productive power due to material equipment to make it clear that the provision of capital for industry is a very important condition for the furthering of economic welfare. From the social standpoint as well as from that of the individual firm, capital assumes two rather different forms. That which is embodied in factories and plant is relatively fixed since the things are in use some considerable time before they repay their cost—in the common phrase the capital so invested is said to be “sunk”. That which, on the other hand, takes the form of stocks of goods used as the raw materials of industry or of finished products embodying value paid for by wages and salaries, is normally realised by sales within a short space of time. Capital of this kind is called circulating. The distinction between fixed and circulating capital is of some importance because each is financed in its own special way. Before entering upon an account of the machinery for financing industry and commerce, how-

ever, it will be useful to call attention to some special points in connection with capital.

#### THE ESSENTIAL FEATURES OF CAPITAL

In the first place we must guard against confusing a stock of money or a bank balance or bonds in the national debt with capital in the social sense. In Great Britain at the present time it is true that the gold reserve at the Bank of England is part of the nation's capital, but most of that is in the commodity form of gold bars, not of sovereigns. The money in circulation, though based on gold, simply represents claims to goods and services. Of course, if the claims are spent on erecting factories or on bringing old machinery up-to-date, they are "invested", and the capital of the investor and of the nation is increased by the value of the additions or improvements. But the holder of currency notes or a bank balance can equally well purchase therewith things which give immediate satisfaction such as clothes or gramophones. Though a private person may talk about saving money and so increasing his capital, nothing has been added to the capital of the community until something has been made that is useful as an instrument of further production; except when the funds in question are "exported", i.e., used to purchase claims upon the accumulated or future wealth of borrowing countries, or are held in the care of the Banking system with a view to investment. Money is simply a medium which facilitates the exchange of goods and services. It enables the holder directly or indirectly to set the forces of production to work in any of thousands of different directions by giving him an effective demand upon any goods offered for sale of a named value. Ordinarily the exercise of a demand through money upon goods sets the machinery of production to work either to produce for future delivery or to replace what has been taken into consumption. Unlike salt,

which keeps its savour, money loses its virtue unless goods are produced in proportion to the claims it makes upon them.

Closely associated with the above is a second point, the precise difference between saving and spending. People often talk as though saving means that purchasing power, or money as they call it, is kept out of circulation. In reality, all saving other than hoarding, is indirect spending. The "money saved" is either handed over to a Bank or is invested directly. In each case most of it is soon spent; because as we shortly see, the Bank usually proceeds to find a borrower in the business world who can use it to advantage; and the Company or Government with whom it is invested requires it to meet expenditure incurred or about to be incurred. The real difference in practical life between saving and spending is that as a result of the latter, claims are made directly upon goods for consumption, i.e., upon the finished products of industry, while as a result of the former capital goods usually come into existence involving also in the course of their construction claims upon consumption goods through wages paid to engineers and others. Saving becomes harmful only if it so outruns expenditure that the resulting equipment is capable of producing more goods than are taken off the market by the relatively smaller purchases in direct spending. This lies at the back of some of the general over-production that sometimes appears as a cause of slow trade. The only practical means of preserving a balance between saving and spending in a community other than through disturbing fluctuations in prices is through changes in the rate of interest which tends to rise and fall with the demand for capital goods; but for a variety of reasons this regulator is neither very effective nor very sensitive; owing to the lengthy processes involved in making modern equipment there is a time-lag between the appearance of a demand for it and its actual

completion ; there is the inertia of social habits—sometimes it is the fashion to be extravagant, at others to be thrifty ; and it is becoming increasingly difficult to preserve the balance in any one country because of the complexities introduced by international finance and the ease with which capital claims can be transferred from one country to another.

Thirdly, capital as represented by material equipment, though fixed in form, is by no means permanent in nature. While in use it gradually wears out ; left idle, it is attacked by the forces of nature at perhaps even a faster rate than when in use ; at all times it is liable to destruction by fire and other accidents ; and apart from all this, it is apt to become obsolete and useless, especially in time of rapid progress. Thus provision has to be made for the constant renewal of fixed capital. In business accounting this is recognised in the allowances ordinarily made for depreciation. No small part of the total annual savings in advanced countries is required to meet the cost of keeping the material equipment in repair and up-to-date. Another part is absorbed in sheer waste. In practical life the value of any instrument of production, e.g., a railway, is determined by its earning power. If the railway when built can be run only at a loss, its capital value may be nil. Partly through genuine errors of miscalculation, partly through the wiles of fraudulent company promoters, considerable amounts of capital are annually wasted. Savings are invested in mines that produce no minerals, in factories that cannot find a market for their goods, in trading concerns that have no chances of success, and are lost to the world and their owners when the enterprises are abandoned. As a result of all these various leakages of both kinds, avoidable and unavoidable, the total demand for capital includes a good deal more than the demand for that which is employed in creating net additions to the useful material equipment.

## THE FINDING OF FIXED CAPITAL

We may now consider the methods of financing industry ; first with regard to the fixed capital embodied in land, buildings, plant and goodwill. If the firm is a limited company, part of the resources contributed by the shareholders in exchange for their shares will have been used to purchase or hire these things ; if a private firm, the proprietors must usually have had some capital of their own to meet such initial outlays. It is often possible, however, to arrange for a mortgage or an issue of debentures on the fixed assets as security, which has the advantage of reducing the amount of capital which has to be found by the proprietors before the business can be started. Whoever contributes by means of share purchases or otherwise to the fixed capital of an enterprise is committing himself to the hazards of a long-term investment—a type of business but little suited to the largest lenders of funds, namely the Banks, but quite satisfactory to that large class of private investors which relishes a little speculative spice.

When a business which has proved successful is about to acquire further premises and plant, it may be able to purchase these out of its accumulated reserves, but in ordinary practice it has recourse to outside investors. Most large businesses are organised as public limited companies, or if not already such, they find it convenient to convert themselves into this form when they proceed to expand their fixed capital. For one thing, ordinary investors are much more willing to subscribe to shares for which there is an open market on the Stock Exchange, and which therefore may be realised at short notice ; and for another, the raising of fresh capital by means of debentures, preference shares and other prior charges on assets or earnings, is a great deal easier for a public company than for a private firm. Much of the absorption of smaller firms by larger which has gone on apace in recent years as an essential part of the process of forming industrial

fusions and combines has been financed by public issues of stock of one kind or another. Indeed, one of the evils associated with combination has been that the buying out of one competitor after another has led to over-capitalisation, the running charges for which cannot always be covered by the anti-social policy of screwing up the prices of the products as far as the monopolistic position gained will allow.

Since the introduction of the principle of limited liability for shareholders, which dates from 1862 in Great Britain, Stock Exchanges have come indirectly to play an important part in the financing of industry. Through them the disadvantage of compulsory long-term investment formerly associated with contributions to the fixed capital of industrial enterprises has largely disappeared; by means of the market quotations for shares and other information which they furnish, the investing public gets some guidance as to the position of all the important enterprises within the national territory and for many in the world at large. There is little doubt that both the will to accumulate and the opportunities for doing so to advantage, have greatly increased among ordinary people as a result of the facilities afforded by these specialised markets.

Working in close connection with the Stock Exchanges are the issuing houses or underwriting firms, who act as agents on behalf of public companies, municipalities and even governments. These firms are usually engaged in banking business, and are or should be of considerable standing and reputation. Having agreed to act for a borrower, they in effect say, "We undertake to find you the capital sum required by inviting subscriptions from the public in exchange for bonds or shares at the stated price which are to be issued in your name and on your credit. We guarantee further to pay you the total sum under the terms of the issue irrespective of whether the whole of it is taken up by the public at once or not." It is by reason

- of this guarantee that such firms are called underwriters. In payment for their services they receive a commission which varies according to the prospects of success of the issue. Should all the shares or bonds representing the issue not be applied for by investors, the underwriting firm has to find the best market it can for the balance. This is done by offering the stock on its hands on a Stock Exchange at a somewhat lower price than that of the issue, the difference between the two being termed a discount which the underwriting firm must meet out of its own resources. It is evident that those who engage in this business must be able to gauge the capital market pretty shrewdly; because they have to steer between the Scylla of serving their borrowing client badly by offering terms that cause the issue to go to a premium, and the Charybdis of suffering loss themselves by offering such favourable terms to the borrower that they are forced to unload at a discount which may swallow up all, and more than all, their commission.

#### THE PROVISION OF CIRCULATING OR WORKING CAPITAL

In addition to the resources represented by its fixed capital, a business undertaking requires credit claims or purchasing power in the shape of what is called working capital. This item represents funds immobilised in payments for goods "in progress", for wages, for advertising and for overhead charges during the period of the turnover of the services or the goods produced; in manufacturing industry the total sum may be large and the turnover period lengthy. Working capital differs from fixed capital inasmuch as there are no tangible assets<sup>1</sup> in existence that can stand as security

<sup>1</sup> The item of goods in progress, i.e., those at all stages of completion in a factory or kept as stock in a warehouse, is not regarded as security for loans, because the manufacturer or merchant must from the nature of his business have the disposal of his goods in his own hands.

for credit advances ; it resembles fixed capital because, although the funds "circulate", i.e., are realised in normal successful businesses sooner or later in the value added to the goods handled, they can never be called in as long as the business continues to exist. Owing to the absence of tangible security for working capital and to the uncertainty that outgoings under this head will be recovered in the prices realised for the product, provision for it tends to fall mainly on the proprietors' (shareholders') resources, but if the undertaking has complete ownership of its fixed capital, it can often raise sums for working capital on the security of these assets, e.g., by means of debentures. In general, it is in this direction that new or struggling enterprises are most likely to feel the pinch of insufficient capital. Established and successful firms, on the other hand, have little difficulty in obtaining credit facilities for working capital from the Banks by depositing securities against the advances.

#### THE FINANCING OF COMMODITIES

In the course of both manufacturing and merchant business goods are purchased in relatively large quantities as raw materials or as stock, and are afterwards disposed of with or without change of form, in smaller quantities over an extended period of time. This carrying of stocks is inevitable in a specialised economic system that produces goods in anticipation of demand ; more especially as raw materials are now concentrated from a wide field into highly organised industrial areas and the finished products afterwards dispersed among millions of consumers, scattered it may be, among many countries. A manufacturer or a wholesale merchant is usually no more able to finance out of his own resources the large quantities of goods he holds than can a stockbroker the bonds and shares he holds on behalf of his clients ; in any case he can find other and better uses for his capital.



Incidentally also, under modern conditions of extended international trade, vast aggregate quantities of goods are in transit from one place to another at any given moment. Between the loading of a cargo at a port in the country of origin and its discharge at its destination, periods of from three to seven weeks are quite common. However strong importers and exporters may financially be, they cannot meet the strain of being out of pocket for weeks at a time to the tune of many thousands of pounds in respect of the cargoes in which they deal.

In order to bridge the gap between bulk purchases and piecemeal sales, credit instruments known as Bills of Exchange are in general use. These are simply promises to pay at the expiration of a stated number of days or months, and in themselves cannot be used as money by the sellers who get them in exchange for goods. It is here that the Banks step in and advance cash against the promises by discounting them, that is, by paying the sums named, less interest at the current Bank Rate for the periods which the bills have still to run.

A Bank is primarily an institution which is open to accept money from the public for safe custody on the understanding that its customers can have their money back without question at any time during business hours if on current account, and on giving the proper notice if on deposit. Owing partly to the widespread practice of payment by cheque which results in cancellation of indebtedness without the intervention of currency, the Banks find that only a small part of the moneys in their keeping is required to meet cash withdrawals. They are accordingly free to secure a profit by investing the balances, but in doing so require to be careful, in view of their liability to depositors, that the security is quite sound and that the funds are never out of their control for very long. The discounting of first-class commercial bills is a

form of investment that well satisfies these conditions. Bearing the signature of a substantial firm, or "endorsed", i.e., guaranteed by a financial house of standing, these documents are of unquestioned security; their "life" also is short, the average bill being drawn for three months or less; and bills which have only a short time to run, down to a few days, can always be had in the large commercial centres where there are specialised bill brokers.

#### THE FINANCING OF SHIPMENTS

Banks play a leading part also in the financing of the large consignments of goods carried at sea in modern vessels. No other organisation exists, indeed, that has the connections essential to handling this business. Here again, from the standpoint of the Banks, there is the advantage of short-term investment; and, though this may not be evident at first sight, there is tangible as well as personal security. A simple case will make the procedure clear. Let us suppose that a cargo of wheat is shipped at Buenos Aires, the seller being an Argentine exporter and the purchaser a London importer, the whole transaction being financed by the Midland Bank of London. When the vessel has been loaded, the exporter obtains a Bill of Lading, which is simply a certificate signed by the master of the ship to the effect that the goods in question are on board. The exporter then gets in touch with an Insurance Company and takes out a policy to the value of the cargo. He next "draws" a bill on the London importer; and with these three important documents in his possession he proceeds to a local Branch Office of the Midland Bank or to a Bank that acts as its agent. In exchange for the documents he is paid to the value of the cargo out of funds which the London Bank has to its credit in Buenos Aires or has transferred thither. Here the exporter disappears from the scene. The ship with its cargo is on its way

to London, and so are the documents which have been dispatched by the fastest available mail service so as to reach the Midland Bank in London before the cargo does. In the meantime the London importer receives advice of the shipment either by cable or by fast mail service, and on the arrival of the vessel or before, he approaches the Midland Bank to obtain the documents which are the only valid title to the cargo. These the Bank will not surrender until the importer has "accepted" the Bill drawn on him, thus giving his written promise to pay on an appointed day. It will be noted that while the cargo is at sea, an Insurance policy is in force covering its value in the event of damage or loss, and so securing the Bank; and should the Bill of Exchange not be accepted, the London Bank can legally take possession of the cargo. There remains the possibility of the documents being lost in the post. In order to minimise that risk, they are often issued in triplicate and dispatched by different mail routes so as to ensure safe arrival of at least one set.

#### OTHER FORMS OF CREDIT SUPPLIED BY BANKS

If the accounts published by the great Joint-Stock Banks are examined, they will usually be found to contain a large item on the credit side under the head of Advances. These are made to customers as overdrafts on current accounts. As a rule a Bank will require marketable securities or titles to property or to goods to be deposited with it to a value at least equal to the amount of the overdraft, and will further stipulate that the overdraft is to be reduced or extinguished at its discretion. This means that British Banks at any rate expressly avoid having their funds tied up in industry or rendered vulnerable to the ups and downs of the business world. They are simply dealers in credit; and whether industry as a whole is prosperous or not, the capital sums which they handle must in

their view remain intact. Since also the margin of their profit between the interest they allow depositors and that which they charge to borrowers varies but little, they are largely exempt from the unpleasant effects of periods of bad trade. Indeed, when the pendulum swings from industrial activity to depression, the Banks proceed to call in their advances, that is to restrict credit, just at a time when the need for it is felt most intensely. They thus lay themselves open to the charge of pursuing their own interests regardless of the services they owe the business community: they reap a harvest when trade is active, they still make profits when depression sets in. It is difficult, however, to see how they could fulfil their obligations to depositors if they allowed themselves to become sleeping partners in business ventures the management of which they cannot control.

#### CURRENCY SYSTEMS

A currency system in its modern form is a complex piece of machinery designed to facilitate exchanges within the economic system. Even when it is strictly based on gold, it is delicate enough in its working, and liable to derangement owing to the wide use of various so-called credit instruments such as cheques and bills of exchange. When it becomes depreciated, that is when the paper notes in circulation are worth a smaller quantity of gold than their face value indicates, its usefulness as an arbiter of value between debtor and creditor and as a regulator of trade activity is seriously impaired. Various countries, including Great Britain, have had bitter experience of the results of the depreciations of their currencies during and just after the last war. Almost every one of them has since returned to a gold basis; not by putting gold coins into circulation as before the war, but by so limiting the issue of Notes that these are in reality certificates against gold.

The object of linking a currency to gold is to stabilise it, so that a unit will maintain a constant ratio of exchange with the currencies of other countries. If the Central Bank exercises proper care, this is not difficult to achieve when the other countries are also on a gold basis. A second, more important object, is to secure that as far as possible a unit of the currency will always have the same purchasing power when exchanged for commodities. Unlike the first, this second object is unfortunately impossible of attainment under the present arrangements. Almost all the leading commodities vary in value as they become scarcer or more abundant; gold itself, being a commodity, is subject to the same changes; and further, the money of a currency on a gold basis is capable of such expansion by means of credit instruments that a relatively small increase or decrease in the use of these will cause large variations in its total volume, with possible reactions on prices. These three sources of change may act singly or together. In the former event some change in the purchasing power of the currency unit is inevitable; in the latter it seldom happens that the forces cancel one another out, so that again there is a movement in the price level. Countless contracts are made every day in which one of the parties undertakes to make a payment in money at some future date. Some of these, for example those made by Governments in raising loans and by Insurance Companies in issuing life policies, are generally for long periods. In the business world terms of months and even of years are exceedingly common. Clearly, however, money fails as a standard of value for deferred payments, if it has a different value (i.e., buys less or more) when the payment comes to be made, from that which it had when the contract was entered into.

#### DEPRECIATION OF CURRENCIES

A currency becomes depreciated when it commands

less precious metal in exchange than it purports to command. This simply means that its purchasing power for commodities in general has fallen. Many are the devices and subterfuges resulting in depreciation that rulers in the past have practised to transfer wealth from their subjects to their treasuries. We are more concerned, however, with what has happened in quite modern times since paper currency has come into general use to supplement coined money. There is really nothing inherently unsound in paper money. On the contrary, it can be made perfectly free from suspicion, and it has in addition marked advantages in convenience of handling, in economy of metal and in adaptability of the volume of money to changing requirements. The essential condition to be observed to secure soundness is that the amount issued is limited with reference to a stock of gold against which the notes are freely exchangeable for foreign payments. It is possible, indeed, as recent experience has shown, to change from a gold to a paper currency without depreciation.

How has it come about that over-issues leading to depreciation have been made? During the nineteenth century in the United States and elsewhere large quantities of Notes were issued by Banks whose operations were insufficiently under control, either because the Central Government did not exercise proper authority or because it was an accomplice to the misdeeds of the Banks. Since a Bank Note is simply a promise to pay coin on demand, it became profitable for any Bank that had the legal privilege, to circulate as many of these promises as the public would accept. It could thus use the funds which it would otherwise have had to pay out against cheques drawn upon it, for investment in the ordinary ways. This procedure was all very well, as long as the Bank could find cash for any notes that might be presented for redemption; but if the Bank had imprudently issued too many notes

on the one hand, and locked up its funds in investments so that they could not be recalled at short notice on the other, there was a danger of its being unable to meet its obligations. As soon as its depositors and those holding its notes got wind of the real situation, a "rush" was likely to occur, the last thing that even the soundest Bank can comfortably face. The currency history of the nineteenth century is strewn with the records of serious depreciations and Bank failures due to Banks having yielded to the temptation of sailing too near the wind. In order to minimise this source of trouble, the privilege of note issue is now generally restricted under the most elaborate safeguards to the Central Banks.

Not only Banks, but Governments also, who ought to have known better, have committed sins of depreciation, and never perhaps so unblushingly or on so large a scale as during the years 1915 to 1925. When a Government at a critical time takes upon itself the issue of paper currency, either in its own name or through a creature Bank, it does not trouble very much about restricting the amount in keeping with a reserve of precious metals. It trusts to its own credit as the chief backing and sustains its privilege by the force of edict. Hence we have the terms fiat money and fiduciary issue, the latter term indicating the amount of paper notes against which there is no reserve.

During the last war there was an extraordinary increase in the demand for goods. Prices rose fast; those who had money were prepared to offer more of it to gain possession of the things they urgently needed—a scramble in which the belligerent Governments took a most active part. Under ordinary monetary conditions the loans required to finance this abnormal expenditure could have been obtained only by offering a higher rate of interest. This the Governments were afraid to do, lest the real situation should become apparent to their peoples. Instead, they resorted to

the subterfuge of increasing the supply of money by printing paper. The result was that prices rose still further, that is, money fell further in value, so that a forced levy was exacted from all persons who had claims due to them in money.

Among the leading countries the United States alone managed to get through the war period without depreciation, simply because gold flowed thither from Europe in payment for war material and commodities at enhanced prices, in quantities that proved in excess of currency requirements. Great Britain, after a period of deliberate inflation, started in 1920 upon the surgical operation of removing surplus Notes. A Treasury Minute, dated Dec., 1919, directed that the minimum Currency Note issue of any year should become the maximum of the next. The execution of this seemingly innocent order had the intended result of bringing about a rapid decline in the fiduciary issue. By 1925 the final step towards stabilisation was taken by making the paper currency convertible into gold, which could thenceforward be exported without restriction.<sup>1</sup> Wisely or unwisely, Great Britain has restored her currency to the pre-war gold value of the pound unit; but some other European countries have stabilised at a lower value, the French franc, for example, being worth little more than a fifth of its pre-war namesake in terms of gold. Whatever the advantages, two really serious disadvantages attach to the process of raising the value of the currency after a costly war, as Great Britain has done. Since all creditors benefit, the real burden of the national debt is increased: taxation absorbs a larger share of the national income. Industry also suffers, not only because of unduly heavy taxation, but also because considerable items in the costs of production which have risen

<sup>1</sup> However, in order to limit the conversion of notes into gold to genuine export demands, no person may obtain metal from the Bank except in the form of 400 oz. bars.



during the period of inflation are fixed in advance in terms of money, and cannot therefore be adjusted downwards quickly enough as selling prices fall. Thus profits dwindle and unemployment spreads.

