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PITMAN'S HIGHER STUDIES IN COMMERCE

BRITISH ECONOMIC HISTORY
SINCE 1760

BRITISH
ECONOMIC HISTORY
SINCE 1760

BY

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PREFACE

THIS book seeks to provide an introduction to the economic history of modern Britain. It follows in general the plan of lectures given in this School to candidates for London University degrees in Economics, and I have attempted to elucidate the difficulties and remedy the misconceptions brought to my notice — often unwittingly — by succeeding generations of students.

Because the study of Economic History tends now to develop a more analytical approach I have sought to devote my limited space to introducing ideas and suggesting treatment rather than to concentrating intensely on facts. As such introduction presumes further acquaintance I have attempted constantly, and I hope forcefully, to direct attention to the more specialized works in which the reader will find more complete analysis and fuller exposition of data.

Masters of this subject, should they read this book, will recognize my debt to the late Sir John Clapham, a debt dating back to my undergraduate days in Cambridge. I learned from him something of the risks of generalization in historical study, and I have tried to convey the same warning in these pages.

The Principal and several other members of this School have encouraged and assisted me. I am particularly grateful to my colleague Dr. Jean S. Pattison for placing at my disposal her detailed knowledge of the monetary history of the early 19th Century. Needless to add, I accept full responsibility for the use made here of any advice given me.

Such literary grace as the book may possess owes much to my wife's vigilance and comments. I hope its publication will be some small recompense to her for the silent week-ends and evenings devoted to its composition.

S. G. E. L.

SCHOOL OF ECONOMICS, DUNDEE.
June, 1949.

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CHAPTER I

THE DEVELOPMENT OF INDUSTRY (I)

IN this and the following Chapter we attempt a threefold task. The aim is firstly to isolate and examine the environment of British industry at two periods separated by a century; secondly to trace the outstanding changes in the role of the entrepreneur and in the structure of industry; and thirdly to focus attention on the technical development of a few leading industries.

The Industrial Revolution

The practice of dividing historical study into chronological compartments is as dangerous as it is convenient. Yet certain periods stand in such sharp relief as to claim distinctive titles, and for this reason writers of Economic History have accepted the phrase "Industrial Revolution" to describe a period beginning about 1750-60, from which date developments in all branches of national economy moved with increased rapidity. As originally popularized in British historical literature, the phrase implied the years spanned by Adam Smith, Malthus and Ricardo (A. Toynbee: *Industrial Revolution*, p. 27), and in the comparative stability of later Victorian Britain it may well have seemed that change was no longer revolutionary.

Modern research has somewhat modified this original concept. We now know that industrial technique and structure had both undergone marked changes long before 1750, especially under the late Tudors and early Stuarts. (See, for example, J.U. Nef: *The Rise of the British Coal Industry*, 2 Vols.) Similarly Clapham shows how very incomplete were the changes effected before 1820-30, and while Toynbee regarded the opening years of the 19th Century as the "midst of the Industrial Revolution" the Russian historian Tougan-Baranowsky argues that "if the Industrial Revolution must be assigned to a definite period, it can be more justifiably located in the second

quarter of the nineteenth century than towards the end of the eighteenth." (*Les Crises Industrielles en Angleterre*, p. 5).

Economists have long assumed the right to attach special meanings to common words. Similarly, economic historians will continue to speak of an Industrial Revolution, remembering that it had no precise place or date of origin, gained momentum slowly, reached out beyond industry and beyond Britain, slackened at times—but never stopped.

The Forces Making for Change in the 18th Century

The 18th Century experienced a coincidence of favourable factors. The purpose of this section is to isolate them, and consider the extent to which they were peculiar to Britain.

MARKETS

In all earlier ages the extent and specialization of production had been limited by narrowness of markets. By the 18th Century demand increased, partly from the rise in the home population and higher standards of consumption (see C. R. Fay: "The Demand Side of the Industrial Revolution," in his *English Economic History*), and partly through the cumulative effect of earlier overseas settlement and conquest. In particular British conquests in North America, the West Indies and India had created there a series of privileged markets, and colonial policy was fashioning their economies so as to concentrate manufacturing in Britain.

MANPOWER

Economic progress in earlier ages had been hampered, if not by absolute shortage of labour, at least by imperfect mobility. As we shall see in Chapter 9 the population of the British Isles was rising briskly in the later 18th Century. Changes in agriculture were ensuring more adequate food supply, birth rates were buoyant, death rates were falling. Accordingly late 18th Century Britain was better off in young, adaptable and relatively mobile workers.

INTERNAL STABILITY

The Act of Union of 1707 consolidated the link between England and Scotland, creating a single market and a single

economy which the two Jacobite risings did little to disturb. Similarly, since the Whig Revolution of 1688 the constitution had been stable with the sovereignty of Parliament sufficiently entrenched to withstand royal assaults. This internal stability in the United Kingdom stands in sharp contrast to the innumerable internal divisions and jealousies in Germany and to the undercurrents of discontent and subsequent revolutions in France.

DECAY OF ECONOMIC REGULATION

In the 17th Century, constitutional changes and the attitude of the Common Law Courts had virtually destroyed government control of industry. Local guild regulation was decadent from the 16th Century and remnants of serfdom were almost museum pieces in Elizabeth's reign. The current of political theory was running strongly in favour of individual freedom and respect of private property. Thus in Britain the environment was favourable for individual enterprise, whilst in most Continental countries guild or state control was common and serfdom still widespread.