#### CENTRAL BANKS AS GUARDIANS OF THE GOLD RESERVE

A gold standard involves the existence of a stock or reserve of gold which can be drawn upon in exchange for paper currency by those who have to make foreign payments in money. Since the ordinary medium of international payments is the Bill of Exchange, gold is required only to meet any balance of indebtedness when all claims and counter-claims have been settled. Small as these balances may be in proportion to the total payments, they may at special times amount to considerable sums. In order to economise the use of gold and to make as much as possible of it available for foreign payments, it has become the practice everywhere to concentrate the country's holding of monetary gold in the hands of an institution called the Central Bank, which both keeps the Government's account and acts as banker for all other Banks. The Bank of England and Federal Reserve Bank in America are outstanding examples.

The gold reserve also serves as security for the paper currency used internally; and though part of it is available for foreign payments, Central Banks take care to lose as little as possible in this way. They can work on what seems a very small margin of exportable gold, because they have various means at their disposal for checking any drain, which they do not hesitate to employ as occasion arises. The most important of these is raising the official discount rate, or what is commonly called the Bank Rate. The ordinary Banks have accounts at the Central Bank, through which they daily settle balances due to one another, and upon which they draw for currency

as they require it to meet public demands. When they find that the amounts to their credit at the Central Bank are getting low, they replenish them by rediscounting some of the bills in which they have invested their funds. A rise in the official Bank Rate is immediately reflected in a corresponding rise in the rate of interest charged by the ordinary Banks to all borrowers, and also in the rate they allow on deposits. On the one hand it leads to a check in the volume of credit advanced to industry and commerce both because business men do not care to borrow at the higher rate, and because the Banks themselves being short of funds are anxious to restrict loans. On the other hand it encourages accumulation by the public and attracts floating balances to the centre affected by the rise. By rendering it less profitable for the business world to hold stocks of goods and more difficult to obtain credit for doing so, a rise in the official rate has the further salutary effect of forcing a downward movement in prices within the country in question, into which it becomes relatively less profitable to import goods and from which it becomes relatively more profitable to export them. The adverse balance of foreign trade and indebtedness is thus remedied, and the drain of gold consequently checked.

#### FINANCIAL CENTRES AND MONEY MARKETS

The progress of specialisation has caused industry to rely more and more for finance upon a whole group of agents external to itself. These agents, which include Banks, bill brokers, underwriters, insurance companies and stock exchanges among others, tend to collect in the great commercial centres of the world such as London and New York, where their joint activities build up what is called a money market. There anyone who has funds for investment can with the assistance of the experts ready to serve him, be sure of finding a wide range of outlets from which

to choose; there also, anyone who is in search of capital or credit can, if anywhere, secure what he requires. The term market as applied to these financial centres is an apt one. The commodity dealt in is loanable claims to real wealth, commonly called money, a market for which is formed when the competitive interplay between those offering accommodation and those seeking it causes the price charged to adjust itself sensitively, so that demand and supply remain in equilibrium. The price appears as a rate of interest which in the great markets varies from day to day and even from hour to hour according to the actual, the supposed or anticipated effects of a great variety of factors in the financial situation. As might be expected, it is the terms for day to day loans and the rates of discount on bills nearing maturity that bear the brunt of current fluctuations in this price. It is, of course, useless for anyone to try to raise capital in a money market unless he has sufficient security to offer, though this need not necessarily be in the form of real or already existing wealth. Often enough, the security offered consists more of pledges upon future earnings or revenues than upon tangible assets; especially when the borrowers are the Governments and municipalities which appear freely in the great money markets for loans.

During the nineteenth century and till quite recently London was supreme as a financial centre. Its leadership was due to the world-wide ramifications of British trade and investment, to a traditional soundness in the methods of banking and finance, to the relatively large stock of gold kept in reserve which enabled it to find funds for all approved comers and to meet a foreign drain without dislocation. Its reputation attracted capital for investment, and its facilities foreign borrowers. All the specialised elements in a money market were well represented, and competition tended to keep the cost of the services low. Since the War, the supremacy of London in this field has been definitely

challenged by New York, which with larger monetary resources at its command is in a position to offer greater facilities and at times cheaper terms to borrowers. This powerful rival wants the ripe experience of the London market, but the extraordinary growth of American foreign investments in recent years may enable it to gain in breadth of knowledge what it lacks in length. The maintenance of the American dollar on a gold basis throughout the war and post-war period gave New York the great competitive advantages over other centres of a stable currency and of a free export of gold if needed; and there is no question that one of the factors that prompted the British return in the years 1920-25 was the urgent need for this step in the interests of the great money market in London. As the estimated receipts from abroad for financial services averaged some £60 millions in the years 1924-6, there were reasons for making efforts to retain the connection. In the result, however, the welfare of British industry as a whole has been sacrificed to that of the financial business centred in London. Truly, inflation, alias depreciation of the currency, throws long shadows!

#### THE EFFECT OF CHANGING PRICE LEVELS ON INDUSTRY

During the War period there was a scramble for the products of industry with the result that gold fell in value and prices rose throughout the world. Prior to the War, however, from 1896 to 1914 there was also an upward, but gradual movement in prices. Since 1920 the process has been reversed. Prices in terms of gold fell steadily till 1929, since then they have plunged rapidly downwards, those of some commodities now (1931) being below the 1913 level; in other words, there is now a scramble for gold in exchange for commodities, which have become a drug. Similar waves in the price level, but of greater amplitude, appeared during the nineteenth century, with crests

in the second decade and in the 'fifties, and troughs in the 'forties and about 1895. Among the various causes that have interacted to bring about these changes, the most important has been variations in the annual output of the world's gold mines, which increased sharply with the discovery of deposits in California and Australia about 1850, and with the opening of the Transvaal mines in the 'nineties. The rise in commodity prices of the recent war period made gold-mining less profitable, with the result that the estimated world production fell from 694,000 kilograms in 1913 to 481,000 kilograms in 1922, from which it recovered with the general fall in prices, to 611,000 kilograms in 1928.

The modern specialised system under which production takes place in anticipation of demand, causes a period of rising prices to be favourable, and one of falling prices to be unfavourable, to business activity. If during a time that a business man has goods on his hands, these or the finished products are rising in money value, profits come easily. Like J. S. Mill's landlords, he grows richer as it were in his sleep; and he is prompted to expand his operations. Conversely, if goods are falling in value, the loss from this source may so trench upon the margin of profit as to leave nothing or even result in a net loss. In these circumstances men do not commit themselves to more purchases than they can help. Stocks accumulate in manufacturers' hands, business becomes slack, production outruns demand. These effects of rising and falling price levels are rendered more acute by reason of the way in which industry is largely financed by credit. Those engaged in the business of production are constantly entering into engagements to repay in currency at some future time the advances made to them. If the price level is rising, they stand to give back claims to less real wealth than they received claims to; if it is falling, they must often give more.

When the course of prices is downward, it is the essential producer, the farmer and the manufacturer, who first feels the effects of the changes and feels them most. Merchants and retailers, on the other hand, are able to protect themselves in some measure, owing partly to their quicker turnover, and partly to their stronger strategic position. At the present time in Great Britain, indeed, the slower fall in retail than in wholesale prices, while it is helpful to middlemen, is robbing consumers of benefits that are due to be passed on to them, and is increasing the difficulties of producers by impeding that expansion of demand for their products which would normally follow a fall in prices.

Following the return of Great Britain to the gold standard in 1925, the civilised world as a whole, thinking to find a stable measure of value for international transactions, gave itself unconditionally to gold as the arbiter of its monetary fate; and like human beings vested with unlimited powers, gold behaved as a tyrant. Hence the adoption of what is called a managed currency system has been urged as a means of escape from bondage; but the difficulties in the way of varying the gold value of the currencies of various countries simultaneously in accordance with some international index of prices, are at present too great. Thus in the words of one authority, "The prospect which confronts the financial world for the near future is a gold standard subject to the fluctuations of the demand and supply of gold, and to disturbances of severe secular variations in the purchasing power of money."

Since the above paragraphs were written Great Britain has been forced to abandon payment of balances in gold. The outlook for the gold standard is uncertain; but if it is restored, international co-operation will be needful to make it workable and serviceable. The experience of the years 1925-1931 shows that it cannot be left to take care of itself.

## CHAPTER XII

### TRADE FLUCTUATIONS

EVER since the Industrial Revolution began its course the productive system has been marked by alternating periods of activity and depression. Each country as it has become industrialised has been subject to these waves in its business life. The question arises whether this phenomenon is something new in human experience or whether even prior to the modern age of specialisation there were ebbs and flows in the volume of production and in the amount of employment. It appears that a succession of fat and lean years has always tended to be a feature of the agricultural industry in most countries, but without the precise time-sequence of Pharaoh's day in Egypt. Before the beginning of the mechanical age, each country and often each district was forced to be self-contained, meeting almost all its needs from its own resources. In the separate countries there were periods of scarcity during which the people suffered great hardships and even starvation, as they do now in parts of China. In such times the resources available for the purchase of goods produced by craftsmen, other than sheer necessities, must have been very restricted, and unemployment of a kind must have existed among these persons correspondingly. However, many of them escaped the worst effects in some measure by giving only part of their time to skilled or semi-skilled occupations. It is only since workpeople have become completely divorced from agriculture by congregating in towns to work for hire in factories that failure of their employ-

ment may be disastrous to them, that the situation becomes spectacular, and that the country at large gets to know what has happened. As Marshall observes, "When a factory with 5,000 hands works half time or closes its doors, the fact is telegraphed all over England, while if 5,000 people, each working in his own home, get a little less steady employment than before, there is nothing to attract public attention, at all events outside their immediate neighbourhood."

Though industrial countries are now no longer closely affected by good or bad crop seasons within their own territory, their trade activity is apt to be sensitive to the nature of the harvests in those predominantly agricultural countries that are important markets for their manufactured goods. Some economists have sought to establish a causal connection between the varying returns of agriculture in the tropical groups of countries of which India is the chief, and the cyclical fluctuations in industry that appear so obstinately in the industrial group of countries. Jevons' attempt to trace these back to sun spots as the prime cause is the most striking and the best known of the explanations of this kind offered. Unfortunately for this theory, the periods of the trade fluctuations have failed since Jevons' time to correspond at all satisfactorily with those of the appearance of sun spots. Unfortunately also, for all theories of similar tenor, the purchasing power of agricultural countries has come to depend more and more not so much on the abundance or the scantiness of the harvests as upon the prices realised for what is sold in the world's markets; and such is the irony of the situation that a very bountiful yield may through the lower prices realised, leave a farming community with less to spend than a medium or even a poor one.

#### CAUSES OF TRADE FLUCTUATIONS

The general course of the industrial cycle suggests



that other and more complex causes are at work. After a period of fairly quiet and stable trade conditions a revival starts with signs of increased activity and a growing feeling of confidence among business men. What sets the ball rolling is obscure; it may be the urge towards change that marks human affairs in the Western world; the public may turn from saving towards spending; some important enterprise may have done unexpectedly well. Whatever the final impulse, the wish is distinctly present in the business world to father the thought that improvement is on the way if it has any chances of life. As soon as the upward movement appears to be established, the Banks begin to foster it by making larger advances of credit to industry by way of overdrafts and on the security of such paper instruments as Bills of Exchange. They are, unfortunately, only too willing to supply traders' demands in these ways and so to become accessories to what is going on, because the amount of their profits increases with the volume of the loans they can safely make. Once their co-operation has been secured, the way is paved for a general rise in prices following upon the expansion in the paper money (chiefly cheques) available for payments. Thenceforward there is a rapid development towards a boom. Dealers in commodities are anxious to get hold of goods in anticipation that prices will rise still further; demand is very active; orders are given freely for equipment. Since each trade both finds a market and exercises a demand among other trades, those even that were previously languishing are galvanised into new life, and workmen normally unemployable get taken on. Everything looks bright on the surface, but industry as a whole is riding for a fall.

Though in these circumstances the volume of production has expanded considerably, money claims upon goods have been created faster than the goods themselves can be produced to support them. This

margin of deficit widens as speculators come in, holding goods for a rise. The process simply cannot continue without open depreciation of the currency. Eventually gold begins to leave the country to pay for the excess of imports over exports which the high internal level of prices has encouraged; but before this arises, it often happens that some outstanding firm or group of firms, which has been too rash in its speculative trading gets caught and becomes insolvent. This or some other untoward event shows that the peak of the boom has been passed. The Banks, foreseeing difficulties in view of the state of the national balance of trade, and taking alarm at the weak position of many customers who have overtraded, stiffen their rates and at the same time contract credit.<sup>1</sup> This is the signal for a fall in prices. Those who have goods on their hands make efforts to dispose of them, and thus the collapse is hastened. Many firms who have supplied goods on credit, are involved in the numerous failures that follow. Orders for new goods are cancelled or drastically curtailed. Just as each trade felt the benefit of the rising tide through the orders given by other trades and through the increased demand created by workpeople receiving larger aggregate wages, so each in turn suffers when the movement is reversed. After a convulsive phase during which a number of weak or marginal firms and rash speculators disappear, industry passes through a period of stagnation, when enterprise and commitments are reduced to a minimum. It finally settles down to the state of quiescence with which the cycle began.

Stripped of its monetary guise, what is the under-

<sup>1</sup> Thus the principal check appears to come from the changed policy of the Banks; but their hands are forced simply because they have allowed the boom to proceed unchecked. They are passive in the boom when they should actively exercise control; they must needs be active in forcing contraction when they should be passive.

lying motive force that makes momentum possible once the cycle takes an upward turn? This requires to be examined as a first step towards an attempt to explain these tidal movements which cause such marked changes in the distribution of real incomes during their progress. During the boom phase, the business community secures the extra stuff it needs for meeting wages, partly by depleting shopkeepers' stocks and partly by forcing the owners of fixed incomes (those received from investments and paid as salaries on long-term agreements) to content themselves with smaller purchases. It gets the power to raise this levy to some extent through the time-lag in the rise in the terms for money accommodation which advance at a slower rate than the demand for credit expands. Nor is this all. There is likewise a time-lag in the advances of wages, so that for a time workpeople supply a given quantity of service at a lower real price than before the boom began. With these two windfalls in their hands, business men having more resources, are able to expand their activities further, and their will to do so is reinforced by the fact that being really more prosperous, they become more optimistic in outlook. The break comes when the real charges for interest and wages (measured in goods) catch up their leeway and advance to such points that they cannot be met out of the exchange value of the product in terms of other products in the international market; hence the threatened drain of gold, the contraction of credit and all the rest.

#### ERRORS DUE TO MISCALCULATION

We have seen above (pp. 230-4) that the modern industrial system is highly specialised and that it works broadly, in spite of some glaring exceptions, on a competitive basis. A high degree of specialisation means that production as a whole must be carried on in anticipation of demand, and more especially that

much capital must be embodied in the form of costly machines and other instruments of production long before the goods made with them can be sold. The adjustment of supply to demand would be a simpler task than it is, if the latter were comparatively stable. But for many manufactured products it is far from being so. It is not so much the total volume of demand for goods and services that alters, as the distribution of the demand between the products of different industries. Fashions and tastes change, and new products appear that detach purchasing power from established ones. On the other hand, once expensive plant has been laid down, there is a strong incentive for the owners to keep it working whether the product continues in active demand or not.

There is thus plenty of room at the best for errors of miscalculation and for maladjustment between supply and demand to emerge; but the possibility of such mistakes being made is unfortunately increased, first by the way in which the competitive system fosters secretiveness among business men, and second by the effects of unreasoning crowd psychology which appears so easily in an atmosphere of apprehension and ignorance. Specialisation with its attendant features accounts for the errors of the single firm in adjusting production to demand, but individual errors would tend to cancel one another out, since some would be on the side of over-estimate and others of under-estimate. The marked concentration of the errors first in one direction and later in the opposite one during the course of the trade cycle must be explained in some other way.

To recapitulate in a somewhat different form some of the points that have already been touched upon, the scene with which the drama of the trade cycle opens is staged as follows: numbers of competing producers in various industries, each of whom is more or less ignorant of what the other is doing, are all striving to

expand output and to capture as profits for themselves the economies of larger-scale operations; these producers are provided with plant and equipment which taken as a whole is capable in most industries of turning out more of the particular product than the market will usually absorb at a remunerative price; behind the producers is a banking system prepared to provide credit for any business transaction that shows good promise of yielding a monetary profit within a short period. When the curtain rises the producers are working quietly, though some are less active than others; but each of them is at the same time anxiously on the look-out for any signs of increasing demand for his product. The drama begins when a sufficient number of the producers become convinced that the omens are favourable and act accordingly. The rest are soon infected with the same spirit of optimism.

This sketch reveals several features in the setting of the modern productive system that exert a constant pressure towards expansion of output; they are latent in periods of depression, but still exist. These features are not always obvious to the ordinary observer, but they appear to account for the expansion phase in the cycle. First, there are the constant improvements in equipment which enable ever greater quantities of goods to be made with the same or even less human efforts. Second, there is the large amount of costly equipment which has been in existence some time for which work must be found if possible, thus tending to stereotype production in certain directions out of touch with demand. Third, there is the immense urge to expansion in all manufacturing industries owing to the bait offered by increasing returns. The upward swing in a trade cycle might go far and yet remain healthy, if only variety in the trade products could be increased in proportion to the growth in their total volume. Then apparent over-production in any industry might be long delayed, because the

rate of possible exchanges would be multiplied, thus absorbing what otherwise becomes a surplus. The essence of a boom, however, lies in increasing the output from existing and even from obsolete plant. For that reason it is doomed to collapse. Neither capital nor labour is mobile enough within a single country, let alone internationally, to enable diversification of industry to keep pace with the rapid expansion of production during the upward phase: other products require for their making new machines which cannot be provided quickly enough; and workpeople are lacking in mobility both as to occupations and as to places of residence.

Little can be done to alter these conditions that predispose industry towards cyclical fluctuations, so long as the specialised competing producers have at their command a banking system which is prepared to add to the volume of money by means of swollen credit advances to business men in times of good trade, and which contracts the supply of money when trade begins to slacken. The process of making and unmaking bank money in the form of loans and repayments thereof is constantly going on between the bankers and the entrepreneurs, even under normal trade conditions; but when business becomes active, loans are made faster than they are repaid, and when business slackens they are repaid by the entrepreneurs either voluntarily or under pressure from the bankers faster than they are made. When prices are rising, entrepreneurs are anxious to get as much bank money as possible with a view to repaying it at a lower real value, and vice versa when prices are falling. Thus the course of prices is distorted into an uneven line of crests and troughs, the high points being realised when bank money outstanding is at a maximum, and the low points when this is at a minimum; and thus the entrepreneurs are constantly modifying by their own acts the very indicator that they rely upon most for

guidance as to the scope of their activities. It is this unfortunate feature that is responsible for what is called the inherent instability of credit. The value of money, i.e., the level of prices, is always in unstable equilibrium: the first step towards the production of more commodities to meet an increase of money is the making of yet more money; likewise when the stream of bankers' money begins to contract in volume, so involving a fall in prices and a curtailment of production, the next step is the unmaking of bank money with the inevitable results upon prices and the volume of production. Inasmuch as the entrepreneurs themselves working through the Banks play no small part in bringing about an alternate expansion and contraction of credit, they are "constantly making their dreams (of profits) or their fears (of losses) come true." The fatal ease with which the price-level can be modified through changes in the credit policy of the Banks certainly aggravates trade cycles. This and the vagaries of crowd psychology among business men seem to admit of some control, and attention has therefore been concentrated upon them in suggesting means for smoothing out trade fluctuations.

#### REMEDIES PROPOSED FOR CHECKING TRADE FLUCTUATIONS

The verdict of public and of expert opinion alike condemns trade fluctuations as a nuisance. They do far more harm than good. The reactions of their later stages and the depressions that follow them work nothing but mischief; and the upward phases result, as we have seen, in such inequitable transfers of wealth, that they must be regarded as a very qualified blessing. Just as a train cannot make up in speed on a downward gradient what it lost on the corresponding upward climb, so the total volume of production and employment over good and bad times taken together is less than if the trade cycles were non-existent. In

this lies one of the stronger reasons for condemning wars, since every war in recent times has been accompanied by a magnified trade cycle whose effects have generally been felt throughout the whole civilised world. That caused by the last war, after a violent upward phase during which unjustifiable transfers of wealth took place on an unprecedented scale, has led to a prolonged period of depression from which Great Britain in particular is still suffering. As countries become industrialised and grow in consequence more dependent upon international co-operation for prosperity, the disturbances caused by wars hit them harder. The interest of a trading nation for this reason, if for no other, is peace.