SCIENCE

"When the history of the scientific background of the Industrial Revolution is written, the Royal Society will undoubtedly be found to occupy a striking place." (W. H. B. Court: *Rise of Midland Industries*, p. 226.) We shall return later to the relation of science to invention. Suffice it here to say that through the Royal Society, a variety of local academies and individual scientists, the literate Britain of 1750 was acquiring a rational approach to problems of motion and matter.

CONSCIOUSNESS OF "TIME"

It is arguable that the clock is the key machine of the modern industrial age. Once the tempo of production increased the force of competition promoted the search for time-saving devices. So, whilst in all earlier ages technical progress had been intermittent, by the late 18th Century it was becoming a normal feature of British life; giving it a vitality generally absent in Continental nations.

THE LEGACY OF THE PAST

Modern industrial Britain inherited a great legacy of industrial skill and commercial experience. The problem of the 18th Century was to apply these qualities to the country's great natural resources, and in particular to employ coal as a substitute for the fast-failing timber. With coal and iron-ore in close geographical proximity, Britain's ultimate greatness was then assured.

CAPITAL

By modern standards the Britain of 1760 suffered from immobility of capital and an immature money market, and the provision of fixed capital was in fact a major concern of most expanding industries. Yet the reductions in the rate of interest on Government securities from 1717 to 1757 must be regarded as a major reason for faster economic development, for though there was no "market rate" in the modern sense, this fall in the rate on Government securities may be taken as indicative of the trend of interest rates in general. (See several references to this effect in Ashton: *The Industrial Revolution, 1760 to 1830*, especially pp. 9-11.) In some branches of textiles and secondary metal trades, lack of capital was not necessarily a handicap. Often old premises could be adapted and second-hand equipment obtained. Particularly in textiles, space and power were often rented by existing mill-owners; a start could be made by processing materials belonging to others; and in the specialized branches the small unit suffered no real economic disadvantages.

Against this array of favourable factors must be set some weaknesses. The generally feeble and sometimes corrupt public administration, both central and local, allowed private enterprise to run unchecked. House and factory building was unregulated, factory conditions were uncontrolled. Indeed, in the first flush of the Industrial Revolution parliamentary action tended often to worsen the social disasters. So taxes on timber and bricks made for cramped housing, and protection to agriculture made for dearer food.

And while the volume of labour was increasing, its attitude,

especially that of the skilled craftsmen, was at times hostile to technical change. One of the anomalies of the period is that some of the most dynamic political movements were based on the conservatism of the workers in matters of industrial technique.

On balance, however, the forces impinging on Britain's economy in the second half of the 18th Century were favourable to rapid expansion. We now know that their continuance was by no means inevitable. Yet for much of the 19th Century that continuance was almost axiomatic, hence the buoyancy and faith in the future which characterized mid-Victorian Britain. Then, after the 1870's, scepticism became increasingly apparent, reflecting a change in the balance of forces.

Forces affecting British Industry in the Early 1900's

For easy comparison we shall adopt much the same headings as in the previous section.

MARKETS

The expansion of markets generally continued throughout the first three-quarters of the 19th Century as "new" lands were peopled and domestic consumption rose. By the end of the century foreign competition and tariffs checked this expansion. Old customers learned to supply their own manufactured goods, whilst Germany, Belgium and the United States competed in neutral markets. Accordingly, attention was again focusing on the creation of exclusive markets in imperial territory.

MANPOWER

The brisk rise in absolute population continued through the 19th Century, but by 1901 the average age was considerably higher than a century before. So the flow of young recruits to industry was thinning, and legislation had abolished child labour. Furthermore, since the 1860's collective bargaining had expanded, tending to introduce rigidities in wages and terms of service.

REGULATION

By 1914 state intervention had been revitalized in the form

of Factory Acts, National Insurance, Trade Boards, and the statutory school-leaving age. Yet so far state ownership had progressed little beyond theoretical discussion, and until the 1914 War there was no state direction or planning of production. Nor had the British Government given private enterprise any of that vigorous backing which played so prominent a part in contemporary German industrial expansion.

SCIENCE

Similarly British industry was deriving less benefit from science than its German competitors. In part the difference lay in the more effective government organization of German scientific education, in part in the conservatism of British industrial leaders.

EFFICIENCY

In volume of output Britain was bound ultimately to fall behind the United States with their immense natural resources. Britain's industrial survival, as we now know, lies in efficiency of methods and quality of products. Yet the evidence summarized by Clapham¹ shows that in some key industries in Britain efficiency stagnated from 1890 to 1914; new processes devised in Britain were neglected, and new industrial opportunities in electricity, motor vehicles and the like were underrated.

CAPITAL

Generally this factor was more freely available than in earlier periods. By the later 19th Century British industry could draw on the great pool of national savings, and the joint-stock company was replacing the individual or the partnership as the normal business unit. But if capital had become anonymous it had also learned to seek the best employment, with the result that industry had to bid against other capital users, both home and overseas.

THE LEGACY OF THE PAST.

Critics pictured the Britain of 1900-14 as an old industrial nation, carrying a mass of obsolescent specific equipment,

¹*An Economic History of Modern Britain*, Vol. III., pp. 69-71 and 121 ff.

badly located for materials and markets, unadaptable to modern techniques, led by men content to follow their fathers' methods. Other nations had benefited from Britain's experiments in the past and had taken freely her best methods and techniques. This argument has been examined by Mr. F. R. J. Jervis (*Manchester School*, 1947, p. 112 ff.), who points out that British equipment had been built in the days of cheap money, and consequently built well. By 1900 it had paid for itself and become something approaching a "free factor," involving no cost other than that of maintenance. (But compare Veblen's views on "the penalty of taking the lead" in his *Imperial Germany and the Industrial Revolution*, pp. 128-133.)