Just as the backward swing of a pendulum is proportionate to the forward thrust, so the violence of the whole trade cycle depends upon the strength of the upward phase. It is therefore quite logically argued that remedies for peace-time disturbances of this kind should be directed towards putting a brake upon the booms. The inflation of prices that appears as an aggravating feature might, be checked, it is suggested, by an earlier restriction of credit with a view to greater stabilisation. The lack of proper knowledge on the part of the producers as to the general relation of supply and demand, and as to the trend of output in the particular industries they are attached to, might in some measure be remedied by the publication of the fullest and most accurate information available. The uncertain voice of rumour and the tendency of people to revert to crowd psychology would then be less likely to swell the strength of the boom.

The only effective means of restricting credit when a boom appears in sight is to restrict the demand for it by raising the cost. The ordinary way of carrying this out when the credit system shows symptoms of overstrain is through an advance in the official rate of the Central Bank. In an open money market, however,



it might not be so practicable to try and check a boom by means of an advance in the Rate as appears at first sight. It is the ordinary Joint-Stock Banks, not the Central Bank, that supply credit. If in Great Britain, for example, the Bank of England were to raise its rate for price-stabilisation purposes, this might then be higher than the ordinary market rate, as sometimes actually happens under the present conditions before the official rate is reduced. The Central Bank is not altogether a free agent; it is a medium through which forces as yet external to it work their will. In determining the rate of discount "the voice is the voice of the Bank, the hands are the hands of irrevocable economic law". Industrial countries in general, including Great Britain in particular, have not as yet advanced as far as they might in freeing their Central and their leading Commercial Banks from the traditions and the motives of profit-earning Share Companies which all the chief British Banks are in fact as well as in name. In order to deal satisfactorily with complex disturbances such as trade cycles, which have a marked financial bias and are nation-wide in their effects, the banking system requires to be headed by an institution that can fearlessly take the widest views without being trammelled by a regard for particular private interests.

Some progress has been made in recent years in keeping business men better posted with information that concerns them vitally. The United States are ahead of most countries in giving current statistical summaries and estimates as to the cost of production, the volume of credit advances, the stocks of commodities on hand, the flotations of capital and other similar matters. There an attempt is being made to develop what is called business forecasting into a science. It is of course essential that the information supplied should be quite impartial, and the work of collecting it tends therefore to fall upon Government

departments ; although the Universities, great financial corporations and even some of the leading commercial associations contribute useful material. The publication of relevant facts is the first step. The second and more important one is to get those engaged in business to follow the information as it appears and to interpret it intelligently. This is essential if the violence of the trade cycles bred by the competitive system is to be moderated by the light of knowledge. One department of business activity, namely the flotation of joint-stock companies, certainly appears to be in need of being made more public. Inasmuch as a boom period is one in which the company promoter reaps a rich harvest under the cover of uncertain or even misleading information, industry as a whole might be healthier if these people were compelled to make full disclosure of all relevant facts. Anything in the nature of financial gambling means that some of the effective direction of industry gets into the hands of those who know least and whose judgment is least to be relied upon.

One of the advantages of very large industrial monopolies and one of the few that can be put forward in their defence is that they are both desirous and able to check trade fluctuations. Their policy is to aim at a steady volume of output and at a steady remuneration in the price. They are in a position to put their policy into effect through the precise knowledge they possess of the market and the close adjustment they can bring about between supply and demand. Yet no one seriously suggests that trade combinations should be encouraged for that reason. American experience serves as a warning that the rise of great monopolistic enterprises may lead to effects which are the very reverse of stabilisation : collapses have occurred, share stocks have been manipulated, prices have been raised. In any event, enormous power cannot wisely be entrusted to a privileged few in the business world ;

and the public at large rightly feels that to sell itself into the hands of monopolies is to pay too heavy a price for any benefits in the way of industrial stabilisation that might be achieved.

#### WORLD-WIDE INFLUENCES

For various reasons industrial fluctuations tend to spread from one country to another among those closely linked by international trade and finance. Inter-communication has become so easy and so rapid that for a large number of important commodities, including some standardised manufactured ones, there is an effective international market, throughout which prices quickly adjust themselves to a more or less uniform level. Thus a rise or fall in the price-level in any leading country is either absorbed over the world at large and so disappears, or is reflected in a general rise or fall. This takes place the more easily since finance is now thoroughly internationalised; transfers of funds and securities are made almost instantaneously whenever a stronger demand at one centre than at another renders such transactions profitable. The history of the reaction from the 1920 boom provides a good illustration. Within six months in the year 1921 every leading country was suffering from a collapse which began in the United States. It is quite possible, however, that in the future fuller knowledge as to the course of production and closer co-operation between the various Central Banks will cause trade fluctuations in any one country to be less violent than during the nineteenth century. The upward swing during the boom may not go so far, and part of the shock may as it were be absorbed by dispersal over a wide international field. If the analysis given above (pp. 265-72) of the essential underlying causes of trade cycles is correct, the progress of rationalisation in industry should serve as a check upon them, by forcing the elimination of old plant, by making industry more efficiently responsive

to demand. The various steps that have recently been taken by business men themselves towards associations and understandings and away from cut-throat competition may also bear fruit in stabilising the course of industry. The present (1930-31) world-wide industrial depression is a different matter. Due as it is at least in part to a general fall in prices in terms of gold (see Ch. XI. pp. 261-3), measures and developments that serve as weapons against the ordinary trade cycle can have little effect. But whether trade cycles are disappearing, whether indeed the present world-wide depression is the last survivor of a dying species, it is idle to prophesy.

#### OVER-PRODUCTION

In a competitive world where production is carried on in anticipation of demand, there is always the risk for those engaged in any industry that more of their particular goods will be produced than can be disposed of at a price that will cover costs including, or even excluding, a reasonable margin of profit. Whenever this happens, the explanation given is that over-production has taken place, though at the same time there may be many people out of employment in the industry affected or in other industries, who would be glad to give their labour in exchange for the surplus goods in question. It seems a strange state of affairs when the machinery of exchange thus partially breaks down so that producers are almost compelled to act like the dog in the manger; but when we consider the enormous complexities of adjusting the supply of thousands of different articles to the varying state of the demand for each and all of them, our wonder must be that the machine works as well as it does. We cannot, however, blame the separate producers if they are unwilling to dispose of their goods for less in terms of money than they have actually paid, or have pledged themselves to pay to bankers and others, in respect of them.

The methods and organisation of production are such that over-production of the kind mentioned above may arise in any industry within a single country or over the world at large. This may happen quite independently of trade cycles, though if it comes at the same time as a general trade depression, the plight of the producers is worse. We have observed already that a considerable period—months at least and it may be years—must usually elapse between the time that decisions to extend plant are taken by the organisers and the time when the new equipment is in full working order, and adding to the supply of finished goods. Two factors conspire to make it possible that any such addition to the supply proves excessive: new machinery, embodying the latest improvements is likely to be highly efficient and capable of a large output; and the favourable turn of the market which induces one producer to extend his operations may well cause a number of his competitors to do likewise. Any fall in price which the increased output may bring about does not necessarily or immediately act as a check upon production. On the contrary, when the entrepreneurs in the branch of industry affected find the margins of their profits falling, their first impulse is to try and reduce costs by offering lower wages or by other economies. At the same time, realising that unit costs in manufacturing industry tend to fall with increased output, they are individually tempted to make an effort to save the situation by producing more rather than less. If the demand for the product is elastic, so that a small reduction in the price causes a large increase in the amount the market will take, they may succeed. If, on the other hand, the domestic market seems saturated, they must either curtail their operations or find outlets for the surplus in other countries.

We shall have occasion in the next chapter to discuss some rather knotty questions connected with the

doubtful practice sometimes followed by producers seeking to unload a surplus of goods they have made on to foreign markets, so as to maintain prices in the home market. What concerns us here is that the term over-production may be used in a wide range of senses and may indeed be stretched to cover some serious sins. It may mean simply that more goods of a given kind are produced than can be sold at a price that covers outgoings; but it may also mean that the quantity produced is large enough to force the market price to something below what the producers have been accustomed to get, or below what they think they should get. The producers' ideal often being a high price for a small output, over-production may begin in their view while there is still under-production from the community's standpoint. It is significant that the first and sometimes the only step taken by industrial combinations is to get control of output and so scotch the enemy over-production.

#### GENERAL OVER-PRODUCTION

Though each single human material want is limited in the sense that people are prepared to give less and less for each addition to the thing that satisfies it, the sum-total of human economic wants is unlimited. A few unfortunate persons may be so loaded with wealth that nothing that can be bought appeals to their jaded desires; but the mass of mankind is only too well aware of unsatisfied wants. How, then, is it possible to speak of general over-production as though more of everything were produced than people care to consume? An examination of the conditions in the continent of North America where there was in 1930 apparent general over-production, may help towards an answer to this question.

In the United States and Canada the volume of agricultural output has increased faster than has the proportion of the entire population engaged in

the farming industry. In wheat, cotton and fruits, to take three of the leading items, improvements in the species of plants and in the methods of cultivation together with an increase in the areas of land planted have caused the produce forthcoming to be in excess of what can be disposed of without a distinct fall in prices. But the farmers individually have acquired their land or secured mortgages upon it, and have incurred outlays directly for the purposes of production, on such terms in money as were justified by the anticipation that prices would be maintained. The demand for their goods being inelastic, the increased yields of produce are not sufficient to compensate them for the decline in prices with which they are faced. In manufacturing industries there has been a still greater advance in productive capacity. New equipment has been invented and installed, designed to further the greatest development of mass production ever yet known. The result has been an enormous expansion in the output of manufactured goods, which cannot now be disposed of in the domestic market at the customary prices, even with the help of frenzied advertising campaigns. Thus most of the leading industries, whether agricultural or manufacturing, are labouring under the cloud of depression. Their troubles may be partly due to the natural reaction from the marked activity of 1928 and early 1929, but this facile explanation is not enough by itself.

What has happened in North America is that economic development has outrun the pace of that of the world at large, and there is dislocation in consequence. So far as the continent is self-contained the unparalleled expansion in some established directions has not been backed up by the growth in it of sufficient new industries to provide all the exchanges of goods required to prevent choking at a number of points. On the other hand, it has proved impossible to divert much of the surplus into export markets because of the slower rate of economic development in other

countries, especially in those of Europe, and because the tariff policy of the United States deliberately aims at checking the importation of goods; and this has the effect of preventing other countries sending goods in exchange for those made in America which they might be glad to take.

The monetary factor intervenes, as usual in trade disturbances, to cause further dislocation. More goods are produced than before, and therefore more exchanges are necessary. If the amount of money in circulation expanded in strict proportion to the volume of production, all might be well; but the currency is tied down to gold, the quantity of which available for money purposes is increasing just now only quite slowly. Thus each unit of money is forced to do more work, i.e., it exchanges for more goods, and prices fall all round. This is the leading symptom of the disease for which the diagnosis is general over-production. The feverish accompaniments of the common trade cycle are absent in this case, in which the disorder is the result of over-vigorous expansion in the production of commodities other than gold; but the convalescent phase is very similar. In fact, the term general over-production is most frequently used to explain the depression stage of the ordinary cycle. We may speak, indeed, of general over-production if it is clearly understood to mean not an *absolute* excess of production, but one which is purely *relative*—to the pace of economic progress in general including in particular that of the monetary system which is the chief engine for effecting exchanges.

It is, of course, the financial side which hits the producers. They have entered into all sorts of monetary commitments, each separately expecting a return on the previously-existing basis in spite of the increased output. When prices break downwards, the time-lag in the adjustment of costs to the values realised is against them. Recovery is possible when a new



equilibrium is reached at a lower level of prices all round—for raw materials, wages and credit charges as well as for finished articles; but the transition period is a doubly painful one for farmers and manufacturers because buyers hold off until prices appear to have touched bottom. Who, then, gains if so many stand to lose? In the first place the workers that remain in employment, so far as they do not suffer at once reductions in wages proportionate to the fall in prices; but though their collective gains may be relatively large, for each separate worker the advantage is small. In the second place the owners of fixed incomes, especially the rentier class. For some time, and perhaps for a long time, they receive the same money incomes as before, and since each unit of currency buys more, they can choose either to consume more or to allot the unexpended balance to investment. Thus we have the explanation of the curious phenomenon, observed since 1925 in Great Britain, of large sums being available for public loans while industry as a whole has been depressed. And thus also a fortunate class of people in the United States is able to continue pouring purchasing power into foreign investment, while productive industries are faced with the most serious difficulties. However, as the heavy hand of the depression curtails production in one industry after another and unemployment continues on an unparalleled scale, receivers of unearned incomes find their dividends diminish while at the same time the scale of taxation rises. Sooner or later the average person in all classes must as a result of the general restriction of production enjoy less real wealth than might have been his. It is one of the ironies of the existing economic system that human ingenuity having devised an unexampled increase of capacity for production, should be so lacking in wit as to be compelled for a time to reap a smaller instead of a larger harvest of real wealth.

## CHAPTER XIII

### INTERNATIONAL TRADE

CONTINUED growth in the volume of international trade has marked the course of the Industrial Revolution till quite recently. Based upon specialisation in production and itself contributing unparalleled improvements in long-distance transportation, the mechanical age logically led to an increase in the exchange of goods and services both within the separate national territories and beyond the borders of these between one country and another. The rate of expansion in international trade was naturally greatest during the middle and later decades of the nineteenth century when large-scale manufacturing industries were well established only in a few limited areas, and when also vast new agricultural regions were first opened up by means of systems of cheap transportation to the markets of the world. That was the great coal-using age when most countries had to look for their supplies of transport materials and other manufacturers to the favoured few possessed of abundant easily-worked deposits of that key mineral.

Although specialisation in manufacturing industries is still making progress throughout the world as a whole, it tends, for reasons shortly to be examined, to become more widely distributed by countries as time goes on. When states that have been almost exclusively agricultural grow in population and establish manufacturing industries, they generally utilise some of the abundant supplies of home-produced raw materials

all of which they formerly exported, to furnish from local sources part of the finished goods they previously imported. Thus on both sides of the account, foreign trade loses relatively to domestic trade. Similarly also, the leading industrial countries, no longer finding under these conditions such a ready market for expanding volumes of the products of their great specialised industries, have to seek salvation in diversification. They exert themselves to establish new industries and widen the range of the products offered; but this again is likely to increase the possibilities of internal trade, and may do so at the expense of the foreign. For this and for other reasons, the curve of international trade, which was distinctly upward during the nineteenth and into the early twentieth century, has since shown signs of flattening, if not of falling, in spite of a continued increase in the world's population, in the diversification of industries, and in the complexity of human wants.

Various causes have contributed to the spread from one country to another of specialised methods of production in the form of highly-organised manufacturing industries. Foremost among these is the desire to secure a balance among the various fields of national economic activity. Equipped with resources in fuel or water power and in certain raw materials, the people of non-industrial countries, if they are energetic and enterprising, are desirous to attempt what has been done elsewhere, to imitate those countries that have won wealth by manufactures. It is broadly true that from Great Britain the rest of the world has learned the technique of manufacture, and from that country also the funds for the purchase of equipment have often been obtained as loans. Most of the manufacturing industries of India and Australia, for example, are the offspring of these two British parents. The commodities which an agricultural country produces may not be identical with those it has the greatest

natural powers of producing. The other (manufactured) goods may in time under protection be produced more cheaply at home than they can be imported from abroad. Thus "infant" or nascent industries are proper for tariff assistance. In the words of List, the great German advocate of protection, "The nation must give up a measure of material prosperity in order to gain culture, skill and united powers of action."

Closely connected with the cause just described is the advantage long enjoyed by industrial countries in being able to secure favourable terms in exchanging their manufactures against agricultural produce: they got good value; they received the produce of more labour and resources than they gave. This was especially marked during the period when new agricultural areas were rapidly being opened up, and competition from and among them forced down the prices obtainable for agricultural produce; though it holds also to some extent at the present time owing to the general increase in yields obtained from already occupied lands in countries populated by European races. If evidence of these favourable terms for manufactures is required, one has only to glance round the world and note that no purely agricultural country has become wealthy in the modern sense, i.e. a great creditor country; and that those which have become wealthy have done so in proportion as they have succeeded in establishing great manufacturing industries. The lure of material welfare therefore offers the strongest inducements for any country to establish whatever manufactures it can, and to protect these by means of high tariffs, if necessary. Mainly agricultural countries have long chafed at having to sell their produce and purchase their requirements in finished goods at prices for both that appear as dictated to them by those who sit at the centres of commerce in the great industrial countries.

A third cause is to be found in the strong desire to be as self-sufficient as possible which has grown with the rise of national spirit throughout the world during the last fifty years, and which has gone to extreme lengths since the European War. This passion for economic independence is in reality due to a variety of motives one of which has been suggested in the last paragraph. Among others are the strong preference for urban over rural life, at all events among Anglo-Saxon peoples; the convenience of raising revenue through tariffs in countries where there are not many large taxable incomes; the strong political pull of the urban classes in countries abroad both old and new, who are able to feather their own nests through tariffs on manufactures, at the expense of the agricultural populations; and lastly, the fear that supplies imported from abroad may be interrupted in time of war or fall under the control of monopolistic combines.

It is impossible, accordingly, to assign any simple cause for the growth of specialised manufacturing industries in many countries in recent years, with its consequent tendency to curtail the development of international trade. The movement has proceeded under artificial stimulus in spite of strong economic arguments to the contrary and of protests from the farming classes in the countries affected. In fostering their infant and even their full-grown industries, countries such as the United States are prepared to go to the utmost lengths in raising the internal level of prices. Behind it all, however, there is probably a consciousness of the fact that the world's demand for agricultural produce is smaller than its productive capacity, so that if each agricultural country continued to specialise exclusively in its primary industry, prices of farm products would fall to unremunerative levels in the world's markets. Fewer workers are required to man the farms in any country; more must find employment in non-agricultural industry. Diversi-

fication of industry thus becomes an economic necessity, even in new countries.

### THE MEASUREMENT OF FOREIGN TRADE

The leading countries attach great importance, perhaps undue importance, to the progress of their foreign trade. For purposes of comparison between one period or one country and another, the only serviceable standard appears to be value expressed in terms of money. When large miscellaneous assortments of goods have to be compared, the physical volumes do not tell much. Even when attention is confined to one class of articles such as cotton goods, in which all sorts of variations are possible in kinds and qualities, we are forced again to values as a standard of comparison. Exchange values indeed, matter much more to a country than the actual quantities of goods exported or imported, because the pace and direction of the economic activities of every country in both its domestic and foreign trade is set by the financial indicator.

Trouble arises from the fact that money values are unstable. We have seen already (Ch. XI) that the price level is liable to upward and downward movements and is, indeed, falling all over the world at the present time. It is rather misleading to compare the trade figures of 1930 with those of 1929, for example, on the simple basis of value, without making some allowance for the change in the standard employed; it would be useless thus to compare those of 1920 and 1913, since prices rose by well-nigh 100 per cent. between these two years. How much allowance has to be made is not easy to determine, at any rate for the current returns which are of the greatest interest. Some solution of the difficulty is afforded by scaling the figures up or down according to changes in wholesale prices measured by index numbers, but these can be calculated in different ways, giving slightly different

results. Variations in the price level too, have a profound influence upon trade activity and affect some countries more than others. The operation of this factor is apt to obscure the more essential features in a country's trade position which are of chief moment. All this may appear somewhat inconclusive, but the upshot of the matter is that we have to guard against applying the simple arithmetic which appeals so strongly to the British public, to questions of trade movements.

#### THE FOUNDATIONS OF INTERNATIONAL TRADE

Trade between peoples inhabiting different regions can boast of a remote ancestry, for it dates back at least to the beginnings of civilisation. At first sight nothing would appear more obvious than that exchanges would never have been made at all under the serious difficulties which long beset trade between separate regions, unless both parties stood to gain. The notion that the seller gains at the expense of the buyer in international trade is of comparatively recent origin, and seems to be due to fastening upon the money medium used in trade to the exclusion of the real principles involved. In point of fact, whenever a transaction is completed between two countries, both have acted as sellers and both as buyers; and no country can continue to sell its products abroad, unless it is prepared to buy or lend to the amount of its sales.

Most of the cruder errors that have been current as to the nature of foreign trade, can be traced to the Mercantilists of the eighteenth century, who asserted that it was the business of the Government to see that a favourable balance of trade, i.e., an excess in value of exports over imports, was brought about and maintained, so that precious metals would flow into the country. (See Ch. I.) According to them, as has been said, the chief duty of the statesman seemed to

be the making of ingenious arrangements for cheating the foreigner out of some of his gold and silver. In the modern versions of this theory the precious metals have disappeared from the place of chief importance: what a country must do now if it wishes to be prosperous, is to sell as much abroad as it can and purchase as little as possible (especially of manufactures) in return; because it is held that the seller makes a profit and the buyer is the unwilling victim of necessity. Unfortunately, the restriction of imports can be practised by the whole circle of trading nations and the net result will be to leave them much in the same positions relatively to one another, but all will be poorer. When the exports of a country consist of products in urgent demand, of which that country is the sole or principal source, it can proceed to exercise a monopolist's privileges and extort an exorbitant price from necessitous purchasers. Then indeed the theory of restricting imports as a high road to national prosperity has some justification. In the world of to-day, however, no country, not even the United States, is in this strong position, and still less is Great Britain. Yet such is the potency of the epidemic of nationalism that has swept the world that the ardent apostles of economic independence have seen their theories put into practice in many countries; and we have the strange spectacle of the nations each anxiously watching for any increase in its foreign trade on the one hand, and with few exceptions striving to prohibit the entry of payments for exports on the other.

Foreign trade exists for the same reason as domestic trade, namely to economise efforts in satisfying wants, or to express it more exactly, to obtain a greater quantity of wealth for a given expenditure of effort than is otherwise possible. Climatic and other physical conditions have been so arranged in our world that among desirable things some can be procured only in particular regions and some much more easily in certain regions



than in others. Grapes do not grow on fig-trees nor figs on vines. Tea cannot be grown in Norway any more than cod fish can be caught in the waters of Ceylon. Iron can be extracted with sufficient labour and expense from rocks in almost any country, but it is easier to attack those large deposits of concentrated ores which are found only here and there in the world. Not only is there an endless variety of physical endowment throughout the world, but also among the peoples inhabiting different regions, there is all manner of aptitudes for production due partly to the moulding force of environment and partly to natural variations in skill.

A large country such as the United States, having an ideal distribution of territory in latitude and a great abundance of mineral resources, can economically supply most of the requirements for an advanced civilisation without recourse to foreign trade. A small country on the other hand, can attain wealth and prosperity only by specialising in those industries for which she can find natural advantages in her limited territory. Such a country indirectly secures the benefits arising from the economical utilisation of a wide variety of resources, by exchanging the surplus product of specialised industries for goods from many different regions. The apparent disability of the smaller country compared with the larger, may thus be entirely removed, more especially if the former has the advantage of cheap transportation by sea from the ends of the earth.

From this it follows that, other things being equal, a small country must have a greater *per capita* foreign trade than a larger one in order to obtain a proportionate supply of current wealth; and the more limited its resources, or the greater its advantages for specialising in a few industries, the greater will its foreign trade tend to be. New Zealand has a much larger external trade per head than Great Britain, and Great Britain

than the United States. Yet no one will be bold enough to say that the first of these countries is the richest of the three. Though a comparison of the figures for the foreign trade of two countries gives no exact indication of their relative wealth, still in the actual world no country has attained to a large external trade except by the combination of energy with some advantage in natural endowment. The great volume of exports is the outcome of specialisation in industry, whether agricultural or manufacturing or both, and this in itself generally means economies in production through a more effective use of equipment and technique and a fuller application of human energy and talent. On the whole, there is some ground for supposing that an extensive external trade indicates a high degree of efficiency in production with its corollary of relative prosperity, more especially when the exports are mainly high-grade articles.

Among modern countries those which possess ample and varied resources and are able therewith to build up a number of specialised industries, can attain great wealth simply by means of internal exchanges of the products of these industries. Some big countries such as Russia remain poor because they lack variety of highly developed industries, or labour under difficulties of internal communication; other smaller countries of which France is the outstanding example, have become wealthy through the energetic working of varied resources, so concentrated and yet so contrasted, that exchanges of the different specialised products are easily made. Mere size of territory does not favour a considerable domestic trade, and may be a positive obstacle, if great land distances separate the areas of specialisation in the production of exchangeable commodities. In order to exploit to the full its possibilities for internal trade, a large country requires above all cheap and efficient means of internal communication; otherwise foreign goods may be

imported on one side of its territory while domestic goods of the same kinds are being exported on the other side. While it is clear to everyone that the costs of transportation must be deducted in order to arrive at the net gains from foreign trade, supporters of high tariffs are not always so clear as to the greater costs that may arise under this head in domestic trade when their policy is put into practice. The truth is that when import duties are substantially raised, some of the extra cost of goods to consumers represents, for a time at least, a charge upon them which is frittered away on the uneconomical internal movement of goods.

What means are there for estimating the benefits arising from foreign trade? The gross gain which a country derives from such trade has been analysed as follows: it is the excess in value to her of the things which she imports over the value of the things she could have made herself with the capital and labour devoted to producing the things exported in exchange for those imported. The net gain is this difference, less the extra costs of transportation, if any. Since no statistics are available for making a close estimate of that excess, another less correct analysis may be employed for practical purposes: if it is assumed that the country furnished the things imported (which is impossible in the case of many minerals and of products of a limited climatic range), then the gain arising from foreign trade is the excess of the cost of making things at home over the cost of making other things given in exchange for the articles imported. Either of these formulæ introduces us to what is known as the Law of Comparative Costs. A country imports goods of particular kinds, not always because she cannot produce them herself, nor even because she cannot make them at the same or a lower price, but because she can get more of them for a given outlay of labour and capital by the indirect course of exchanging the products of her specialised industries

for them. Great Britain has greater natural advantages for the dairy industry than Denmark, and makes butter as cheaply, but till recently, the labour and capital devoted to coal-mining and manufactures caused more butter to be available through trade with Denmark, than would have been available if that labour and capital had been directed to an expansion of dairying at home. A country's exports, in a word, consist of those among her products which have the higher relative exchange values abroad. Inasmuch as the exchange values of different products do not remain constant nor in the same relationship to one another from year to year, it is easy to understand how the export trade is subject to redistribution among products. Those articles which fall in the scale of values, as coal has recently done in the British export trade, become displaced in time by others that occupy a more favourable position. The terms of foreign trade become bad for a country when a number of the special products she exports fall in the scale of exchange values, more especially so, if large sums of fixed capital are locked up in the equipment required to produce them. After what has been said above (p. 290) there is little need to labour the point that the terms of foreign trade are much more vital to a small and densely populated country such as Great Britain, than to a large and more or less self-sufficient one such as the United States.

#### THE BALANCE OF TRADE—VISIBLE AND INVISIBLE ITEMS

A study of the foreign trade returns of the leading commercial countries shows that some of these such as Great Britain, apparently have a constant excess of imports over exports in value, others such as Argentina and New Zealand an excess of exports over imports, while comparatively few actually balance their trade accounts from year to year. There is a well-known

dictum of foreign trade that imports must be paid for by exports, but the exports used for these payments need not consist of merchandise alone. If we drop for a moment the notion of physical goods, and think instead of claims to wealth, the situation becomes clearer. When a country exports merchandise it establishes a claim upon the wealth of some other country, and that claim may be, and generally is, taken out at once in the form of merchandise of another kind imported for current use; but it may be reserved as a credit item in favour of the exporting country, in which case it contributes to the value delivered in respect of an interest-bearing loan made by that country, while the interest payable on the loan as it falls due constitutes further claims which may in their turn be used in either of the two ways mentioned. Similarly also, certain countries establish claims upon the wealth of others in virtue of the carrying services of their shipping fleets, of the financial facilities rendered by their banking and insurance corporations, and of the accommodation supplied by them to tourists and travellers from other countries. By reason of these various claims a wealthy country such as Great Britain or France is able not only constantly to import goods of a greater value than it exports, but to accumulate credit items abroad which appear on the other side of the account as loans advanced.

Useful concrete illustration of the above and of further points is provided by the following summary figures for the British balance of trade extracted from the Board of Trade Returns.

	IN MILLION £		
	1913	1926	1929
Excess of imports of merchandise and bullion over exports	158	477	366

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IN MILLION £	1913	1926	1929
Net national shipping income	94	120	130
Net income from overseas investments .. .. .	210	270	285
Receipts of short interest commissions and other services	35	75	80
	<hr/>		
Total credit ( + ) or debit ( — ) balance .. .. .	339	465	495
	+181	— 12	+129

The year 1913 was a prosperous pre-war year for the United Kingdom, while 1926, one of the worst on record owing to the paralysing effects of the coal stoppage and general strike, is abnormal in showing a net adverse balance. The table reveals the large aggregate value of the claims established by this country upon the rest of the world in other ways than through the export of goods. They are customarily spoken of as invisible exports to distinguish them from the visible exports in the form of merchandise. In spite of the deficit in 1926, the credit balance for the 6 years 1920-6 averaged £106 millions, smaller indeed than that of pre-war years, and much smaller when the lower value of money is taken into account. These credit balances form the basis of new foreign investments, i.e., of loans made to other countries. As the table is arranged, they consist of what is left of the invisible items after payment has been made out of them for the excess imports of goods.

In the course of the outline explanation given in the last paragraph, foreign loans were described as represented by an excess of exports of goods over imports; that is the way in which Great Britain and other creditor countries began their career as lenders; that is how the United States has during the last 15 years become the world's creditor. At a more advanced stage, however, what happens is that a lending country

exports capital by assigning to the borrower a given value of the claims to which it is entitled, whether on account of merchandise exported or of invisible items. The country which receives the loan is then able to expend these claims in any part of the world to which it chooses to transfer them, and not necessarily on the purchase of goods from the lending country.

The use of the term *exports* to define the invisible items may appear logical enough when applied to shipping services, but not such a happy one to cover the two other items. This peculiar usage has arisen in expert circles, partly because of its convenience in completing the national accounts, and partly because documents such as interest coupons and insurance policies are actually exported. Similarly also, when a borrowing country receives the proceeds of a loan, the excess of imports which appears in due course in its national accounts, is balanced by the export of bonds to the lender; and when a loan is repaid, which does sometimes happen between nations, the excess value of exports which meets the repayment is covered by the re-importation of the cancelled bonds.

#### TRADE POLICIES—TARIFFS

The history of British tariff policy since the eighteenth century is sketched in Ch. VI, and all that requires to be added is some account of the general principles at issue in the present situation. If the aim of human economic endeavour is to obtain wealth at a minimum sacrifice of effort, the weight of argument seems to be strongly in favour of freedom of trade between nations: each class of goods tends thereby to be produced wherever the greatest advantages and facilities exist for doing so, and each unit of human effort thus brings a larger return by co-operating to the full with Nature. Even when the charges for transportation have been reckoned in, the final costs of goods of all kinds to consumers are likely to be lower than when any re-

strictions are placed upon commercial intercourse. How is it then that more and more extreme forms of protection appear to be the order of the day in country after country at the present time? How is it that the British founders of Economic Science who strongly advocated freedom of trade have found few disciples in this direction among the leading economists of other countries? Why is it that even in Great Britain, so long the stronghold of Free Trade, the tide of public opinion seems to be turning towards Protection?

The discussion of the factors making for a restriction of international trade at the present time (see pp. 283-6) has shown some of the causes at work. Notwithstanding the existence of the League of Nations there is still an undercurrent of hostility in the attitude of the nations towards one another, which accompanies their somewhat ruthless regard for their own self-interest. When war breaks out the primitive instincts are given full rein, but in times of peace propriety demands that these instincts should be kept in the background. Unfortunately, the European War has made genuine economic co-operation between countries of diverse resources and productive capacities more difficult than before. Besides resulting in immense material damage and loss of life during the four years it lasted, it has since its close kept alive international suspicions, and thus it has strengthened the mania for economic separation, dislocated the channels of trade, and led to the establishment of specialised industries in many places that have few advantages for them except the artificial one of the bonus provided by heavy protective tariffs.

Adam Smith himself stated that defence comes before opulence. He was thinking of military defence, but in the present-day world the nations at large are obsessed with the need for defence not only against military aggression, which is understandable, but also against the dangers that lurk in the economic field in



a close dependence upon extensive trade relations with foreign countries. To be in that position would appear to them to be equivalent to having given hostages to the enemy. Within the national territory the operations of producers and the conduct of trade can be controlled in some measure by the Central Government which has little or no hold over the activities of buyers or sellers resident in other countries. Since the beginning of the twentieth century powerful trusts and combines have become a feature of the economic life of the chief trading countries of North America and Europe, creating new problems in foreign trade policies. Each country, whether industrially advanced or not, rightly considers that the free importation of goods into its territory strengthens the hands of the great trade combinations abroad, and weakens its own powers of resistance against them. The new countries of the Southern Hemisphere whose sea-borne trade has been controlled by shipping rings, have had some taste of what may befall when outsiders entrench themselves as monopolists.

To a world which is obsessed with rivalry and competition, those who urge the benefits of the free exchange of commodities and services appear as visionaries. The prophets of Protection, whether their prophecies are true or false, get a welcome hearing. Their arguments feed the aggressive instinct, and are all the more tempting because they are founded for the most part on obvious facts. Just as the militarists are in a strong position because the nations at large are armed for war, so the protectionists are able to point to the almost universal use of tariffs as a weapon in the economic struggle. This lends point to their leading contentions: the desirability of protecting nascent industries, the need of means for checking the dumping of goods by foreign producers, the usefulness of a tariff as a basis in bargaining for trade treaties, the importance of remaining as

independent as may be of foreign sources for goods that can without difficulty be produced at home. They are able also to urge the convenience of a tariff as a means of raising revenue and of putting pressure upon foreign producers to lower the prices of their goods so as to overcome the obstacle of the tariff. The evils associated with protective tariffs are apt to be passed over by those who favour this weapon, or if admitted, are considered small compared with the advantages. Yet they are serious; prices are raised internally at the expense of the general body of consumers, that is, a levy is exacted from the poor to pay for a bounty given to favoured producers; control of internal markets by trusts and rings is rendered dangerously easy; political life becomes corrupt through the wire-pulling of producers interested in a strengthening of Protection, and in the long run it is the industries that are politically strongest—those least in need of Protection—that tend to get their way. If industries that have been artificially stimulated by Protection show signs of flagging, the sovereign remedy is a stiffer dose of Protection. The appetite for Protection grows unhealthily with eating.

When all is said and done, however, many of the arguments for Free Trade or for Protection are perhaps irrelevant to the essential issue. Tariffs appear likely to remain. For the world is divided into groups called nations each of which is collectively conscious of an ego and is rightly desirous that its economic life should remain intact. Among them are many small countries poorly endowed with natural resources, and even among the larger some labour under disadvantages for the pursuit of various economic activities compared with the very strongest. Under world-wide Free Trade the hands of these strongest countries would be strengthened. Their producers, especially their manufacturers, would be in a position to swamp those in the weaker countries, leaving the

peoples in them to become "hewers of wood and drawers of water." Far from the displaced workers in these weaker countries being able to find alternative and equally remunerative occupations in which to specialise, they might well be forced to take up industries of the primary group that already suffer from over-production in the world market, and the standards of the peoples as wholes might be driven progressively downwards. Something of that kind happened in Ireland in the early nineteenth century. The most likely result would be a steady stream of migration from the weaker countries to the stronger; but the migrants would be the more efficient among the workers and others, leaving the former countries already economically weak, still weaker through loss of vigorous blood; and the process if continued would tend always to widen the gap in competitive efficiency between countries. Great Britain herself has lost in this way to the United States, but no country conscious of its nationhood will suffer this to go on for long if protective tariffs can be used to check the drain. Whether the people lose in material welfare or not through the imposition of tariffs, that is of small moment to them beside the problem of shielding their industries from devastating competition and of securing themselves against losses of their best human material.

Great Britain adopted Free Trade at a time when she was economically the strongest country in the world, and would for obvious reasons have been glad if other nations had followed suit. On what grounds is British trade policy now likely to be influenced towards a change from Free Trade to Protection? It is felt that there must be something in Protection, which has become so widespread and popular in the modern world and upon which no country has recently turned its back having once embraced it. Free Trade, it is urged, like disarmament is a good thing if universally adopted, but to admit other countries'

goods without restriction, when your own exports are everywhere met by rising tariffs, seems senseless if not suicidal. The continuance and growing acuteness of the post-war depression which has hit Great Britain more severely than it has any other country, gives rise to doubts as to whether Free Trade is the best policy after all. When its trade situation gets steadily worse, a country is ready to clutch at any remedy that promises the best hope of success. Unfortunately, this country is in a weak position for using protective tariffs as a way to greater prosperity. Its imports are mainly food and raw materials; and of the manufactured goods which it gets from abroad an important part consists of articles which enter into the making of finished British goods. The imposition of duties on foodstuffs and semi-manufactures would raise internal prices at the expense of the nation and of exports; duties on finished manufactures might, however, be of some advantage, through the operation of increasing returns on the larger output for a secured home market. Early in the nineteenth century Great Britain enjoyed a relatively strong strategic position in international trade, possessing as she did a partial monopoly of manufactures. Before the middle of the century she found it to her advantage to abolish protective duties; and though the world situation has changed since then, the re-introduction of a general tariff now might diminish the net national welfare. There is no other country indeed in the world whose imports consist very largely of primary products and whose exports are made up almost entirely of manufactures and invisible items. Countries that export food and raw materials and import manufactures in exchange may gain some ultimate advantage from protective tariffs, but it is difficult to see who would gain from them in Great Britain except a few favoured groups of manufacturers, the owners of fixed property and possibly the landed class. It is to be feared, however, that the people of Great Britain,

having long enjoyed prosperity through efficiency at home and favourable terms of exchange for their products abroad, may now, when the prices of their exports are no longer competitive, be led into adopting a protective tariff to save a situation that requires other and more radical remedies (cf. pp. 321-3).

Yet the evils of dumping give rise to difficult problems in any country where imports are free from serious restrictions. Large producers, whether of manufactures or of agricultural products in protected countries, sometimes resort to the practice of maintaining internal prices for their goods by selling an unwanted surplus abroad for whatever it will fetch. Sometimes, indeed, they systematically undersell producers in a foreign country in order to drive them out of business and capture the market, after which they can recoup themselves by raising export prices. Apart from the manifest injustice of either of these courses, there is clearly the practical objection that the disorganisation and consequent unemployment caused by the inflow of dumped goods may more than offset the immediate advantage to the purchasers of such goods. The remedy would appear to be some kind of tariff duty, but difficulties arise in making this effective and at the same time sufficiently discriminating. It is not always easy to ascertain whether goods are being offered by foreign producers at prices below costs or even below those obtained in the domestic market; and there is always the temptation for the domestic producers to label imported goods that are inconveniently cheap for them, as dumped or the result of sweated labour. Anti-dumping legislation if pushed far enough may amount to an attempt to prevent the entry of any goods that compete in prices with similar goods produced at home and like a thoroughgoing protective tariff may become a means of bolstering up inefficiency or of covering up the effects of an unjustifiable high level of wages.

## EMPIRE FREE TRADE

A modified kind of protection for British manufactured industries has recently been proposed under the form of Empire Free Trade which would result in converting the British Empire into a single fiscal unit with complete Free Trade within its borders and a tariff wall all round against foreign imports. This appears at first sight an attractive proposition: it would sweep away tariff restrictions over a combined area which is far larger and contains more diverse productive capacities than the United States; it would afford some kind of guaranteed market both for the manufactures of Great Britain and for the primary produce of the Dominions; and it would be in line with the present-day spirit of economic nationalism and would serve as a powerful counterblast to the excessive piling up of tariffs in the leading foreign countries.

Though nothing could be simpler than that Great Britain should differentiate against foreign producers of foods and raw materials in exchange for similar differentiation against foreign manufactures in the Dominions, difficulties at once suggest themselves. The first arises from the fact that the Dominions have already begun to develop manufacturing industries, and it is obvious that the partial demolition of Protection would expose manufacturers in the Overseas Empire to competition from their greatest rivals, namely those of Great Britain. The second major difficulty lies in the fact that Great Britain would be under obligation to levy taxes on foodstuffs and raw materials, which would raise production costs and tend to embarrass exports, more than half of which now go to non-British markets where they would be likely to meet with retaliation and loss of most-favoured nation treatment. A third consideration which must give serious cause to think, is that the ideal of imperial self-sufficiency stands condemned on several grounds; it is physically impossible of realisation since the

Empire cannot fully supply the whole of its requirements in all directions, it affords no protection for supplies in time of war, and it must make for international ill-will. In any case it appears exceedingly unlikely that the Dominions would be prepared to come into the scheme on the same terms all-round, and some of the most important, such as India and Australia, seem reluctant to consider it on any terms. Various modifications would have to be made as a result of separate bargains between Great Britain and each of the Dominions, and the value of the scheme to British exporting industries would depend very much upon the measure of protection afforded. The very diversity in the economic activities of the various parts of the Overseas Empire is a source of difficulty in applying all-round proposals. The great stumbling-block to the introduction of Empire Free Trade in any thorough-going form lies in a striking feature of the economic life of the world of to-day, noticed in the early part of this chapter: in all countries, but especially in the new ones occupied by Anglo-Saxons, the constant decline in the man-power required for agricultural production is releasing labour for local manufacturing industries. The eyes of these new countries are set upon diversification of industry; concentration upon agriculture alone spells for them "a blighted destiny". It is very improbable that a comprehensive tariff scheme embracing the whole Empire will ever be adopted—neither the British incapacity for anything but piecemeal progress nor the jealous individualism of the Dominions will allow that. But it is quite possible that some step towards freer commercial intercourse beyond the present very limited Imperial Preference will be taken, beginning perhaps between Great Britain and Canada, and that other parts of the Empire may come in as and when they see advantage in doing so, more especially if some form of Protection is adopted in the parent country.