Pioneers in Industrial Organization

Because inventors leave a distinctive record their names are familiar in industrial history. Yet invention, as we shall show in the next chapter, comes often in response to the needs of the time, and it is arguable that those whom Professor Heaton calls "the heroes of the Industrial Revolution" were the men who took the business risks and mobilized the factors of production on a new scale and in new areas. In this section we shall examine the nature of industrial leadership from the mid 18th Century to the early 19th Century.

ORIGINS

In his *Industrial Revolution in the Eighteenth Century* Mantoux attached great importance to agriculture as a breeding ground for textile manufacturers and instanced the Peels and the Fieldens. Such families appear in the early 18th Century as prosperous yeomen with old textile connexions through domestic weaving. Some voluntarily left agriculture for full-time manufacturing. Others, the Radcliffes among them, seem to have been squeezed out by enclosures. Higher in the social scale, agriculture contributed its quota of great land-owners who directly worked the minerals on their properties.

Trade was a second main source. Benjamin Gott is typical of the early West Riding mill owners who began as cloth merchants, became merchant employers, and from that began concentrating their employees in sheds and factories.

In metal-working the successful entrepreneurs generally had early connexions, either by family or apprenticeship, with some metal trade. Roebuck of Carron was the son of a Sheffield manufacturer, the Walkers of Rotherham had a nailshop, Boulton inherited a smallware business, the Wilkinsons were the sons of a working iron-founder.

Yet many famous names defy classification. David Dale tended cattle. Owen earned his first wages in a draper's shop. Arkwright was a barber. Indeed Dr. Redford¹ writes: "the factory owners who did not come from agriculture were a very mixed lot."

SOCIAL QUALITIES

Professor Ashton (*Iron and Steel in the Industrial Revolution*) draws attention to the strength of religious nonconformity among the early ironmasters. Dissent still involved exclusion from public and most branches of professional life, so that talent was diverted into business. Or 18th Century dissent may have been the legatee of that devotion to thrift and material progress cultivated by the Puritan sects a century earlier. Clearly this devotion flowed strongly in the Darbys and other Quaker families whose work epitomized the expansion of the iron industry in the first three-quarters of the 18th Century.

Among men coming from so wide a range of origins it would be unreasonable to expect a common level of culture or attitude. Many were hard, ruthless and, by modern standards, cruel. They rose in a competitive environment where display of social conscience could be mistaken for weakness. So Arkwright was coarse in manner as he was gross in appearance. There were notable exceptions. To Boulton, a man who moved in intellectual company, honest dealing was a genuine ideal. Wedgwood, a self-educated man, blended wide scientific knowledge with high standards of art and craftsmanship. On current topics such as slavery and American Independence this more cultured group revealed liberal and humane qualities, though from their own workpeople they demanded discipline. Owen, the outstanding exception to all generalizations, must be

¹*The Economic History of England (1760-1860)*, p. 43.

mentioned separately. To him human improvement became the real end of industry, and his successful career as a cotton manufacturer was simply a phase in his development as a social philosopher.

BUSINESS QUALITIES

We shall examine later the essential problems of mobilizing labour and capital. Given these, how did the early factory owner conduct his business? Generally he was not a technical expert. In his *Industrial Biography* Smiles demonstrated the thesis that "as respecting mere money-making, shrewdness is more potent than invention, and business faculty than manufacturing skill." It is a commonplace of history that the genuine inventors, Cort, Hargreaves, Crompton, Cartwright, reaped little financial reward and rarely established successful businesses. Arkwright claimed much but in fact invented little. A few, notably Wilkinson and Wedgwood, combined technical and business skill. But many manufacturers concentrated on the trading side and employed superintendents to organize production.

Whether factory management was delegated, as with Dale, or personal, as with Arkwright and Peel, the emphasis lay on discipline and enforcement of factory rules. In short the risk-bearer would not admit of any moral restraints, and contemporary acceptance of the rights of private property vindicated his attitude; hence cramped and unhealthy working conditions, long hours, child labour and fines for irregular attendance and breaches of factory rules.

Apologists for the factory owners maintain that conditions were no worse than in hundreds of sheds and tiny workshops throughout the country, and that no other system of management could have trained the motley labour force to the essential regularity of mechanized production. Certainly the methods must be judged by contemporary standards. The 18th Century approach to management is as far removed from modern joint consultation as bull-baiting is from cricket.

Inevitably, therefore, they created a pattern of autocratic management. To them a factory was a collection of factors of production, not a society. So the factory owner could not

become a leader ; indeed, the industrial workers chose leaders to defend themselves against managements.

CONCERTED ACTION

Professor Ashton (*The Industrial Revolution*, p. 127) combats the glib theory of the intense individualism of 18th Century business leaders by illustrating the extent to which they came together in corporate activities, ranging from churches to "the cock-and-hen club of the tavern." A contemporary, Adam Smith, observed that even convivial gatherings were liable to end in price-fixing arrangements or some similar "conspiracy against the public." Hence, despite the essentially competitive nature of late 18th Century economic life, and despite the hostility of the law to combinations, community of interest tended to draw employers into more or less comprehensive associations. Within industries concerted action sprang either from strained labour relationships or from the price- and output-fixing motive. Associations cutting across industrial frontiers arose from a desire to influence the country's fiscal policy. Yet despite the examples cited by Professor Ashton and by Mantoux the impression remains that these associations, with a few exceptions, were neither solidly organized nor long-lived. Of the Scottish iron industry Professor Hamilton concludes that "the probability is that regulation of prices was spasmodic" (*The Industrial Revolution in Scotland*, p. 205), whilst Halévy generalized more freely—"Not only was there open war between Capital and Labour, but also, in the ranks of Capital and Labour alike, confusion and anarchy prevailed." (*A History of the English People in 1815*, Pelican Ed., Vol. II, p. 146.)