## CHAPTER XIV

### UNEMPLOYMENT—CAUSES AND SUGGESTED REMEDIES

THE difficulties of proper social adjustment to the complicated conditions of economic life introduced by the Industrial Revolution are only too clear in the recurring problem of unemployment. All industrial countries are liable to suffer from this symptom of maladjustment, but none more than Great Britain, where since the European War it has appeared on a greater scale and in a more obstinate form than ever hitherto known.

In its wider and less technical sense unemployment is inseparable from man's lot on earth. In many of his productive activities—in all those such as agriculture, mining, fishing and so on, which are known as primary industries—he is in close touch with Nature; but Nature works at an uneven pace, by fits and starts, or so it seems, when regular human effort is applied to her resources for economic ends. Even under the simplest economic life of primitive societies, man is prevented from time to time from proceeding with his crude productive efforts, owing to the changes of the seasons and the chances of the weather, invasions of pests, scarcity of game or fish, and so on. In the first great industry taken up by settled populations, namely agriculture, there have always been periods of enforced idleness in the march of the seasons. The alternation of feverish effort during the summer months with almost complete cessation of work during the winter is not at all an uncommon feature in agriculture in the



cooler parts of the world even at the present day. Seasonal or other periodic interruption of work in the primary industries, however, does not lead, or at all events is not regarded as leading, to unemployment of the kind known in industrial countries. Wherever the slack periods occur regularly, they can at least be anticipated, and are very often provided for by means of alternative occupations. People engaged in agriculture and other primary industries may possess skill, but their skill is of the non-specialised, diffused kind. An efficient workman can turn his hand with some success to various occupations. In one way and another jobs are found to occupy slack times, either by the seasonal migration of the more able-bodied single men, or by taking up domestic industries in the winter, or by dove-tailing two distinct callings such as agriculture and lumbering, so as to fill the greater part of the year.

Industrial unemployment, on the other hand, in its modern form is a disease of the specialised system of production. It has been said that workpeople are unemployed because at the wages they ask there is no demand for their services. This may be true enough in the abstract both of pre-war fluctuating unemployment and of post-war chronic unemployment in Great Britain, though it must be realised that in some of the depressed staple industries earnings are now certainly no greater than are required to support a family at a reasonable standard of life. A more practical definition is based on the notion of involuntary idleness. Thus according to an eminent authority unemployment arises when the number of hours actually worked by the persons occupied in, or attached to, any given industry falls short of the number of hours' work these persons would have been willing to provide at the current rate of wages under the current conditions of employment, it being assumed that the hours' work taken as a unit is of a given

efficiency. This is fairly comprehensive in that it includes short time as well as complete loss of work, while it excludes unemployment due to individual slackness or inefficiency. In order to limit the term unemployment to its specialised industrial sense, the definition further excludes all lack of employment among those working on their own account, among clerical and professional classes and among workpeople involved in labour disputes.

Specialisation in industry has on the balance added much to human material welfare, but it must be blamed for the great losses in welfare associated with unemployment. First, it causes the mechanism of production and trade to become highly complicated, makes maladjustments between supply and demand almost inevitable, and thus leads to serious derangements. In any case, large-scale manufacturing and mining industries that are specialised to produce for the world market, are more liable to feel the effects of fluctuating trade conditions than agriculture, which on the whole works chiefly for domestic markets. The world at large requires about the same quantities of food products from one year to another, for the consumption of these is affected but little by changes in fashion or by variations in trade activity and in purchasing power. We have had occasion to examine the features and the causes of trade fluctuations in a previous section (see Ch. XII). Here the fact may be emphasised that any deviation either upwards or downwards from a normal state of healthy activity in any industry is almost certain either directly or indirectly, sooner or later, to lead to unemployment in that industry.

Second, side by side with the growth of more complex organisation in industry there has been increasing specialisation of workpeople for employments. This in itself tends to aggravate unemployment, since the individual worker has, as it were, put all his eggs into

one basket; the fluidity of labour noted above as a feature of the simpler primary industries has largely disappeared. At the same time the term of employment-contracts between employers and workers has been reduced so as to allow of the maximum adjustment of labour to demand: over a very wide field of industry the workpeople are employed at weekly notice on either side, and in some special industries such as building and road-making, by the day or even by the hour. Except when employers have special reasons for keeping their staffs together, slack business almost certainly means immediate unemployment.

Third, the wage-earners have given concrete expression to this specialisation of employment by organising themselves in vigorous Trade Unions, particularly in Great Britain and in some of the Dominions. Although these Unions exist for the protection of their members and have justified themselves at all events in the workers' eyes, they have been inclined to take a rather narrow view of what they hold to be the interests of labour against those of society at large. Their policy may impede the working of the whole economic system by robbing it of some of the essential quality of elasticity upon which depends its capacity for accurate adjustment. In particular, Trade Unions have imposed rules upon their members which tend to make wage-rates less responsive to the demand for labour than they might reasonably be, and which make for an over-rigid definition of employments, from one to another of which individual members may not pass. In so far as Trade Union activity sets restrictions upon the adjustment of payment to the value of the service by dictating the rates of wages below which their less efficient members may not accept employment, or limits the fluidity of labour between employments, it may swell unemployment.

So much for the charge against specialisation as a

general cause of unemployment. We have now to consider some of the more immediate causes with special reference to Great Britain; and the first step is to recognise that the abnormal post-war unemployment contains in addition to the fluctuating quota, familiar enough in pre-war years, another and larger element due to factors that have appeared since 1914. The causes of each of these kinds of unemployment will be considered in turn. Among those that produce fluctuating unemployment, three can be clearly recognised.

In the first place, there are seasonal ebbs and flows. Almost all industries are busier at one time of the year than another. "There is (in Great Britain) no month of the year in which some industry is not at its slackest, and equally no month in the year in which some industry is not at its very busiest." Some transfer of workpeople is possible from industries that are slack at any given time to industries that are busy, but this does not apply to specialists. In the main, each industry comes to have attached to it a sufficient number of workers to carry it through the busy season. It follows that throughout the year there will always be some workers wholly or partly unemployed through seasonal slackness in the industry to which they are attached.

Secondly, there is a lack of fixity in the economic life of western countries, a necessary condition for their form of progress. Unemployment is constantly arising through changes in fashion affecting the demand for particular products, through changes in technique whereby processes involving specialised skill are discarded, and through the transfer of industry from one place to another, which takes place more easily and more rapidly than workpeople can change their place of abode. In average years the amount of unemployment caused by these factors taken together is not very great, but at times it may be considerable. It contains

the unpleasant feature of being erratic in its incidence, and almost impossible to anticipate or safeguard against. It is part of the penalty that a highly industrialised country has to pay to render its industries capable of adapting themselves to the conditions of an ever-changing world.

A third cause of unemployment, and one which in pre-war years accounted for more than any other, arises from the fact that the labour force of the country is numerous enough, not only over the whole field of industry, but also in particular trades, to carry on all the old-established industries in times of activity, leaving an unabsorbed reserve when conditions are only moderate or are bad. In the decade before the War the annual averages of unemployment varied between about two and a half per cent. and seven and a half per cent. The causes previously mentioned, together with the time lost in the aggregate of intervals between one job and the next, would explain the minimum of about two and a half per cent., while the reserve of labour needed to enable the country to expand its trade in good times meant that even when conditions were normal, this reserve accounted for a further two and a half per cent. of unemployed. These fluctuations in trade, which have been, and still are, so fruitful a source of unemployment, may sometimes be confined to particular industries in the country; more often, they affect its whole industrial life, and not infrequently have they spread wave-like throughout the commercial world, plunging one country after another from the crest of trade activity into the trough of depression. It is in efforts to smooth out these fluctuations that there appears to be most scope in attempting to strike at the evil of unemployment. However much the commercial countries of the world are inter-connected and thus re-act together, each separate country can do something towards moulding its own industrial destiny.

In addition to the numbers unemployed through the operation of the three causes just described, there are those who represent the "wastage" of industry—who cannot ordinarily find employment because of old-age or physical disability. It has been estimated by a competent authority that including these the minimum total floating surplus of unemployed men and women in Great Britain numbers some 400,000 or 500,000. This means that unless ways can be found for fighting the causes, there is a surplus of upwards of half a million workpeople who cannot get employment except in years of especially good trade. The personnel of this body of unemployed workpeople is, of course, constantly changing. The units come and go, except for a more or less stable sediment of the less efficient; the gross total remains at about the same figure in average years.

Since the collapse of the trade boom of 1920, however, the minimum number of registered unemployed persons in this country has scarcely ever been below a million. Of these some half a million can be accounted for as representing a sort of normal floating surplus—but what of the rest? There is no doubt that the cause commonly given, namely the dislocating effects of the European War, has done much to swell the figure. All abnormal rates of unemployment are primarily due to maladjustments following upon dislocations somewhere in the machinery of trade. Wars are a most potent source of disturbances in the organisation of industry and commerce, the effects of which are felt in a peculiar degree by nations with world-wide trade connections. Such nations depend for their economic health upon uninterrupted peace. When they become active participants in a war fought on the scale of the last, it is almost inevitable they should feel the after-effects in trade depression and unemployment. After the Napoleonic War Great Britain suffered acutely in this way, just as she is doing now, and a number of years passed before the depression wore off.

## 312 INDUSTRIAL REVOLUTION

Why should a great war lead after its close to trade depression and unemployment in the industrialised countries that have been engaged in it? The answer is not a simple one; but it may be stated at the outset that the once popular belief that an industrial country benefits by the crippling of a trade rival in war is about as mistaken as possible.

The truth is, that in the general disturbance of trade which is partly responsible for the post-war troubles of victorious belligerents in protracted wars, the particular factor of loss of markets in the defeated countries is probably one of the most potent. Even if the pre-war trade between the victorious and the defeated countries was not very extensive, the results are the same. For a first-class commercial country such as Germany had world-wide trading relations, and the interruption or contraction of these connections simply means that other foreign countries, not being able to find the same outlets for their surplus in, say, Germany are unable to purchase the same volume of exported goods, from, say, Great Britain.

The destruction of vast sums of capital in the course of a great war also leads to trade depression in highly organised countries. Once destroyed, these sums, representing slowly-accumulated savings, cannot, of course, be available for the development of industry where needed, nor can they quickly be replaced. The process of restoring these capital losses is, in fact, apt to be rendered especially difficult and slow through war-weariness, through habits of extravagance encouraged by war, and through the reduction in productive power which war surely causes. It must be fully realised in this connection that the industrial life of a country is like a living organism; it is in constant process of change and adaptation. In order that it may function in a healthy way, facilities must exist for the constant birth of new industries, for the expansion and re-equipment of established industries.

Only in this way is it possible to provide the conditions for the ready exchange of goods against goods on which normal trade activity in any country or throughout the world depends. In this connection, it may be added, the War caused British industry to get out of step with world conditions, by fostering some special industries at the expense of others and by suspending the normal adjustment to changing market and technical conditions. Even if capital had been abundant, and those engaged in industry unusually alert and efficient, the lost ground would have been hard enough to recover.

Further, the last war had particularly unfortunate effects for Great Britain in so far as it stimulated the establishment and the growth in neutral countries of manufacturing industries, while European supplies were cut off. After the war, when trade channels were reopened and competition began to be felt again in these neutral countries, they (or their manufacturing interests) strove desperately to bolster up the new industries by protective tariffs, thus adding to the confusion of a dislocated world.

The question arises, however, whether there are not other factors at work at the present time in this country, beside those directly due to the European War, which are swelling the number of the unemployed and delaying economic recovery. When we turn to other countries such as France and Belgium which were likewise involved in the War, are more or less industrialised, and have important trade connections abroad, we find that unemployment is almost non-existent in both of them. Several explanations have been given for the special difficulties encountered in re-establishing trade and normal employment in Great Britain compared with other countries. Sometimes it is said that the country is over-populated. The employing classes urge that taxation is too heavy or that wages are too high to enable British export industries to compete



with those of other countries where taxation is lower or wages are less. Some people maintain that the dislocation has been aggravated and prolonged by the policy of returning to the gold standard as a basis of the currency. Each of these explanations will now be examined.

First with regard to over-population, this term is apt to be used rather loosely without clear realisation of the fact that it is within wide limits purely relative to some given standard of living which is demanded or is thought of as a minimum. Those who hold that over-population is a cause of unemployment in Great Britain would not describe France as over-populated, yet it might become so in their view, if wage rates there rose to the British level and widespread unemployment appeared in consequence. If over-population is to be cited as the prime cause that many workers are unable to obtain employment at the high remuneration they feel to be their right per hour of service given, then the Australian continent with its handful of people is "over-populated." If, on the other hand, high density per square mile means over-population, some of the countries of continental Europe, Holland and Belgium for example, where unemployment is not rife, are more over-populated than Great Britain. It is true, that Great Britain has not been losing so many able-bodied people by emigration in the years since the War as in those preceding it, but it is extremely doubtful whether reduced emigration has been a factor in increasing unemployment. At given rates of wages, the competitive strength of a country in the world's markets varies with the efficiency of the work given, other things being equal. Now emigration has always been selective in the sense that it is the more vigorous and enterprising who go abroad, leaving an increasing proportion of the relatively inefficient among those who stay behind. On the other hand, the casualties of the War in killed

and disabled, amounting to not far short of a million selected men from the British working force, have almost certainly aggravated the problem of unemployment in post-war years. There has been, and there still is, a higher proportion of the less efficient among the whole body of workpeople than there would have been without the losses in human material inflicted by the War.

If the workers of Great Britain (and the employing classes) were prepared to accept a smaller remuneration per hour of service more in keeping with continental rates, a large proportion of the abnormal element in the post-war figures of unemployment might well disappear. It ought, of course, to have been recognised by everyone in Great Britain that as a result of the War the average person must either receive less real income or work for longer hours, or both; instead of that, it is to be feared that wrong-headed ideas got about that having won the war, we were in for a time of ease and plenty. Some deep-rooted notion of this kind in the minds of workpeople makes it very difficult to bring about such downward revision of wages, more especially in the "sheltered" industries, as to make it possible to absorb into industry all those reasonably efficient persons who would normally be employed. Sir William Beveridge in his book *Unemployment—A Problem of Industry 1909 and 1930*, after noting the fact that "post-war Britain presents two novel features—unexampled unemployment and a rise of real wages almost without precedent"—sums up the matter roundly by stating: "Assertion of a minimum standard is assertion of a determination under certain conditions to stand idle, to be till that minimum can be won, a surplus population." In other words, given rigidity of wages, the problems of over-population and chronic unemployment become almost indistinguishable.

The contention that the greater burden of taxation in Great Britain than in rival countries acts as a handicap

to the former's export trade, contains perhaps some truth. General direct taxation, e.g., the income tax, is of course levied on profits, and it is wrong to suppose that high rate of such taxation will cause the returns of weak firms to disappear, so forcing them out of business and their workpeople out of employment. On the other hand, a high income tax, if it is felt to be high, does react unfavourably on industrial activities in two ways: first, because it diminishes the net income available to the owners of businesses and may seriously reduce in a physical sense the sums re-invested as capital in industry; and second, because it is apt to act as check upon the spirit of enterprise and to damp the urge to effort in those responsible for the conduct of industry.

The other considerable form of taxation, namely local taxes levied as rates, falls unequally upon different firms, or will do so until adjustment finally takes place under the 1929 Derating Act. Rates do not represent a deduction from profits; they have to be paid as assessed even if the firm is working at a loss. It is quite possible, therefore, that firms and industries that have been shouldering more than their share of local taxation, have been labouring under a distinct handicap, more especially if they have been working mainly for the export trade. In any event, the excess of the amounts collected as local taxes in Great Britain above those collected abroad, represents largely a disguised increase upon the general rates of wages paid, since the proceeds are mainly spent on social services for the benefit of the wage-earning classes. In so far as the rates are paid by industry, and not by landlords or by the owners of private dwellings, they are to be taken as forming part of the wages bill to be met by employers, to the discussion of which we now proceed.

When people assert that wages are too high in Great Britain, they are thinking of the costs of production of goods that have to meet international

competition. Some of the competing goods are certainly produced in countries where the rates of wages are lower than the British scale, but some again, in particular those from the United States, are made in factories where the rates of wages are higher. What really matters, of course, is whether British workpeople in general, and in particular industries, are adding by their labour to the materials they handle a value at least equal to the real value of their wages (including supplementary items through social services). This is a difficult question to answer. There has, however, been a distinct tendency in Great Britain since the European War to "peg up" real wages wherever possible. There is definite statistical evidence to show that remuneration per hour stands in a higher ratio to efficiency (expressed in output or otherwise) than it did before the War or than it does in a number of actively competing countries. National unemployment insurance, at all events, appears to have the effect of stiffening the attitude of Trade Unions against claims for reduction of wages, when the increase of unemployment in given industries shows that wages costs may be too high. As a result, wage-rates in Great Britain may have lost some of the plasticity, i.e., the sensitiveness and adaptability to trade conditions which they formerly had. It is to be feared that the distinct upward movement in real wages of recent years has come just at a time when the diminished national income has made a rise in standards most dangerous.

In recent disputes an interesting feature has developed. The workpeople have, in effect, said "Granted that our industry is suffering from foreign competition owing to excessive costs of production, the fault lies not in the fact that wages are too high, but with the employers whose organisation is inefficient." According to this argument, when an industry is in difficulties, the employers before they raise the cry that wages should be reduced, should search their own

house carefully, should cut out any wasteful methods of business, and in general produce economies by greater efficiency. There is some justice in expecting that employers who are fond of urging their workers to greater output, should see that the organisation which they are responsible for, produces the maximum output as measured by net values.

With regard to the effects upon industry of the return to the gold standard in 1925, these will be more clearly understood on referring to Ch. XI above, where currency questions are discussed in their proper setting. We have seen that trade is usually most active in a period of rising prices, and stagnates when the general price level is falling. The return to the gold standard resulted in, or aggravated a slight general fall in prices in this country, whether that was the intention or not; thus industry had smaller chances of reviving owing to this measure than it might otherwise have had. Since, moreover, wage-rates have shown themselves vigorously resistant to reduction in recent years, any step that causes a lowering of the general price level, tends to increase for employers the ratio of wages costs to prices realised.

Apart from all these causes, real or alleged, contributory to trade depression and unemployment, two special factors over which society at any given moment has little control, may have some influence on the situation. The population of a country does not increase at a constant steady rate, at all events that of Great Britain did not in the years just before and during the last war. Thus some fourteen or fifteen years later we find that the number of new entrants into industry varies a good deal from year to year, and, other things being equal, unemployment will be greater when as has happened recently larger numbers of new entrants than usual compete for employment. With regard to the future, however, it appears that Great Britain has, since about 1915, been moving towards a stationary

population, so that the pressure from new entrants for employment will from now onwards gradually become less.

A second factor which tends now to aggravate unemployment also arises out of changes in the population. In recent decades, as is fairly well known, both the birth-rate and the death-rate in Great Britain have been falling. The combined effect of these two movements has been to increase the proportion of older, less active, less adaptable and presumably less efficient persons in the whole working population. So far as unemployment is concerned, this factor must ere long cease to have increasing effect, for the simple reason that human life cannot be lengthened indefinitely.

Just as in medicine it is often easier to diagnose than to prescribe, so it is with the economic disease of unemployment. The account of the remedies proposed must unfortunately be short, for in truth little has been done to find a cure. Of these remedies some are intended to strike at the causes, others simply to mitigate effects. Under the first head suggestions have been made for keeping a fuller control over credit through adjustments in the Bank Rate, as a means of smoothing out trade fluctuations. Under the second, there have been proposals for the re-distribution of state and municipal contracts so that these serve as reservoirs into which to absorb labour when trade is least active; plans for large-scale state-assisted emigration to the Dominions; and arrangements for the transfer of workpeople from districts where there is surplus labour to districts where industries are expanding.

If the Bank Rate could be used as a lever for controlling credit, the course of industry would doubtless be more stable and some part of the present large volume of fluctuating unemployment would disappear in due time. The Bank Rate, however, is simply an expression of market conditions, and to

manipulate it with a view to controlling credit would mean turning an effect into a cause. This and other points connected with the control of credit are discussed more fully in Ch. XII (see pp. 273-4). No progress has been made with this line of approach to the unemployment problem, at any rate in Great Britain. Public contracts can sometimes conveniently wait, but not always. When they can be delayed, they may be timed so as to lessen trade activity within limits on the one hand and to relieve depression on the other. Wholesale migration of workpeople to the Dominions would be useful if it is true that Great Britain is overpopulated, i.e., that a smaller number of people would be able to obtain a higher average standard with the same output of effort. In view of what has been pointed out above (p. 314), this must be regarded as a very doubtful method of relieving the strain of unemployment. Those who have chances of employment are not very willing to emigrate, and those who have not, are not very suitable for life overseas. The great difficulty encountered in pushing emigration has been the very practical one that the Dominions have unemployment problems of their own and some have at times definitely suspended facilities. Some progress has on the other hand been made with the transfer of workers from depressed districts. The Government has set up an Industrial Transfer Board to serve as a clearing house for information as to openings in various parts of the country and to assist workpeople out of employment to move to places where they can be absorbed. Difficulties arise, however, both through the reluctance of such people to leave their home areas, and through the jealous feelings of those upon whom they seem to intrude.