The Provision of Capital for Industry

Two major topics arise. First, we shall examine the methods by which the family businesses and partnerships of the later 18th Century mobilized short- and long-term capital. Secondly, we shall consider how the provision of capital and the position of the entrepreneur were altered by the modifications in Company Law in the middle of the 19th Century.

CAPITAL FOR INDUSTRY BEFORE THE JOINT-STOCK ERA

In commerce the joint-stock principle was established from the 17th Century; in transport it became essential with canals and railways; in most other branches of economic life it remained exceptional until the late 19th Century. In mining, where a large amount of fixed capital is involved, joint-stock companies were responsible for much of the output of non-ferrous metals, but in the much more extensive coal-mining, individual ownership or co-partnership was general. Legal incorporation, involving an Act of Parliament, was expensive and likely to be resisted by rivals. For this reason the promoters of the great Albion Flour Mill failed to secure incorporation in 1783, and the capital of £60,000 was accordingly held by five partners. Extra-legal incorporation ran counter to the Bubble Act of 1720, involving the risk of formidable penalties. Contemporary opinion associated joint stock with speculative booms, and the economists of Adam Smith's school admitted its utility for undertakings of a routine kind and little else.

So down to the latter part of the 19th Century industrial capital remained closely bound up with the personality of the entrepreneur. (For elaboration of this see Postan.¹) The Britain of the 18th Century had in fact abundant capital for a great industrial effort, but the market, particularly for long-term capital, remained relatively imperfect. We can, however, distinguish certain main channels:—

(a) *Commerce*. From his great knowledge of the cotton industry Unwin concluded "it was . . . by a flow of capital inwards from commerce, that most of the early industrial enterprises of Lancashire were started". (*Economic History Review*, January, 1927, p. 56.) In the Whitehaven district Professor Ford found evidence of a flow of capital from tobacco trading into coal-mining. ("Tobacco and Coal" in *Ecònomica*, June, 1929.) Similarly the profits of colonial trading went into Clydeside industry, and, as we have seen, the merchant predominated among early West Riding mill owners.

(b) *Land owning*. In heavy industries, especially mining

¹ "Recent Trends in the Accumulation of Capital," in *Economic History Review*, 1935.

and smelting, landowners appear either as direct producers or as lessors. In the 18th Century Scottish cotton industry Dr. Marwick¹ finds "a close co-operation between the landed and industrial interests." Dr. John shows how, until the end of the 18th Century, the industrial development of South Wales was prompted mainly by "the only moneyed classes in the area, the landed gentry and the wealthier yeomen." (*Economic History Review*, 1943, p. 93.) The granting of leases of land or buildings by such landowners enabled men with small initial capital to engage in manufacturing or extraction. But against this concept of local pockets of capital must be set the theory of "lending and borrowing regions." Dr. Feaveryear (*The Pound Sterling*) and Halévy² both portray a flow of capital from the predominantly agricultural to the predominantly industrial regions, so that the profits and rents of agriculture became the working capital of industry. The country banks, it is argued, through their common ties with the London money market, provided a mechanism for the transfer of funds. (See below, p. 175.)

(c) *Banks*. We shall see in Chapter 10 that these banks did play a significant part in the day-to-day conduct of business. Especially in Lancashire the inland bill of exchange was employed as a negotiable instrument, and a business man, receiving such bills, would present them to a local bank for discounting and so obtain cash for current payments. Similarly a bank would furnish working capital to a reputable customer by way of overdraft and the Scottish banks had their unique system of "cash credit." (See below, p. 181.) But the issue of token coins and the payment of wages in kind or at long intervals suggest that even this function of providing working capital was imperfectly performed. And working capital is very different from the long-term capital involved in business promotion or expansion. There was some lending by way of mortgage on existing plant and premises, but the general impression is that country banks avoided any extensive long-term financing. With this tradition behind it English banking never developed that intimacy with industrial undertakings

¹*Scottish Historical Review*, Vol. XXI, p. 207.

²*A History of the English People in 1815*, Vol. II, Chapter III.

which was to characterize German banking in the later 19th Century.

(d) "*Ploughing Back.*" This is a modern catch-phrase for an old habit. In times of brisk business the owner or partners made big profits, subject to little taxation. The classic choice between abstention and satisfaction of immediate wants then arose. Down to the late 19th Century neither ostentation nor public works absorbed any great share of the profits of industry, and the "average sober manufacturer" (Clapham's phrase) abstained from current consumption with a view to building up capital. The accounts of the Walkers of Rotherham provide an 18th Century illustration of this process (quoted in T. S. Ashton: *Industrial Revolution*, pp. 95-96). Similarly in seven years of vigorous expansion, 1830-36, the Brookes of Huddersfield ploughed back 61 per cent of their income into the family textile mill. (See H. Heaton: "Financing the Industrial Revolution," in *The Bulletin of The Business Historical Society*, Boston, Mass., Feb., 1937.) "It was in this way," concludes Professor Ashton, "that Wedgwood, Gott, Crawshay, Newton Chambers and Co., and scores of others built up their great concerns." (op. cit., p.97.)

(e) *Private Arrangements.* For more rapid expansion the manufacturer either took on a partner or borrowed from personal acquaintances. Arkwright made no real headway until his partnership in 1771 with Need and Strutt. In turn Oldknow borrowed from the Arkwrights. The financial history of Boulton's partnerships with Fothergill and Watt, which incidentally casts doubts on the tradition of Boulton's great business acumen, shows how Boulton in 1772 had to sell his Parkington Estate for £15,000 in order to finance the steam-engine venture and salvage the affairs of Boulton and Watt. (See J. E. Cule: "Finance and Industry in the Eighteenth Century," in *Economic History*, Feb., 1940.)

Of the exact financial scale of such private arrangements no estimate is possible. No doubt the relatively low yields on government securities throughout most of the later 18th Century encouraged men with liquid assets to look for more profitable openings in partnerships or mortgages through which

they could reap better returns without losing sight of their capital.

THE EXTENSION OF JOINT STOCK AND LIMITED LIABILITY

Two developments were needed to remedy the imperfections of the long-term capital market. The habit of investing and the notion of easily transferable shares had to spread. G. H. Evans¹ illustrates the rôle of canal finance in effecting these changes. Canals, and railways after them, extended the technique of mobilizing capital by employment of preference shares and by appealing to a large number of small investors in the provinces. The Railway Boom of 1844-46 was decisive in drawing a great part of the middle classes into the clientele of the capital market.

The second change involved revision of the law of incorporation. With the repeal of the Bubble Act in 1825 the law appeared to become somewhat more accommodating, but this legal relaxation was offset by the conservative administration of the Board of Trade, the department responsible for advising the Crown on petitions for incorporation. Decisive changes began with the Registration Act, 1844, the first clear official recognition of the joint-stock system as desirable for the conduct of ordinary business undertakings. Henceforth any association of more than twenty-four members was entitled to apply for registration as a company. Simultaneously the first Winding Up Act, 1844, protected the rights of shareholders and creditors.

So incorporation became simple and cheap, but shareholders' liability remained unlimited, and a general controversy ensued on the merits of limited liability. Supporters pointed to the United States, where it was already accepted; they argued that a great mass of small savings lay idle because of the risks of investment. As industrial units grew and technique became more complex, so the need for fixed capital rose; this could not be supplied adequately by partnerships, because partnerships were terminable; escape lay in freely transferable shares; transferability involved a divorce between ownership and control, to which no sane man would agree unless his

¹*British Corporation Finance, 1775-1850, passim.*

liability were strictly limited. Against this, elder statesmen and many economists argued that in Britain enterprise and capital were nicely blended, and that general limited liability would encourage speculation, over-trading and probably fraud.

A defective Limited Liability Act emerged (1855), immediately replaced by the very important Joint Stock Companies Act, 1856. It enabled seven or more persons to secure incorporation with limited liability for shareholders. In its enthusiasm Parliament allowed an almost unwise degree of freedom to company promoters. Subsequent amendments in the law of companies have accordingly provided better safeguards for investors; extended limited liability to certain types of undertaking, notably banking, excluded from the 1856 Act; and recognized such institutions as the private company and the holding company, neither of which was contemplated in 1856.

THE REACTION OF INDUSTRY TO THE CHANGES IN COMPANY LAW

By the legal changes in 1856 the pool of national savings was open to industry. But industry was in no hurry to dip. Of nearly 2,500 companies registered from 1856 to 1862 no main manufacturing group apart from cotton had over 100. In Clapham's language,¹ "the average sober manufacturer remained suspicious or indifferent far into the 'seventies and 'eighties." The heavy mortality among new companies confirmed the cynics in their low opinion of limited liability; easy incorporation was blamed by contemporaries for the business instability of 1865-6. The reputable manufacturer could get substantial accommodation from his bank by way of overdraft. So, while the limited liability company took root quickly in a cluster of cotton firms around Oldham and drew in a mass of small shareholders, its most general application down to the 1870's was in those fields where the company had long been an accepted form. Even in the closing decades of the 19th Century there remained big industrial blocks, such as the Sheffield cutlery trades, where the private concern was still typical.

¹*An Economic History of Modern Britain*, Vol. II, p. 416.

Nor did the adoption of joint stock necessarily produce a text-book divorce between ownership and control. Clapham¹ describes the devices whereby family firms obtained the benefits of incorporation without sacrificing control. The emergence of the "private company," legalized in 1907, simplified their task. Nor did a long list of shareholders prove that control had passed from the small core of promoters. Investment in companies created a rentier element in British society, but its rôle was thoroughly passive. Similarly it has been suggested that with the spread of joint stock in industry effective control passed to paid managers, acting for the mass of shareholders. Pure managerial control comes with nationalization. In the typical joint-stock company effective management remained the function of a few substantial shareholders, who, as directors, occupied a position not unlike that of the individual entrepreneurs of the pre-joint-stock era.

Amalgamation and "Rationalization"

TENDENCIES IN STRUCTURAL CHANGE SINCE THE 1880'S

Three quotations provide a useful epitome:—

G. P. Jones and A. G. Pool: *A Hundred Years of Economic Development* (p. 174)—"The epithet 'competitive' can be more aptly applied to the British industrial system in the 'sixties and 'seventies (of the 19th Century) than in any other phase of its evolution."

H. W. Macrosty: *Trusts and the State* (1901 Edition, p. 147)—"On all sides evidence is at hand that the great mass of trade and manufacture . . . is passing into the hands of a diminishing number of people."

C. R. Fay: *Great Britain from Adam Smith to the Present Day* (1932 Edition, p. 443)—"We welcome and urge combination where we used to dread and obstruct it."