Whatever success attends the adoption of these or other remedies, symptoms of chronic unemployment are likely to remain for some time to come. Statistical evidence is available from the United States and from

Germany which shows that in each of these countries the application of technical improvements to industry has made it possible in recent years to obtain a greater volume of production, while the number of persons employed has actually fallen. The displacement of wage-earners owing to this cause has for some time past been a marked feature of the agricultural industry of the Western World (see Ch. XVI), but during the last few years it has begun to affect manufacturing industries in no uncertain way. Great Britain as a highly-organised industrial country is forced to fall into line with her competitors in adopting rationalisation and in modernising industrial equipment as the price that must be paid for the maintenance of her export industries. Though the introduction of more efficient methods of production should lead in the end to increased general welfare, it can scarcely do otherwise than cause some unemployment during the period of active change. Large numbers of persons are out of work at the present time in both the United States and Germany, and part of the recently increased unemployment in Great Britain is to be ascribed to the onset of the changes that have affected these countries. The economic system does not take kindly to the process of making rapid all-round adjustments: new industries do not appear quickly enough to absorb the workers as discharged from those in which the labour force is economised. Thus arises what is known as technological unemployment. Inasmuch as rationalisation and other steps towards economising costs have only just been set on foot in this country, unemployment may increase to yet larger figures before the transition phase is over.

The effect of technical changes, however, in increasing the unemployment in Great Britain simply resembles that of a strong wind in piling up an already swollen tide. It is, unfortunately, impossible to undo the legacies of the War—the upheaval in the world's



trade, the destruction of capital, the slaughtering of hundreds of thousands of the best potential organisers and workers, the inflation of the currency and the deflation which has followed, the undue forcing up of the rates of real wages—and these are the causes of much of the abnormal unemployment in Great Britain during the last ten years; nor is it possible to convince what, it must be confessed, is a rather lazy nation that the cure for many economic troubles is thought and organisation backed by efficiency; nor, finally, is it at all possible to stay the career of petroleum in its encroachment on the world's markets for coal, or restore the supremacy of cotton against such a rival as artificial silk, or make intensive agriculture in a cool temperate climate such as that of Great Britain profitable in competition with extensive agriculture in ampler lands with a more genial climate. The progress of invention, changes of fashion and the improvements in communications have dealt heavily with Great Britain in the last couple of decades, and worst of all in the years since the War.

The foreign markets upon which the foundations of Britain's great staple industries were laid appear to be weakening their support. This points to the need for further diversification of industry. The world's demand for manufactures is in reality greater than ever, but other countries have learnt how to make clothes and build ships, and many are doing so with British-made machinery. Salvation for British industry in this changed post-war world lies in establishing new manufactures for high-class goods such as to give it once more definite leadership in directions that other countries are less capable of following. Developments on these lines would strike at the roots of the long-drawn problem of unemployment by making it possible in time to adjust production to the standards of living. An essential condition for such progress, however, would be the investment of large sums in the form of

fixed capital. This the British public is not at present ready to do, whether too little wealth is left after taxation has taken its share, or because there is a lack of confidence in the whole situation, weakened as it is by the apparent paralysis of organisers in the face of the demands of the workers.

The only alternative is the disagreeable one of revising standards of living downwards so as to bring them into line with production. In the meantime, a thorough overhauling of the machinery of the so-called unemployment insurance is overdue, starting with the principle of making it a genuine insurance scheme backed by a suitable Poor Law. A system which provides public relief mainly by means of a tax on employment, equivalent to an addition to the cost of production, is likely to lead to ever more unemployment. There is such a thing as "subsidising the manufacture of unemployment".

## CHAPTER XV

### PUBLIC FINANCE

PUBLIC finance has two sides, of which expenditure is much the more important, being the end to which taxation is simply the means. Since, however, in times of peace at all events, the amount available as revenue depends to no small extent upon the yield of a workable scheme of taxation, every properly conducted State regulates its total expenditure and the allotment of that total among various objects, with one eye to problems of taxation. In theory a public authority differs from a private person in that its expenditure broadly determines the amount of its necessary income, while the latter's income determines the amount of his possible expenditure; but in practice Public Authorities elected on democratic principles are unwilling to incur unpopularity by increasing taxation for the purposes of additional expenditure, even when the net effect might be to increase the welfare of society at large. Thus in general, public discussion of the financial activities of Government has fastened upon taxation, and little attention has been given to expenditure. The growing importance of expenditure for public ends in modern states, especially in Great Britain, makes it impossible to overlook this matter, which we shall return to later.

A tax has been defined as a compulsory contribution of the wealth of persons for the services of the public powers. As a rule the person paying the tax gets no direct or immediate return for his outgoings. This point is emphasized in the following definition given

by an American writer: "The essence of a tax, as distinguished from other charges of Government, is the absence of a direct *quid pro quo* between the taxpayer and the Public Authority." It is this feature that makes the payment of taxes disagreeable to individuals, few of whom can assimilate public welfare into their ideas of the things they desire ardently enough to be prepared to pay the price. Owing to historical associations, too, taxation has become surrounded by an odour of disrepute which still clings to it, whether because the taxes themselves have in the past been in the nature of exactions, or because the taxpayers can never be quite sure whether the proceeds, once in the hands of Government, will not be squandered or devoted to purposes of which they as individuals do not approve. Be that as it may, from early times right on to the present day private persons have exercised much ingenuity, and have shown few scruples, in evading taxes or shifting them where possible on to other people's shoulders. The earlier economic writers regarded every tax as an evil, and even at the present time responsible people talk about the burdens of taxation regardless of the benefits of the corresponding expenditure.

The history of taxation reveals the struggle for the control of the taxing power—in recent centuries through representative institutions; and, as a general rule, in the past as well as in the present, taxes fall most lightly upon those who have the greatest political power. Prior to 1750 in Great Britain as in other European countries, the class of wealthy people who could contribute appreciable amounts individually to taxation was limited to the larger landowners together with a sprinkling of merchants. Some of the latter became quite wealthy, but their business was speculative enough in the absence of modern devices for sharing and restricting risks, and there was therefore good reason for not taxing their gains too heavily. Almost the whole of the taxes in those circumstances was

collected either from property owners or from the mass of the people through the duties levied upon the goods they consumed; and since in Great Britain the landowning class was for long all-powerful in Parliament, the tendency was towards raising the bulk of the revenue through the Customs.

#### PRINCIPLES OF SOUND TAXATION

Adam Smith was the first writer of note to command the attention of prominent ministers of State in matters of taxation. He was able to convince William Pitt of the wisdom of reducing the Customs Duties, though the great war with France which followed, and the absence of machinery for collecting revenue in other ways, made it difficult for that statesman to proceed very far with reforms in taxation (see Ch. I). Smith's four canons of taxation have become famous. The first was that "the subjects of every state ought to contribute to the expenses of government as nearly as possible in proportion to their respective abilities"; the second, that "the time of payment, the manner of payment and the quantity to be paid ought to be clear to the contributor"; the third, that "every tax ought to be levied at the time and in the manner most convenient for the contributor"; and the fourth, that "every tax should be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the State." The form of taxation which best satisfies the requirements of these canons is the tax on income, which though not directly suggested by Smith was introduced by Pitt.

In modern times, the more advanced states, and in particular Great Britain, have arranged their systems of taxation so as to meet the requirements of the second, third and fourth of Smith's canons; but the first, when widened into its modern form of the principle of equity, is not so simple as it looks. The introduc-

tion of questions of practical administration and of due consideration for the maintenance of production, complicates the matter further, and there has been, and still is, much discussion as to the best means of applying the principle.

The obverse side of a tax payment is a sacrifice of satisfactions. So when the maxim of taxing according to ability to pay is applied equitably to actual citizens, it comes to mean some form of equality of sacrifice. Since a much greater sacrifice is involved in being compelled to forgo necessities than luxuries, it follows that not only should a minimum income be exempted from taxation, but also that the scale of taxation should be progressive, i.e., should be at a higher rate on larger incomes than on smaller. Though these principles of exemption and progression have been adopted in many countries, it is doubtful whether equality of sacrifice has been achieved in any. Wherever the customs duties form a considerable part of the revenue collected, no scheme of progressive direct taxation is likely to redress the unequal burdens that those duties throw upon the mass of the people. Further, the opportunities for making large incomes appear to be constantly widening in modern States, and equality of sacrifice does not arise when incomes mount up more or less automatically so as to leave ever larger margins to the fortunate owners when all taxes have been paid. Finally, no country dare make the progressive taxation of incomes so steep as to weaken either the desire or the ability to provide for savings in that class, namely of the really rich, which contributes the largest shares to the supplies of capital.

Arising out of the clash between practical considerations and the principle of equity, various additional points call for observation. In the first place, a given amount of revenue can in practice be raised with less likelihood of adverse effects upon production from taxes on unearned incomes than from taxes on earned

incomes ; but many who receive unearned sums have small aggregate incomes or are dependent on these, the proceeds of past savings, to support them in retirement after their working years are over. A compromise has been reached in Great Britain by adjusting the rate of taxation at a rather lower scale on earned than on unearned incomes. If, however, differentiation were pushed very far, the will to save in order to provide a future income would almost certainly be diminished, with possible serious effects upon the supplies of capital. Rents have been singled out as especially suitable from a social standpoint for heavier taxation ; but the justice of this proposal is very doubtful, since those who have had savings to invest have therewith purchased the right to receive income as rent with the same trust in the future that they or others have acquired the right to an equal income by buying Government stock.

Moreover, what is received as unearned income by the less wealthy is generally the result of previous thrift and self-sacrifice either on the part of the receivers or on the part of persons who wished to make some provision for them. Is it proper that those who in the past have been economical and have managed to save, should be required, after having paid the ordinary rate of tax on the incomes from which they saved the capital sums, to pay again on any scale, let alone a higher one, on the incomes from those savings? Others with equal incomes have not forborne to spend all as they went along, and as a result are asked to contribute less to the public revenues.

The great obstacles in the way of reform of these anomalies is that of practical administration. The State could have no guarantee in exempting savings from taxation that what is put by at one time might not be consumed as current income later on. This is already widely done, and relief in favour of savings would simply be used as a convenient method of whole-

sale evasion. Some concession has, however, been made on premiums paid on life insurance policies, which represent savings which are seldom converted to current expenditure till after a long period of years, if at all.

Public opinion sanctions the taxation of unearned incomes, especially the differential heavier taxation, on quite other grounds, which are scarcely relevant to the question of taxing savings and derived income. It is known that much unearned income is due to the inheritance of capital sums, and that quite appreciable amounts are the proceeds of unearned increments on property such as land held passively. These two sources together account in all wealthier countries for a very considerable part of the income classed as unearned, but neither of them should in strict equity have been allowed to lead to such accumulations of private property as they have done. There is, indeed, a very strong case for the taxation of inheritances on a steeply graduated scale rising perhaps to 100 per cent. on property left to others than to direct heirs. The present rate of Death Duties in Great Britain, heavy as it is on the larger estates, still leaves the door wide open for the endowment of idleness. As to unearned increments (e.g., in land values) and the incomes arising therefrom, there is no reason why these results of public progress should accrue to private owners who have contributed nothing towards them, instead of to the community at large. The criteria of ability to pay, equity and regard for public welfare, all point to unearned wealth from this source as proper for complete removal from private pockets to public funds.

The practical question arises, what is the best system of taxation? The answer to this question has grown in importance with the great recent increase in demands for revenue in almost every civilised country. At various times one form or another of single tax has been proposed as the most desirable: among these a tax on land, a tax on income, a poll tax, taxes on



consumption, i.e., on commodities. The great objection to relying too exclusively on any kind of single tax for revenue is that it gives rise to anomalies, and hence causes one class to bear more and another less than its share of the general burden. A multiplicity of taxes is better, but this again is open to objection, because the taxes are apt to be costly to collect and to be vexatious to the public. A good rule appears to be to spread the system fairly wide, but to rely for the bulk of the revenue upon a few main sources. Another rule which is commended is to tax income rather than capital for the reason already noticed, namely that savings and the desire to save should be tampered with as little as possible; but inasmuch as the desire to save for others than direct heirs is relatively weak, heavy taxation on inheritances left to such persons can do little harm, and may as we have seen be strongly supported on other grounds.

It would scarcely be necessary to comment upon the outstanding forms of single tax that have been proposed were it not that each has found powerful advocates. The supporters of the single tax on land can point to that agent as the basic factor in all material production, and are able to make a strong case by pointing to untaxed unearned increments which have swollen the wealth of private owners of land, and have done much in rapidly advancing countries to create inequalities of wealth. But under such a system of taxation there would be glaring anomalies; many large incomes, e.g., those of lawyers, commission agents and merchants would go almost scot free. Those who propose taxes on incomes as the sole source of revenue are on surer ground. However, their plan, if put into effect, would leave inheritances untouched, would penalise the younger generation engaged in active production in favour of the older living on realised wealth, and would prove uneconomical when applied to numerous smaller incomes.

Protective duties are a favourite form of taxation, though in these democratic days, no one would be bold enough to suggest that they should form the sole source of revenue. It is argued that taxes on commodities are felt less than taxes on income; while as a matter of fact, even if duties do not raise prices by more than a like amount such taxes may force some articles out of consumption and so cause greater hardship than taxes on income which hit marginal expenditure as a whole. On the score of equity, too, protective duties are in practice open to serious criticism, since their general effect is to force higher costs for the protected articles upon the producers in unsheltered industries, e.g., agriculture, which in addition often have to face the full brunt of world competition in their export business. The "flight from the land" in some new countries such as Australia is due in no small measure to this result of high tariffs.

#### SECONDARY OBJECTS IN SCHEMES OF TAXATION

The end of taxation is to produce revenue to meet expenditure: if all activities of Government were self-supporting as the postal service is in Great Britain, there would be no general taxation. As things are, great sums are required annually to balance the national accounts, and if taxes can be made to serve any useful secondary purpose, it is just as well to arrange them so as to achieve this. For every tax has other effects besides those of simply producing revenue. Among the secondary services that have been claimed for specially adjusted taxation, two are of some importance.

It is generally held that glaring inequalities in incomes are undesirable, and systems of taxation have accordingly been framed so as to result in transfers of wealth through the public exchequer, from the relatively rich to the relatively poor. The former are relieved of part of their incomes, the latter receive some of the proceeds in the form of subventions to social services.

This is one of the grounds on which the progressive taxation of larger incomes is justified, but progressive taxation deals with results, not causes. Logically it rests upon an admission of unwelcome features in existing society, and of the need for a programme of social reform.

The upholders of protective duties would maintain that even if these duties were not required to produce revenue, it might still be advisable and even necessary to impose them in the best interests of the nation at large. According to this theory, the productive forces of society require pruning and training like a fruit tree; and the only authority capable of acting as a wise husbandman is the State, which has at disposal no implement so effective for this purpose as an elastic tariff. Protective duties must in this view be taken as a striking exception to the generally recognised principle that taxes should be devised so as to cause a minimum diversion of resources.

However wisely or cunningly heavy taxation is levied, there is little doubt that it acts not only at first, but also continuously as a check upon production. We have already touched upon the way this arises in special connection with the causes of industrial depression and unemployment in Great Britain. Considerations of this kind have led to strong denunciations of taxation as the enemy of business prosperity. If general taxation beyond a given limit has the effect of killing the goose that lays the golden eggs, it would appear that there is somewhere a critical point beyond which the taxing authority may not go in increasing taxes as a whole. Here we have simply a wider application of a principle clearly recognised in connection with special taxes on commodities or services. In searching for additional revenue from such sources, a government must always consider whether the imposition of higher or new duties on any particular article will not cause a fall in the demand for it, or

encourage the use of substitutes, to such an extent as to make the anticipated higher yield illusory ; the more elastic the demand for the thing, that is as a rule, the further it is removed from the class of absolute necessities, the more likely is this to take place. In one sense the taxing authority resembles a thorough-going monopolist who so adjusts the price of his commodity that he gets the maximum return. But no modern government is guided in its taxation policy by the monopolist's motive of securing maximum revenue, otherwise the heaviest taxes would be laid upon the greatest necessities.

Even if a proposed tax or an additional tax is thoroughly equitable, it requires also to stand the test of what may be called net public welfare. The question that has to be asked is, will this impost be more beneficial than injurious on the balance to the general welfare ? If not, then the alternatives come up for consideration. These may be other forms of taxation, but they may not, since clearly another alternative which is within limits possible is to reduce the demand for public revenue by curtailing public expenditure. Before the question proposed above can be answered, something must be known about the way in which the proceeds of the tax are going to be used. This brings us to the whole matter of the objects and aims of public expenditure.

#### OBJECTS OF PUBLIC EXPENDITURE

The various objects of expenditure by Government fall into four main groups : protection against external attack and the maintenance of law and order internally ; the service of the public debt ; the maintenance of official personnel including the Head of State, diplomatic representatives, ministers and civil servants ; the provision of social services, e.g., those for public health and education ; and the fostering of industry and commerce by consular agencies, transport services and other means.

Far the largest item in the expenditure of almost all Governments is due to military activities; to armaments, to wars and to the services of the public debt and the pensions resulting from those that have been waged. In Great Britain at the present time, considerably more than one half of the State revenue and over one eighth of the total national income is so consumed. Expenditure on the personnel of Government, though generally a small item in comparison, has recently been a growing one in most countries, owing mainly to the extensions of State activity in the direction of social and commercial services.

In times of peace there is not much margin for curtailment of public expenditure except on the last-named services. Wars spread their costs over many generations, if not in perpetuity. The present generation cannot escape its inheritance of liabilities without heroic measures or some form of repudiation, open or disguised. So far as immediate expenditure on defence forces is concerned, it is true that there is a wide margin between the absolute minimum deemed sufficient by a peaceful Government and the maximum to which a bellicose Government will consider it expedient or find itself forced to go. Apart from wars with their antecedents and aftermaths, there has been a continuous upward trend in public expenditure in recent years on the social and utility services. This has been by no means confined to Great Britain. Indeed, one of the strongest stimuli to the extension of social and commercial services has arisen through international competition. Each of the leading countries fears that it may lose in the race of economic efficiency, if its people are less well educated, if their health is not so well cared for, if public assistance to trade is less complete than in any other. Naval and other agreements may do something to limit the race in armaments, but international competition in efficiency interpreted in terms of success in trade rivalry, is absolutely unfettered.

Expenditure on special public services with a view to raising national competitive efficiency has a capitalist colouring, or at all events is accepted by the propertied and organising classes. The extension of these services has, however, particularly in Great Britain, recently received powerful additional impulse from another direction. Reasoning from the premiss that the Government is the great guardian of public welfare, the socialist party acting as spokesman for the non-propertied masses, has urged the provision and extension of services for improving the lot of the poorer classes, as a duty incumbent upon the State. To the question, where the extra revenue for these purposes is to come from, that party would answer, by reducing expenditure on armaments, and by further taxation of the rich, if necessary. Clearly enough, the social services which the propertied classes have in mind are such as to yield some concrete return, that is, the expenditure on them is thought of as reproductive. Those on the other hand, that the socialist group advocates, though partly of the same kind, are mainly such as will contribute to what in their view would be an improvement in social conditions as an end in itself.

It is now generally agreed that expenditure on armaments is an unpleasant necessity, and that every possible step by peaceful policy and international agreements should be taken to lower the need for these prescribed by safety. It is also coming to be recognised that it may be unwise to encourage the continuance of luxury expenditure or to promote the growth of material capital at the expense of human capital or knowledge, because the possible return both in material production and in net human welfare may thereby be diminished. Between the advanced reformers who believe that the stimulus to production under a wise system will far outweigh the check, if any, resulting from the taxation required, and the strict conservators who hold to the doctrine that all will be well in the

best of worlds if disturbance by Government of inequalities in incomes is kept to the minimum, there is a wide gulf. A crucial question was submitted several paragraphs above with reference to the expediency of new taxes (see p. 333), and was left unanswered. It will now be seen that the answers to it will vary as widely as these two views are apart.

### PUBLIC DEBTS

There remains the subject of public indebtedness, with special reference to war debts and international debts, in connection with which some of the terms in use may require explanation. Public debts are either reproductive or deadweight. The former are covered by public assets in the form of railways and other tangible things, and therefore resemble the capital of a trading company. The national creditors are paid interest out of the returns earned by these assets in the same way as are the debenture holders in an undertaking. Deadweight debt, on the other hand, having been incurred chiefly through wars, is not offset by any assets, and the service of such debt (interest and any sums allotted to sinking fund) has to be met out of general taxation. Public debts have also been classified as internal or external according to whether the loans have been raised within the territory of the country in question or outside it. However, the line of demarcation between these is rather difficult to draw, owing to the ease with which bonds in so-called internal debts can be taken up by, or be transferred to, foreign nationals, or *vice versa*.