THE ENVIRONMENT OF STRUCTURAL CHANGE

The economics of industrial combination lie outside the scope of this book, and the reader is referred to such specialized works as P. Fitzgerald: *Industrial Combination in England*

¹Ibid., Vol. II, pp. 138-9.

and H. Levy: *Monopolies, Cartels and Trusts in British Industry*. We must note, however, that much the same tendency is evident in all leading industrial countries, implying that the root causes lie in common characteristics of industrial growth rather than in conditions peculiar to any one country. On the other hand the environment was more congenial in Germany and the United States than in Britain. In Britain the Common Law and 19th Century orthodox economics upheld free competition. The tradition of Britain's mid-Victorian supremacy under a system of free enterprise continued to colour public and business opinion. So, while by the mid 1870's economic conditions in Britain favoured the spread of combination, the mental atmosphere remained unfriendly, and the word "monopoly" retained its old sinister connotation.

THE SPREAD OF COMBINATION IN BRITAIN

In an unfavourable environment monopoly is likeliest in activities where capital costs are high and local undertakers already enjoy something of a local monopoly. So while, as we shall show in Chapter 4, Parliament sought to regulate railway amalgamations, the nominally competing companies had by the 1890's grouped themselves into rate-fixing conferences. The same process was afoot in shipping. In manufacturing industry even closer integration had begun, though often without ostentation. The Salt Union and United Alkali were both in existence by the early '90's. By the end of the century sewing cotton was virtually monopolized by two groups with a common selling agency. In iron and steel, vertical integration had long been common, and by 1900 horizontal fusions or price arrangements were appearing in steel tubes, light castings, galvanized sheeting, and nuts and bolts. Yet in some great branches of industry no unit or group down to 1914 held enough of the field to regulate prices. Coal and most branches of textiles proved unamenable to monopolistic control and comparatively small units persisted down to the 1939 War.

The urge to combine came primarily from a common wish to stabilize prices in an increasingly competitive world. So long as Britain kept faith with free trade this aim could be

attained only by arrangements with foreign rivals. As early as 1884 an International Rail Makers Association allocated markets, and it existed through several reorganizations until 1914. Generally the scope of these international private economic "treaties" is obscure, but there is evidence of them in cement, screws, dynamite, tobacco, spelter and sheet-steel. (See A. Plummer: *International Combines in Modern Industry*.) Similarly, firms such as Coats and Levers had branches or associates in many countries. Given continued peace these bargains among the giants of the capitalist world might have eradicated its apparently inherent instability. With war a very different economic order emerged.

"RATIONALIZATION" SINCE 1918

The 1914-18 War involved a greater measure of government intervention and economic control than Britain had experienced since the overthrow of Charles I. Accordingly 19th Century habits of individual economic freedom were weakened. After the war international trade failed to recover its pre-1914 volume, former overseas markets were lost, and old industries catering for the export trades now showed apparently surplus capacity. In several major industries Britain no longer held undisputed technical leadership. Rapid reorganization was clearly needed to fit British industry into the new economic order, and to eliminate the wastes which sprang from intense internal competition. "Rationalization" became the panacea.

These new circumstances, forcibly thrust on the notice of the nation by high unemployment, resulted in a rebirth of Central Government activity. Official inquiries, some on particular industries, such as the Samuel Commission on the Coal Industry (Report, 1925), some with more general scope, such as the Balfour Committee on Industry and Trade (Report, 1929), subjected British economy to powerful criticism and suggested bases for constructive action. Legislation from 1926 to 1938 sought to hasten amalgamation in coal-mining and eliminate uneconomic pits. The Cotton Industry Reorganization Act, 1936, set up a Spindles Board with powers to buy up redundant spindles in the cotton-spinning

branch. In other industries parallel steps were taken by mutual agreement. Shipbuilders, for example, tackled the problem of surplus capacity by establishing an organization financed by a levy on new contracts and empowered to buy and dismantle redundant yards. (For the social repercussions see Ellen Wilkinson : *The Town that was Murdered.*) In iron and steel the amalgamation tendency produced a central body, the British Iron and Steel Federation, for the co-ordination of policy. Similarly in heavy chemicals the formation of Imperial Chemicals in 1926 marked an important step in voluntary reorganization. Yet a great range of industry retained a more traditional structure. The grim picture of British economy since 1918 is fortunately relieved by the prominence of a group untouched by problems of redundancy or shrinking markets. In these industries, producing mainly consumer goods, competition for an expanding demand stimulated improved technique and design. Economies of large-scale production, in motor vehicles, electrical apparatus, food products, toilet preparations and the like, made for large units, but producers retained their own identity and offered a competitive range of products.

Public Ownership

Public ownership is not a discovery of the 20th Century. From the days when parishes owned a communal bull, local authorities have engaged in forms of public trading, and 19th Century *laissez-faire* economists scarcely questioned the wisdom of a publicly-owned postal service. But as we have seen, local authorities in general suffered from apathy and lack of stimulus until the later part of the 19th Century, and then, when rapid urban expansion called for positive public action, local authority action became stultified by the elaboration of the *ultra vires* doctrine. Hence down to the last quarter of the 19th Century public ownership, even in water and gas undertakings, was by no means general. Such ownership became more common after the 1870's as local authorities bought out private gas and water undertakers, established their own electricity and tramway services, and developed docks and ferries. Yet down to 1914 the field of public ownership

was mainly confined to those services which would in any case tend to become monopolies. In theory only was it considered as a possible alternative to private enterprise.

Active political groups, especially the Fabians and the Guild Socialists, were urging a great widening of the field in the early 1900's, and as we have already noted the experience of State direction from 1914 to 1918 weakened the 19th Century regard for individual independence. Yet down to the victory of Labour in the 1945 Election public ownership covered only a small fraction of the country's economic activity. The Forestry Commission had been set up to acquire and develop woodlands in the national interest; the Central Electricity Board to co-ordinate production and organize distribution of electric power; the B.B.C. to own and promote public broadcasting in Britain; the London Passenger Transport Board to take over London's internal transport. Local authorities had become great landlords of house property, but otherwise their trading had developed mainly on lines already defined before 1914.

During the 1939 War public control of industrial and financial activity became more intense than ever before, and the 1945 General Election created a Parliament with a majority pledged to a policy of national ownership of key points in the country's economy. By legislation of 1946 and 1947 the Bank of England, Civil Aviation, Inland Transport, Coal-mining and the generation and sale of Electricity and Gas were all nationalized, and in 1948 preliminary steps were taken for the nationalization of the Iron and Steel industry. Parliament departed utterly from the precedent of the Post Office by putting each of these industries in the control of a Government-nominated Board or Corporation with substantial freedom of action and a responsibility to Parliament both restricted and indirect. Thus, in a matter of three post-war years a large sector of Britain's economy underwent a fundamental structural change, precipitating a new series of administrative and economic problems, but completing in the industries concerned that concentration of control which, as we have seen, was a growing feature of the inter-war years.

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CHAPTER 2

DEVELOPMENT OF INDUSTRY (II)

IN sharp contrast to most European countries the Britain of the 18th century was full of creative activity, and it is not surprising that early writers on the Industrial Revolution concentrated attention on invention and changes in industrial technique. In a sense they were justified, for Mr. H. S. Hatfield writes: "The present position of Britain among the nations of the earth is based on the fact that we were the first in the development of the new inventions by which the white man's way of living has been completely changed." (*Inventions*, p. 163.)

The Rate of Technical Change

The greater rapidity of technical change distinguishes the past two centuries from all others. Earlier ages had seen great discoveries: primitive man's first employment of fire and his construction of the wheel, the invention of smelting and weaving, the blending of gunpowder; yet technical change had always been exceptional and erratic. Only with the later 18th Century did it become a normal factor in human experience. As no single explanation is adequate for this change, the following attempts no more than a catalogue of likely considerations.

THE DECAY OF MONOPOLIES AND INDUSTRIAL REGULATION

Professor Clark has shown how the attitude of both Crown and guilds towards new processes had been coloured by fears of unemployment and consequent social unrest. (*Economic History Review*, April, 1936, pp. 146-8.) Similarly the Tudor and Stuart monopolies, by which large areas of industrial production were regulated in the 17th Century, helped to stabilize conditions by excluding new and unsettling processes. By the early 18th Century they had disintegrated, the guilds

were decadent, and the conservative paternalism of the Crown had virtually ended in 1688.

CHANGED PUBLIC OPINION

Opposition to technical change persisted, for utterly different reasons, in both well-to-do and working-class circles, but to rational thinkers "technical progress . . . inherited undeservedly the prestige of its father, free scientific inquiry, and it was almost regarded as improper to suggest that the child of such a father could be bad or even need watching." (Lord Lindsay: *The Modern Democratic State*, Vol. I, p. 170.)

THE INFLUENCE OF SCIENTIFIC INQUIRY

It was suggested above that the first general effect of the new science was a more rational approach to physical problems. Its direct influence on industrial invention can be traced through the contacts of Professor Black of Edinburgh and Glasgow Universities with such industrial pioneers as James Watt, James Keir, an early chemical and glass manufacturer, Roebuck of Carron, and Lord Dundonald whose coal-tar works at Culross were visited by Black. (See A. and N. L. Clow: "Lord Dundonald," in *Economic History Review*, 1942.)

As the Act of Uniformity of 1662 excluded dissenters from English universities they created their own academies from which proceeded a stream of potential industrialists. Of their level of teaching it suffices to say that the great Priestley taught at Warrington Academy from 1761 to 1767. (See I. Parker: *Dissenting Academies in England*.) In a measure their work offset the mediaeval classical atmosphere of 18th Century teaching in Oxford and Cambridge.

Yet the precise effect of scientific teaching on technical change varied from one industry to another. Watt's steam engine is in direct descent from Boyle's Law, but smelting by coal fuel was well advanced while the chemistry of metals was still in its infancy.

SPECIALIZATION

So many inventions, especially in textiles, were the work of practical craftsmen that great importance attaches to the rôle

of division of labour as a source of technical change. Adam Smith attributed to it "the invention of all machines whereby labour is abridged." We shall see how, by the early 1800's, the making of textile machines had become a specialized job and how the machine makers steadily improved the efficiency of their products.

CURRENT ECONOMIC CONDITIONS

Inventions are commonly divided into two groups. Those produced without apparent environmental influence are called "spontaneous"; those produced in response to current needs and conditions are called "induced." (See A. Plant: "The Economic Theory Concerning Patents," in *Economica*, February, 1934.) The influence of the relative cost of labour and capital on the nature of invention requires further investigation, but as so many of the inventions of the later 18th and early 19th Centuries were "time-saving" we may reasonably associate them with the relatively low interest rates prevailing over much of that period. Professor Ashton has examined the issue of patents for industrial devices in the two generations after 1760. (*The Manchester School*, May, 1948.) His general conclusions may be crudely summarized as: (a) There were cyclical variations in the flow of invention, (b) Peaks of invention tended to coincide with periods of general industrial activity and low interest rates.

Whatever weight may eventually be attached to these various factors, it already appears that invention was not a force operating in isolation outside the economic system. (See also J. A. Hobson: *Evolution of Modern Capitalism*, Chapt. IV.)