A heavy deadweight debt, with its unyielding demands for revenue, throws a strain upon any system of taxation, but only the external debt introduces problems of international transfers of wealth. With regard to the internal debt, the assumption is sometimes made that the whole of the service funds has to be

found out of the resources of other people than those who receive the payments; but this is by no means the case. If a nominal sum of, say, £300 millions has to be paid annually in Great Britain in respect of internal debt, then the greater part, perhaps £200 millions, is subject to the standard rate of income tax, at present 5s. in the £. Clearly, the net sum needed is only £250 millions: in so far as income tax is deducted at the source, part of the balance of 50 millions never enters the revenue actually collected, and the remainder of it, after first being paid as interest, comes back from the receivers in due course as income tax. The net sum that has to be paid represents a transfer of wealth from some of the citizens to others via the Exchequer. Here there will be a balance of real advantage if the proportion of taxation paid by the rich is larger than their proportion of holdings of public securities and *vice versa*. Actually, however, the transfers involved in the service of the debt in Great Britain, are on the balance transfers from the poorer to the richer. Unfortunately also, they result in net transfers from the younger to the older, which means that work and productive enterprise are penalised for the benefit of accumulated wealth.

In their wider effects upon the economic life of the nation, these transfers tend at one end to turn potential active producers into rentiers, and at the other end to inflict a burden on actual producers such as to diminish their desire to work and take risks. Thus the demand for capital and utility goods is curtailed in favour of a less stable demand for those that minister to leisure: the staple industries languish while luxury industries one after another have their day. These ill-effects would not be so conspicuous, were it not that nearly all deadweight debt has been raised in times of war, when rates of interest have been high and the purchasing power of money low. Once the contracts in terms of currency have been made, it is thought proper and



expedient to honour them, even when, as has happened since the last war, the value of the currency together with that of all payments made in it, has appreciated. The Colwyn Committee has estimated that between March 1920 and March 1925 the value of every pound sterling paid as interest on the debt, increased by about 87 per cent. The further rise in the purchasing power of money between 1925 and 1931 raised the ratio to more than double.

Shortly after the War, the question was seriously proposed whether it would not be wise to take heroic measures to wipe out a considerable part of the war aftermath of debt by means of a capital levy. It must be admitted that those who supported the proposal have been amply justified by the course of events, when they drew attention to a possible increase in the burden of the debt through a fall in prices. They were also able to quote Ricardo, himself a wealthy man and without a suspicion of socialist taint, who a century ago advocated similar steps for paying off the debt incurred during the Napoleonic War. They were able to counter the argument of confiscation by reference to the existing death duties; and to meet other objections in such a way as to gain the support of both Mr. Bonar Law and Mr. Asquith. The golden opportunity of carrying the proposal into effect for the first time on a large scale in the world's history, was allowed to pass by. Now, more than ten years after the War, the weight of argument is definitely against it: wealth has been redistributed; the industrial depression is still acute; and the value of the currency has risen to what may well be a maximum. The present enormous burden of debt is due to financial mismanagement during the War, when taxation should have been much heavier, and to the lack of courageous effort later towards paying off much of the debt once and for all by means of a levy. The mischief has been done, but no responsible person seriously now con-

templates expropriation as a means of undoing it. Even in its mildest form of a capital levy, that cure would now probably be worse than the disease.

#### INTERNATIONAL INDEBTEDNESS

External debts are mainly due either to indemnities or to sums borrowed from richer nations by poorer. It is most important that the amounts to be transferred in respect of the former should be definitely known; any uncertainty delays the process of adapting the productive forces of both the paying and the receiving country to the altered conditions. The international obligations resulting from the arrangements made after the last war, have now at last been gradually settled as to the amounts payable yearly. In the last resort such payments by any "debtor" country can be made only by the creation of a surplus of exports of all kinds, visible and invisible, over imports. This means that either its competitive strength in the world's markets must be sharpened or that its citizens must forgo some of their previous consumption, or both for such countries as Germany. It has been suggested that a creditor country in receiving such indemnity payments, suffers more than it gains. There may well be some damage to set against the receipts, if the industries of the receiving nation become disorganised as a result, but given continued payments, the necessary adjustments will take place. After all, exports are only a means to an end, which is the receipt of imports. Surely, if the desired imported goods can be got without giving exports in exchange, so much the better. The situation in Great Britain has been confused, in the first place by the widespread disorganisation caused by the general changed conditions in the post-war world, and in the second place, by the irony of fate that while some other countries have been receiving reparations in kind, Great Britain has had to face the resultant intensified competition in external markets.

There has been a tendency to debit the receipt of reparation payments itself with the troubles caused by these two other factors.

At one time and another in recent years, the all-round cancellations of war indebtedness has been mooted. On the balance of yearly sums receivable and payable, it appears that this country would neither gain nor lose on paper by such an arrangement, but might indirectly gain a good deal through improved financial and market conditions in the countries of Continental Europe. In effect, however, America is the great reservoir into which all debt payments are eventually made and will continue to be made; and as the only net creditor, that country must be induced to give its consent as a pre-requisite of any scheme of general cancellation of indebtedness. There is little likelihood, however, that America will relinquish the claim to a substantial yearly tribute toll from Europe, established at a time when the debtors fighting for their lives were glad to accept the creditor's terms. The situation may not be stable, but there will be time for the rulers of America, whoever they may then be, to think about modification when things begin to look shaky. Even the very heavy tariff imposed by this great creditor country will not necessarily stop payments, for goods other than those capable of mass production, have a way of getting into a rich country over a tariff wall; while for the time being, American citizens are simply re-investing the payments as they become due, by acquiring British and Continental undertakings and real property. They are, in fact, exporting capital in so doing, thus piling up further claims to future payments in the form of interest on the capitalised interest. Wealth thus automatically breeds more wealth in the hands of one people; but this growing inequality of wealth among Western nations may cause disturbances in trade such as to inflict damage not only upon the debtors, but also upon the creditor.

## CHAPTER XVI

### THE LATEST PHASE—CURRENT ECONOMIC AND SOCIAL QUESTIONS

AT various points in the previous chapters we have had occasion to refer to the decline in the labour force required for agricultural industries in Western countries and the corresponding growth of manufacturing industries which have absorbed the workers as released from agriculture. This latter phase of the Industrial Revolution is bringing in its train far-reaching economic and social changes in the countries most affected such as Great Britain. Except perhaps in a few trading city states, never has so large a proportion of the people ever lived in towns as now do in a number of countries occupied by Western Europeans, whether in Europe itself or in the newly settled continents. The drift of populations towards towns, or rather the more rapid growth of urban populations than of rural, most marked in highly industrialised countries, is to some extent a world-wide feature, least marked, on the other hand, in the mainly agricultural countries of the slow-moving East. Were this process confined to manufacturing areas and countries, the explanation would be fairly simple, and comments on the relative decline of rural populations would revolve round the question of how far it is expedient for a country to specialise in those types of industry which it finds most remunerative. The facts, however, show that some of the most exclusively agricultural countries such as Argentina and New Zealand, that export scarcely any manufactured goods and are continually supplying ever-increasing

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quantities of farm produce to the outside markets, are adding to their urban populations at a considerably faster rate than to their rural. This is apparent from the table below showing the officially recorded percentage ratios of rural population to the total population at various dates in selected countries.

			1881	1891	1901	1911	1921
England and Wales	...		32.1	28.0	23.0	21.9	20.7
Canada	...	...	—	68.3	62.6	54.6	50.5
Australian Commonwealth	...	...	—	—	—	42.0	37.5
New Zealand	...	...	62.34	61.16	60.87	57.07	51.23
			1880	1890	1900	1910	1920
United States	...	...	71.4	64.6	61.0	54.2	48.6
						1895	1914
Argentina	...	...	...	...	...	57.2	42.6

The decline during the last 50 years in the ratio of rural-dwelling to the total population in a number of countries, can be taken as a rough measure of the increase in agricultural productiveness per unit of farm labour during the period. It is not an exact measure, because allowance must be made for the special loss of rural population to the towns due to the transfer thither of milling, meat-curing and other operations formerly conducted in the country. It appears that the economising of labour employed in agriculture has been greatest in grain-growing in new countries, and least perhaps in certain types of small-scale mixed farming in old countries. It has been said that in America the two hours and thirteen minutes' labour required to produce a bushel of wheat in 1833 had by 1904 fallen to 10 minutes. This is by no means typical of the progress in farming as a whole even in

new countries, nor does it, of course, make allowance for the greatly increased costs in human effort which have arisen in the interval in the form of transport and merchant services in getting the produce to the consumers and in supplying farmers with their requirements. Nevertheless, through the rapid progress in the use of labour-saving farm machinery, through general increased productiveness due to scientific research and through improvements that have affected special types of farming, there has certainly been a steady reduction in labour time required per unit of produce obtained over large sections of the farm operations involved in supplying food and certain raw materials for the Western world. This is borne out by the fact that in addition to the decline in the ratios of rural populations, less is now contributed in the way of assistance in actual farm operations by women and children, in English-speaking countries at all events, than was so contributed fifty or even twenty-five years ago.

#### THE OUTLOOK FOR BRITISH AGRICULTURE

Agriculture as a whole in this country has shown the two outstanding features common to the industry in most Western countries during the last three or four decades, namely a decline in the number of persons employed, and a gradual fall in the prices realised for the produce, consequent upon the tendency towards lower costs of production overseas and for agricultural output to overtake demand in the world market. (See Ch. II.) The first of these tells us nothing about the state of prosperity of the industry, for it is quite possible that greater output and greater gross receipts have been obtained with smaller outgoings for wages. The second may lead to depression in the industry, but only if the downward course of prices is irregular and proceeds without a corresponding fall in the general price level or at a faster rate than

that does.<sup>1</sup> The fortunes of any particular industry in any one country depend largely upon movements in the exchange value of its products in terms of other products of external countries. They also depend, however, upon whether inventions and improvements benefit it more or less than they benefit the same industry in competing countries. The course of economic change in both these directions has hit British agriculture adversely: no attempt has been made here as elsewhere to support the falling prices of agricultural produce by means of tariffs so as to keep them in step with the general price level; and most of the technical progress that has been made in agriculture in recent times has been of a kind to benefit the extensive farming of countries where land is abundant, more than the intensive farming in Britain.

The British coal industry could not prevent the discovery and exploitation of coalfields in other countries, nor arrest the development of the petrol-using engine, both of which have been most adverse to it. British agriculture has been equally powerless to hinder the opening up of vast new competing agricultural areas or stay inventions and discoveries which have been of special benefit to its competitors abroad. There are only two ways in which the economic ground that British farming has lost can be regained. The first is by the imposition of a substantial tariff on foodstuffs imported into the country. This would mean that the people as a whole would have to sacrifice some part of their present standard of living in order to contribute a bonus to agricultural interests, including landowners. The other and more desirable way in which the lost territory could be recovered, would be through discoveries and improve-

<sup>1</sup> In the course of the world-wide depression now (1931) in progress, agriculture has suffered especially, owing to the earlier and greater fall in the prices of farm produce than in those of manufactures which by comparison seem inflated.

ments being made such as to further agricultural production in Britain without benefiting other countries to the same extent. This would have the effect of adding to the sum-total of wealth enjoyed by the British people, whereas the imposition of food taxes would subtract something from it. It must be confessed that at present the omens are not very favourable to securing a differential advantage for British agriculture through improvements and discoveries, but in an age of rapid scientific progress it may be the turn of any industry anywhere to score. In the meantime something can be done in this direction by means of improved organisation and marketing arrangements, towards which steps have been taken under the lead of the Ministry of Agriculture.

#### IS "BACK TO THE LAND" A SOUND POLICY ?

Some people, regretting the depopulation of the countryside in Great Britain and seriously troubled as to the problems created by the unchecked march of urbanisation, have raised the cry of back to the land. According to them, if only a sufficient number of people can be got away from the towns to live once more in rural simplicity, many of the social and economic troubles that beset us will disappear with the realisation of a better balanced and fuller cultural life. The cry has found support from others who have faith in the ideal of self-sufficiency which as we have seen lies behind the desire of new countries to establish manufactures and also behind the movement towards Empire Free Trade (cf. Ch. XIII). The logical outcome of any programme of back to the land when put into practice would, it is to be feared, be protection for those industries that cannot make headway unaided. There is something sounder in the idea that the industries of a country which has specialised in manufactures at the expense of agriculture, are one-sided and lack the balance required for a healthy economic life. Such



a country is doubtless more vulnerable than others not only by reason of the danger of having vital supplies interrupted in time of war, but also in ordinary times through its sensitiveness to the effects of trade fluctuations and dislocations which are apt to cause serious unemployment. At the best, it is held, life for the mass of the workers in industrial towns is squalid enough; and it is worth while trying to attract people away from them into the healthy, open life of the agricultural industry, in which in view of the heavy imports of food produce into Great Britain, there is a *prima facie* case for expansion.

Attractive as the suggestion may be, difficulties of a most serious kind stand in the way of putting it into practice. In the first place, *back* to the land for the people of Britain is difficult to reconcile with the general movement *away* from the land in all advanced countries. Only in the non-industrialised, poverty-stricken countries of the East does the land hold and gain population. One of the strongest reasons that can be urged for the proposal that Great Britain should take a backward step in the march of economic development in which she has hitherto led the world, is that she could apparently produce a good deal more of her requirements in foodstuffs than she now does. This brings us to a second difficulty, or rather set of difficulties. What townspeople are to be persuaded to abandon their prospects in manufactures or commerce in order to take up agriculture? The world's markets are glutted with wheat and other primary products and agriculture the world over is suffering as much as any industry from the ill-effects of apparent over-production. The sense of security afforded by unemployment benefits does not make individual workers any more willing to change over to an occupation which in any case is out of favour with them. How are townspeople to be trained for agricultural occupations, for success in which years of experience

and a country upbringing are almost essential? From what source is the capital to be obtained required for the extensive development of agriculture, without which wholesale transfers of workers to the industry would be useless? Are consumers at large prepared to submit to the taxation of imported agricultural produce which can hardly be avoided, if the scheme once started is not to end in disaster? If the nation is prepared to pay a sufficiently heavy price through import duties, the other difficulties might be overcome in the course of time; but even now in a time of economic troubles when the absolute negative of the long period of industrial prosperity is being questioned, the balance of opinion seems to be that the cost would outweigh the possible benefits.

#### CURRENT ECONOMIC AND SOCIAL QUESTIONS

For good or for ill, Great Britain has become a highly industrialised State in which the great majority of the people are compelled by the force of economic circumstances to live in towns. Had agriculture remained the dominant industry, the country could have supported only a fraction of its present population, and that under rather precarious conditions as to food supplies from year to year. As things are, Britain supports a dense population whose average standard of living and of intelligence is high compared with that of the peoples in Continental Europe. Living in close contact with one another in towns, the British people are fairly well informed as to current affairs, are far more articulate than agricultural peoples, and have carried democratic principles into economic life further perhaps than any other nation. This invasion of privileged territory has not been achieved without considerable resistance on the part of the propertied classes. The struggle has brought to light the existence of deep distrust between the capitalist-entrepreneur class and the wage-earners. We have now to examine

some of the outstanding economic and social questions that have been prominent in the special type of urbanised society that has developed in Great Britain.

#### THE CONFLICT BETWEEN LABOUR AND CAPITAL

Distrust of the capitalist and employing classes began early in the course of the Industrial Revolution. Its causes and the conflicts arising out of it are described elsewhere. (See Chapters VII, VIII.) Each side has marshalled its forces, and great organisations representing the employers now stand face to face with federations of Trade Unions representing the workers. The emergence of these giant combinations of capital and of labour is said to have facilitated bargaining between the two sides in the settlement of wage-rates, but it shows only too clearly that all is not well in the capitalist system of production. When the two great groups of human agents whose joint efforts are necessary for production adopt the attitude of belligerents instead of allies, industry itself by which both live must suffer; the product is smaller in quantity, if not in quality, than it might and should be. Whether the collective method of bargaining has proved successful may well be doubted, in view of the disastrous losses inflicted upon the economic welfare of the nation by mass-conflicts and wholesale interruptions in production which the method appears to have fostered rather than hindered in recent years. It may in the course of time, therefore, have to be replaced by some more efficient method of settling the division of the product between owners and workers. In the meantime, the loss of productive capacity involved in the whole procedure of industrial warfare must be set against the gains of our modern type of specialised production.

Equally unfortunate, because it involves serious economic wastage, is the disgruntled attitude of the wage-earners at large. The worker's efficiency is

influenced both consciously and unconsciously by his state of mind. Having lost in some measure in Great Britain the satisfactions derived from a sense of craftsmanship, he is apt to regard himself as a wage-slave whose main object is the rather mean one of trying to defeat the vigilance of the taskmaster. Thus we have the pernicious practice of ca'canny or limitation of output. This is practicable, though unfair in its results, if it can be restricted to the workers of a sheltered industry as a means of raising the exchange value of their labour in terms of the products of other industries. Applied to an industry which works for export and must therefore compete with similar industries in foreign countries where it is not practised, it must lead to depression. Applied on a national scale, it means that the product available for distribution amongst all wage-earners will dwindle, and the practice can only lead in the end to general disaster. Behind the policy of ca'canny lies the fallacy of the work-fund, i.e., there is only a limited amount of work offering at any given time; from which it follows that workers as a class gain by spreading the work as much as possible. In any case, there is an error in supposing that because a given policy benefits A when applied to him alone and likewise B when applied to him alone, and likewise C, if it is applied at once to A, B and C, it will benefit them all. This is an example of what is called the fallacy of composition, a famous illustration of which is furnished by the industry of picking pockets. Of a number of men sitting round a table, A will gain by taking the purse of his left hand neighbour, so also will B and C if they alone do that, but all cannot gain if every man picks his left hand neighbour's pockets.<sup>1</sup>

The workers are hardly to be blamed, if like any other sellers, they do what they can to get the best price for their goods. It is not altogether just to pour

<sup>1</sup> Quoted from A. C. Pigou, *Unemployment*, 1913.

abuse on their action in withholding by means of strikes what they have to sell, in order to get a better bargain, when the common practice among those who deal in commodities, including associations of manufacturers, is to refuse to sell except at their own fixed prices. The hostile outlook of the workers is partly the heritage of exploitation in the past by employers and is partly due to faults in the whole social system, responsibility for which lies mainly at the doors of the property-owning classes. Even on economic grounds it is unfortunate that wealth should stand higher in public esteem than service, as it often does. Productive efficiency is not furthered when consideration is shown for riches as such without question as to whether the community has had a fair deal in the process of acquiring them. It is the curse of an acquisitive society that time and energies get frittered away in struggles over the sharing of the product of industry treated as if it were spoil, when the general welfare requires the best efforts of each member should be available for increasing the common pool. The property-owning classes have never scrupled while they had the power, to exact the most they could by legal enactment and in other ways, and there is little cause for wonder that their example as leaders has been followed by the mass of the workpeople in due course. The urbanisation of the population by concentrating the wage-earners in the towns has made their numbers effective in a way which has never been possible in the scattered life of agricultural communities. Yet whereas the privileged minority can enjoy wealth and ease in a European country, so long as the many devote themselves to toil, national prosperity is doomed to a speedy decline if the majority succeeds in getting more than it gives. There is a danger lest this hard truth may be overlooked in densely populated Britain where the gifts that Nature has left to give are few.

How to bring about closer co-operation between

labour and capital has for decades been a problem in industrial societies. In Great Britain that has become perhaps *the* leading economic problem. Among the various solutions that have been strongly advocated and have in some measure been tried out, are co-partnership, profit-sharing, guild socialism and compulsory arbitration. Only the last of these has been applied on a nation-wide scale. Yet neither in Australia nor in New Zealand, where it has been in force for some time, have the results been very encouraging: disastrous strikes have recently run their courses in both countries in defiance of the law. Co-partnership and profit-sharing have been suggested as methods of giving the worker some of the entrepreneur's interest in the business in which he is employed by offering him the bait of a small proportion of what normally goes to the so-called capitalist in addition to current wages. It is urged that the added zest which he is thereby induced to put into the work will yield an extra return at least sufficient to pay the bonus he receives; and in some striking but isolated experiments made on these lines, the claim has been thoroughly justified. Organised labour, however, has steadily refused to rise to the bait, preferring to go its own way untrammelled by complications in the wage system. Nor have employers in general seen their way to adopt either of these schemes: co-partnership might mean giving confidential information to a changing and therefore irresponsible body of work-people; and profit-sharing would appear to be a case of heads you win, tails I lose, for while the workers might be glad to share profits, they would be unwilling to contribute from their earnings to losses. Guild socialism is free from these objections, and looked for a time after the last war as though it might be very suitably applied especially to those forms of production such as building and road-making that are usually carried out by contract. Under this plan the necessary

materials are supplied by the people who would normally let the contract, and a body of workers provides the labour and its organisation, thus cutting out the ordinary capitalist-entrepreneur. For various reasons, but chiefly because workers have been unable to maintain efficient control and punctual performance of the tasks in hand, guild socialism has made small progress. There is little hope that it can be introduced into the more speculative field of production, or that it can be applied anywhere on a wide enough scale to be used as a means of overcoming industrial friction.

The specialised system of production in which costly equipment plays an ever more important part, must continue if the dense populations of urbanised societies are to maintain their present standards of living. The equipment itself may not remain to the same extent in private ownership as hitherto; an important part already indeed, is in the hands of Governments, public authorities and large public companies, in which very wide bodies of citizens of all classes have owners' interests as taxpayers, ratepayers and shareholders. Some qualified persons there must be to direct the processes of production and marketing. This function is coming to be discharged on an increasing scale by salaried officials in place of the nineteenth century capitalist-entrepreneurs for reasons given elsewhere (see pp. 220, 221). The ownership of wealth and the control of production are being spread, in fact, over more and more persons, and that without taking the doubtful plunge towards nationalisation strongly advocated by some of the workers' leaders. The fires of labour discontent would burn lower and their outbreaks become less destructive, if the rank and file of the wage-earners understood more clearly than they do a few leading economic features of the world in which they live: that their earnings depend very much upon output because wages absorb the greater part of the output; that in the long run the so-called profits

received by owners and employers are approximately equal to the current rate of interest plus a remuneration for labour settled in the same way as if it were paid for by wages and salaries (cf. p. 359); that the chief function of the employer is to find markets for the workers' labour embodied in the form of goods and services; that if the workers do not save, someone else must in order to provide the fresh capital always needed for renewals and additions to equipment; that finally, there is no road to prosperity in the face of international competition except through the efficiency of all engaged in production—in other words, to give full value for payments received is a safe rule for the workers as well as for others.

#### TOWARDS GREATER EQUALITY OF ECONOMIC WELFARE

A generation or more ago it was said that whereas the economic problems of the nineteenth century centred upon production, those of the twentieth century would be connected mainly with the distribution of wealth. The anticipation has been fully justified already. Since the century opened, Great Britain as the most industrialised of countries has moved steadily along the path towards greater equality of economic welfare, and very rapidly during recent years. Democratic principles are fast being interpreted in terms of economic life. They find concrete expression in the general movement towards higher real incomes for wage-earners, the movement towards greater security for the same classes through national health and unemployment insurance, the tendency to level inequalities of wealth by means of heavy taxation on the larger incomes and on estates passing at death, the provision of educational facilities enabling the children of workers to compete for careers formerly reserved to the propertied classes.

The introduction of these reforms is a simple matter, and that explains perhaps why progress has been



rapid. The real problems arise in making adjustments in the whole economic system and outlook if those whom it is intended to benefit are not to find themselves in the end actually worse off. For a nation as well as for an individual there is such a thing as living beyond income, and the pressure to secure greater material welfare for the wage-earners tends to bring this to pass in several ways.

First, higher wages mean higher costs of production unless the service given increases in proportion as wages advance. Beyond a given point, however, further expenditure on wages does not purchase a correspondingly increased value of service. The American doctrine of high wages is based entirely upon the assumption that when costly equipment is used, more than proportionate value in service is obtained from a highly paid workman than from a poorly paid one. In Britain, where the tendency of Trade Union policy has been to standardise the pace of work to the capacity of the slower wage-earners, a higher level of wages in most industries results in practice in a loss of outlets for the product and a greater percentage rate of unemployment. If wage-rates are forced very high no employment may be available, for it is not possible to dictate to a consumer, least of all to a foreign one, how much of any product he shall take and at what price.

Second, there is a very real danger that the supplies of capital available for industry will be curtailed. Higher rates of wages in a given country than in competing countries may force the margin of profit downwards, so that little or nothing in the way of resources is left for capital replacements. In any case, a low rate of profit makes it difficult for industry to attract capital, and in so far as enterprises make losses instead of profits they may be regarded as depleting their capital in order to pay a bonus to workpeople—a definite instance of living upon capital. Again, improved social ser-

vices for the working classes are provided mainly out of general taxation to which these classes contribute very little in a Free Trade country. There is something in the contention that heavy taxation for these purposes causes resources that would be saved as capital to be diverted into current consumption.

Third, insistence upon high wage-scales by means of militant methods has led to the payment of higher rates in sheltered industries such as railway transportation than in unsheltered industries exposed to the full force of foreign competition such as engineering. The actual unfairness of this position is even greater than the apparent. The sheltered industries manage to pay higher scales because they are able to levy the difference mainly as a charge upon the unsheltered industries, which are thus adversely affected so that employment in them and the rates of wages paid both tend to fall. This predatory course of action brings its own nemesis sooner or later. Inasmuch as the sheltered industries depend on others for existence, they can only damage themselves in the end if they weaken the latter. A wise parasite will always be careful not to kill its host.

Fourth, the workers at large, finding themselves in a position to obtain additions to their material welfare without contributing to these additions themselves, are apt to regard the State, which still numbers wealthy persons among its citizens, as a kind of cow that can be milked indefinitely. The limit to this process is soon reached, if not overstepped. Before very long a policy of tapping the wealth of rich people leads to encroachment upon the national stock of capital. Unfortunately, the incomes of rich people which appear so eligible for taxation, cannot be much reduced without diminishing both their will and their power to save, and small levies from these people are of little avail to improve the lot of the many. Unfortunately also, rich persons are very movable, and many of them can transfer both

their wealth and themselves from one country to another if they care to do so. The economic conditions in Rome before its fall are a warning to all times of the evils that may follow when the mass of the people come to regard the State as a great charitable institution.

In this connection it must be realised that Great Britain without the British Empire would be as it were a head without a body. Owing to various reasons, but mainly, it must be confessed, to the marked improvement in the economic welfare of the wage-earning classes in Great Britain, the inflow of persons of British race into the sparsely populated Dominions has declined seriously in recent years. In the year 1929, for example, British immigrants into Canada, the nearest Dominion, were outnumbered several times by those of other nationalities. It is often said that the only real bond holding the British Empire together is that of common sentiment and tradition. This bond owes much of its strength to the constant stream of migrants from Britain to those new countries. It would bode ill for the densely-populated mother country and for its industrial workers if the time came that they and other wage-earners should lose their pioneer spirit, tempted to stay ever within reach of the flesh pots of Egypt represented by inflated wages and ample social services.

Greater equality of economic welfare is in itself a very desirable thing, but apart from the considerations mentioned above, it is almost certain to lead for a time to a slackening off in aggregate production. For two reasons. The incomes of the wealthy are thereby reduced and so also are the national savings which in every country come mainly from the surplus incomes of those who have more than they can easily spend, not from any increased receipts of the workers. The volume of production suffers not only through the small resources in working capital, but also because wage-earners take out part of their improved welfare

in more leisure. Great Britain appears just now to be moving towards greater equality of material welfare at the cost (not at all clearly realised) of a less rapid advance than hitherto in economic progress. If the process is continued, the economic leadership of the world must definitely pass elsewhere, it may be to the United States.

The existence of a wealthy class, immune to the pressure of economic circumstances which, seen or unseen, dogs the step of the rest of the community, appears on the face of it to be an injustice. The numbers of rich people in modern industrialised societies are increasing rather than diminishing as time advances; restrictions upon the subdivision of property passing by inheritance have largely disappeared, and this inventive age in which goods produced by large-scale methods are readily exchanged, is highly favourable to the accumulation of wealth by enterprising persons who have the instinct for seizing opportunities. Men like Henry Ford have become immensely wealthy because they employ great numbers of workpeople and because through their ingenuity they have made arrangements whereby the work of each of these employees is worth so much an hour more than it would be elsewhere. There are many steps in the gradation amongst those who have become wealthy, from the great manufacturing producer of the Ford type to the pure speculator who gambles in goods and in Stock Exchange counters with other people's resources and often at other people's expense. Society at large benefits almost without exception from the existence of those who become rich through productive enterprise distinct from speculation. Such men are pioneers in economic progress, they devote themselves to their work, live simply as a rule and during their lifetimes consume only a fraction of what they have contributed to the general stock of material welfare. Not even the most ardent socialist can have much quarrel

with these. There is genuine cause for complaint, however, with a social-economic system that permits of large speculative and other unearned gains, that enables numbers of people who benefit by inheritances to consume continually from birth to death more than they produce, that condones idle luxurious lives for the few while the many have to toil for mere existence. Luxury as an expression of parasitism is always culpable. The great leaders of industry who contribute by their efforts more than is sufficient to justify their living in luxury are generally too busy and have too much care for their efficiency to do so. It is the relatives and heirs of such men, and confessed parasites that have the time free for luxurious lives, simply because they produce so little. For them to say they can afford luxuries is no defence. Their whole manner of life is a source of irritation to the great body of workers, and supplies ammunition for the attacks of various extreme kinds of socialist agitators.

#### SOME LABOUR SLOGANS

The ferment of ideas among those who have championed the interests of the workers in densely populated Britain has caused a number of catchword phrases to be thrown up, a selection of which may now be examined.

*The Right to Work.* In strict theory the worker desiring to sell his commodity, namely his labour, has no more right than any other seller to force others to buy his wares. From this general standpoint there is no such thing as a right to work. The phrase is due to a confusion of ideas. What is really meant is a right to the necessities of life, not as a pauper, but as a citizen with the dignity of one who earns his living. Whether the worker's service will be purchased or not depends very much upon the price he asks for it; but if the demand is inelastic, as it often is in times of trade depression, he may not get employment even at a wage

below subsistence level. Less is heard now of the right to work since unemployment benefits have become available. These being wrapped up in a scheme of national insurance have afforded a convenient method of granting public assistance without the stigma of pauperism. It is, indeed, difficult to imagine how a period of acute trade depression could have failed in the absence of some such scheme to inflict the gravest injustice upon a great number of workers. Yet the palliative as now administered appears to be aggravating the disease (see pp. 315 and 323).

*A Just Wage.* This cry was raised when wages were low and employers as a class appeared to be prosperous. Behind it lay the ideal of greater equality of economic welfare. Is there anything in the notion that wages are low because profits are high? The value of the total output of any country varies with the efficiency (assisted by equipment) of all, both workers and employers, engaged in its industries. It also varies with the exchange value of what is sold abroad, over which little control on the country's part is possible. From the value of the entire output deductions must be made by way of payment for the use of equipment which cannot be dispensed with and which would not be forthcoming unless payment is made for it. The amount of these deductions varies fairly closely with the current long-term rate of interest now determined largely in the great international capital markets. The remainder goes as earnings of both workers and employers, the respective shares falling to each being governed by the following economic tendencies. If the number of capable employers is small in proportion to the openings that arise for the services of such people, their remuneration will be high, and the same principle applies precisely to workers and their wages. Conversely, the workers in any country tend to receive more when there is an abundance of efficient employers and to receive less when their own numbers increase

more rapidly than openings appear for them through the enterprise of the organising class. Trade Union action, in so far as it secures better terms for the workers than they would otherwise obtain, relies largely upon the effectiveness of collective bargaining to win for them the full value of their services; but individual Unions also play the part of weak monopolists who, like other monopolists, proceed to raise prices by attempting to limit the supply, in their case, of entrants to the trade. In Great Britain these bodies acting jointly have discovered two other methods of increasing the share of the product falling to the wage-earners. One of these is to threaten paralysing strikes; the other is to use political power to secure transfers of wealth from the property-holding class to the wage-earning class through the machinery of taxation. Partly, no doubt, as a result of Trade Union policy, the rates of real wages are higher here than in any other European country.

In all countries, however, the income (and the average wage) is determined primarily by the relation which exists between population and natural resources. It would be futile, for example, to attempt to apply the British standard of a just wage to a country like India where every increase in productive power is at once absorbed by an increase in the population.

*Shorter Hours of Labour.* In view of the increase in productive capacity per head which has for some time been in progress in most Western countries, there would appear to be a margin available for a greater reduction in the hours of labour than has actually taken place. More leisure per worker would certainly have been forthcoming if countries had managed to dispense with expensive armaments and to avoid still more expensive wars, and if also the people at large had refrained from consuming the products of such new inventions as motor-cars and cinemas. Leisure, however, is relatively expensive, because the general habit on turning from work is not to sit idle, but to begin

consuming the results of other people's efforts. Thus we might in the course of time get all we have now by working seven hours instead of eight, if we simply rested during the extra free hour; but if we require to be actively amused during that time, we may have to work seven and a half hours to maintain the balance, half an hour's work being required to purchase the diversions for the half-hour's leisure. In labour circles the idea of shorter hours is not viewed in this detached way. The cry appears at the outset to be based on the mistaken work-fund theory, i.e., the less each wage-earner works, the more jobs there will be to go round. If this support no longer holds, there is still the principle of artificial scarcity to justify it—reducing the hours of labour comes surely to the same thing as reducing the number of workers. Very good, but how does the product fare, out of which wages and leisure must both be paid for?

#### SOME CAPITALIST SLOGANS

The most striking of these belong rather to the nineteenth century period of dominant property-owners than to the present time, and it would scarcely be necessary to touch upon them if some wealthy people did not still cling to them in support of their privileges.

*If the Rich did not spend the Poor would starve.* This is rather naïve. What it amounts to in other words is that if the rich consumed less, there would actually be less left for the rest of the community. It is, of course, much nearer to the mark to say that if the poor did not toil, the rich would starve. There is something in the contention that if those entitled under the existing order to large claims to wealth took it into their heads to devote more to the accumulation of capital and less to personal consumption, the possible resulting dislocations might for a time throw some workers out of employment. In the long run such a change of heart and habits on the part of the rich



(especially of those drawing income from property) would be beneficial. As a nation we are still short of capital—for the extinction of war debts, for the re-equipment of industry, for carrying out much-needed public improvements. In the recent past the high rate of interest has not only acted as a check upon business enterprise, but has reduced the share of the product of industry going to the earners of all kinds engaged in it by the amount of the larger payments to owners.

We have already pointed out that the institution of private property has come into existence as means of stimulating individual productive effort and the accumulation of capital. Rich people are tolerated because some have become wealthy through productive effort, and because that class as a whole has hitherto set aside large sums as capital. Their justification, in a word, is that they have directly or indirectly served as agents in furthering production; their expenditure or consumption, far from being a social virtue, has to be accepted as a necessary evil. To try to foist this upon the community as a virtue is a strange perversion of ideas.

*Capitalists give Employment.* This is in effect another version of the saying just examined, though it is of special origin. If the wealthy are earners through productive effort, as all should be who are not engaged in useful unpaid social or public service, the correct view is that they and the wage-earners co-operate together to furnish goods and services; and that both are "given employment" by the community which requires and is prepared to pay for the goods. The phrase became current as a result of a mistaken theory of the early nineteenth century economists, who held that employers set aside a proportion of the capital at their command for the payment of wages.

*Spending is Good for Trade.* On the face of it, this tells us little.

It is popularly supposed, that there is an antithesis between spending and saving, in the sense that the former stimulates industry and provides employment, while the latter immobilises purchasing power and checks trade activity. In normal times, savings are soon applied to the making of capital goods or to the financing of trade, i.e., become invested as fixed or circulating capital (see pp. 243-250); they therefore serve as an indispensable part of the machinery of production.

In abnormal times, however, such as during the great trade depression of 1930-31, though savings still continue to be made, they are not applied in the usual proportion to the making of capital goods: those who save, or rather those who take charge of the savings, hold an undue proportion in the liquid form of Bank balances, because they are nervous as to long-term investments. Thus the industries that make capital goods suffer from depression, and so also do the makers of consumption goods because of the apparent contraction in purchasing power all round. When savings are held as balances, it is true to say that more spending either by investment or in the ordinary way would serve as a useful tonic for trade.

*Wealthy People by taking up Useful Work rob others of Employment.* If this is true, then drones are condemned to idleness, because the working bees collect all the honey the flowers yield. There can be no escape from the dictum that the more goods and services a society produces, the more there will be to share among its members. It is irrelevant to suggest that it is selfish on the part of those who have already ample unearned incomes to add to them by earnings. In so doing they turn from consumption to production and if they continue in employment, they will almost inevitably leave the world better off in material things at the end of their lives than they would otherwise have done. Of course, if

numbers of rich people suddenly qualified themselves for, and took up ordinary employments, the labour market might become depressed for a time, and others might be thrown out of employment. The popular error in this matter lies in supposing that the disturbances of a sudden transition would also appear in a gradual transition (the most likely form of change), and would remain as a permanent feature after adjustment is completed.

*Vested Interests.* Owners of property are naturally much interested in the value of their rights and possessions, and usually take very vigorous measures to resist any changes that may damage this value. Hence the constant opposition to progress and reform on the part of what are called vested interests. In societies of the Western type, economic as well as other progress often demands the sacrifice of particular interests for the general good. Hitherto the owning classes have shown little consideration for the vested interests of other classes, e.g., the wage-earners, which appear to be at least as well grounded as their own. Either both the wealthy man and the worker should be compensated by the community for loss of income due to economic changes, or each should accept the loss as part of his contract with society. Part of the present maldistribution of wealth, the source of so many problems, is due to the unequal treatment that has been meted out to owners and workers.

The progress of industrialisation and urbanisation in Great Britain has been marked by a long-drawn struggle between the two great social-economic classes of owners and manual workers. Their struggle has involved problems of national policy with reference to Trade Unions, to Customs Tariffs, to general taxation and to economic organisation. The march of change in economic structure that has proceeded rapidly for the

most part and without interruption since the beginning of the Industrial Revolution, has left the making of proper adjustments in mental outlook and in social arrangements far behind. It has been especially difficult for people to take detached views on economic questions that touch them closely. Yet much real welfare has been lost by wrong or loose thinking. Modern societies if they are to live in harmony with a world whose material expression is always changing as a result of Western invention and enterprise, need above all things to use hard thought with a collective purpose upon social and economic problems as they arise.

### BIBLIOGRAPHICAL NOTE ON PART II

The basis of much of the matter in this Part is the general principles of Economics. Perhaps the best book for further reading is *Cannan's Review of Economic Theory*. A shorter book by the same author is *Wealth* which is very compact in matter and by no means so easy to master as might appear at first sight. A very readable work on Economics, though now perhaps a little out of date, is H. Clay's *Economics for the Everyday Reader*. One of the greatest English authorities on economic subjects is the late Professor Alfred Marshall, whose book entitled *The Economics of Industry*, written a good many years ago, is still quite sound and useful. Marshall wrote a much larger work in two volumes, the first of which is called *Principles* and the second *Industry and Trade*. Another excellent work is Professor Taussig's *Principles* in two volumes, which is very lucid and especially useful to English readers because being written in the United States, it gives an insight into the interesting conditions in the North American continent. These are all fairly modern books which might never have been written had the way not been opened up by such thinkers as Adam Smith in his *Wealth of Nations* and J. S. Mill in his *Principles of Political Economy*; each of these books is a masterpiece in its way.

There are many specialised books on Banking, Currency and Business Finance, some of which are highly technical. Among the simpler books may be mentioned: *The Business of Finance* and other works by Hartley Withers; Marshall's *Money, Credit and Commerce*, Cannan's *Money*, H. D. Robertson's *Money*, and Edie's *Gold Production and Prices*, the last a recent book published in America.

The subject of International Trade is dealt with in most treatises on Economics, but there are in addition many books on special aspects, particularly on Free Trade and Protection. For material on these last-mentioned subjects it is necessary to consult different authors, since the two are scarcely ever treated fully in a single book. A useful summary of the factors in the present situation is given in *Tariffs: the Case Examined*, by Beveridge and Others, which, however, advocates Free Trade rather than Protection; but so do almost all the serious works by English writers from Adam Smith onwards. For a convincing exposition of the protectionist standpoint we have to turn to such German writers as List and Wagner or to some of the American economists. Among the general works on International Trade, Marshall's *Money, Credit and Commerce* (mentioned above), and Taussig's *International Trade* can be recommended.

The subjects of Unemployment and Trade Fluctuations tend for good reasons to be taken together. An outstanding work is Beveridge's *Unemployment: A Problem of Industry 1909 and 1930*. A. C. Pigou's little book called *Unemployment* is very clearly reasoned; and there is much useful material in a series of essays by various authorities collected in a book entitled *Is Unemployment Inevitable?* which appeared in 1924.

Public Finance though treated incidentally by Adam Smith in his great work is now a subject that stands rather apart from ordinary Economics. Pigou's book *Public Finance* is clearly reasoned and dispassionately sound; H. Dalton's work with the same title is trenchant and very readable, but leans rather to socialist views; Bastable's *Public Finance* has for some time been regarded as an authoritative statement of principles; Sir Josiah Stamp's *Fundamental Principles of Taxation* gives a broad outlook on a complex subject.

Three books that deal with the present economic situation in Britain and are full of stimulating ideas are the *Liberal Industrial Report*, Loveday's *Britain and World Trade* and H. Clay's *Post-War Unemployment Problem*. Much greater detail on similar matters is contained in the *Reports of the Balfour Commission on Industry and Trade*. The sources for much of the new material on current developments lie outside bound books, in periodicals and in the utterances of prominent economists, bankers and industrialists: two outstanding English economists, Mr. J. M. Keynes and Sir Josiah Stamp, who combine profound learning with a wide knowledge of practical affairs, are always worth following when they discuss current questions. A great deal can also be gathered from the pages of such English publications as *The Economic Journal* and *The Economist* and from similar periodicals that appear in America and on the Continent. Nor should official Government Reports, commonly known as Blue Books, be forgotten: Royal Commissions and special Committees are appointed from time to time, and their findings often provide the student of economic subjects with useful raw material to work upon, if not with finished material to embody in his stock of knowledge.

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