Power

Early writers on economic history were justifiably impressed by the complete revolution in the sources of industrial power over the past two centuries. From wind, horses and water we have moved to steam, internal combustion and electricity. Yet the revolution in power started slowly. For at least a generation after 1760 the use of any new form of power was exceptional, and a century passed before any new power could be said to have reached all industries.

WATER POWER

For centuries before 1760 industrial power had come from running water. Windmills were used for grinding grain, but the wind is too erratic for regular production. Hence, as industry needed more power in the 18th Century, water "took on a character of universal utility." (Mantoux.¹) In the metal trades water was used to drive hammers and bellows. As mining deepened it operated pumps. It followed naturally that as textile processes were mechanized, water-power drove the machines; Thomas Lombe's great silk mill, set up near Derby about 1720, drew power from the Derwent to turn its 22,586 wheels, and Arkwright's first spinning mill, built in the early 1770's, was on the same river. Where natural gradients were inadequate, manufacturers introduced the elementary "fire-engines" to raise a head of water to operate the wheel.

EARLY STEAM POWER

Long before Watt was born men were experimenting with steam power, and by about 1700 Savery and Newcomen had both produced working "fire-engines," inefficient and clumsy by later standards, but capable of pumping water. The Newcomen engine was widely employed both in Britain and on the Continent, and thirty years after Watt had produced his vastly superior engine, Newcomens were still pumping mines where coal was cheap.

By his work as an instrument repairer at Glasgow University, Watt acquired something of the rational scientific outlook of the mid-18th Century Scottish Universities, and when, in 1763, he was required to repair a model Newcomen, he was led to investigate its principles and weaknesses. Its operation involved the alternate heating and cooling of the cylinder. Watt recognized in this the basic cause of its inefficiency and within two years produced his own solution, the independent condenser which remained cool while the cylinder remained hot.

BOULTON AND WATT

At that point Watt and his engine left the calm of a university workshop for the rough of industrial bargaining. Watt had no

¹ *The Industrial Revolution in the Eighteenth Century*, p. 319.

capital, and, according to conventional opinion, his business ability was not great, though his subsequent transactions with Boulton scarcely justify this view. The business of building an engine involved the adaptation of the tools and skill of blacksmiths, millwrights and carpenters. Standard components were unknown. By modern standards measurements were rough approximations. Nobody could say just how or where an improved steam-engine would fit into the nation's economy. Watt's first important business contact was with Roebuck, a fellow scientist then pioneering in iron-founding at Carron. This short partnership produced at least one engine, the famous Beelzebub erected near Edinburgh in 1768, but more important by far it brought Watt into touch with Matthew Boulton.

In 1774 Watt joined Boulton at Soho. There he found an old-established metal works with an international reputation. The Boultons, Matthew and his son Robinson, strove for high standards in technical efficiency and workshop management combined with that spacious view of marketing epitomized by Boulton when he wrote: "It would not be worth my while to make for three counties, but I find it well worth my while to make for all the world." Hence his insistence on a long patent right and his vigorous campaign against piracy of designs. From this point the technical development of the steam-engine proceeded from specialization. At Soho, Watt and his partner, Boulton, worked on the evolution of a rotary movement and patented the "sun-and-planet" mechanism in 1781. The firm of Boulton and Watt made the more intricate parts, but their main original function was designing and erecting. Outside firms, especially Wilkinsons, supplied the heavier castings and bored the cylinders, whilst, to reduce transport difficulties, boilers and similar bulky components were often made by iron-masters in the district in which the engine was to be erected.

THE STEAM-ENGINE SINCE 1800

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for efficiency raised to new levels by 19th Century advances in exact mechanical engineering. Progress would have been faster had coal been dearer. Until the last quarter of the century nobody seriously considered the possibility of a future without cheap coal. Then, while foreigners were busy with electricity and experiments were afoot in internal combustion, Sir Charles Parsons invented the steam turbine, and in 1891 moved on to the condensing turbine, which, according to Sir J. A. Ewing, got "more work out of coal than can be got in any other way." (Address to British Association, 1931.) With this the steam-engine reached a new peak of efficiency, whilst engine speeds moved from the few hundred revolutions a minute of the mid-Victorians to the 12,000 or more of the Edwardians.

THE IMPACT OF STEAM-POWER ON INDUSTRY

During the period covered by Boulton and Watt's monopoly there was some piracy by other iron-masters, but the Soho records may be regarded as a reasonably accurate record of the erection of new engines down to 1800. From 1775 to 1785 the output was mainly of the reciprocating type, in effect improved Newcomens. These went mainly to industrial areas where fire-engines were already familiar for pumping mines or raising heads of water: the Cornish tin mines, the Potteries, ironworks. (For the impact of steam on the Potteries see J. Thomas: "The Pottery Industry and the Industrial Revolution," in *Economic History*, 1937.) By 1785 most new engines embodied the rotary movement, and only then did the steam-engine become a potential for industrial change. The distribution of new engines changed; for the last five years of the monopoly (1795-1800) no new engine was erected in Cornwall, only three in Staffordshire, but six in Yorkshire and thirty-five in Lancashire. No doubt war conditions had accelerated this re-orientation of capital expenditure. Yet down to 1800 Lancashire, where mechanical spinning was well established, had less than 1,000 h.p. of steam. No other county had much more than half that total.

If by "mechanization of industry" we mean the adoption of steam power, it becomes clear that the process belongs to the 19th Century. From 1802 to 1808 it is said that Trevithick

alone erected a hundred high-pressure engines, yet of the 1820's Clapham¹ wrote: "the steam-engine itself, the prime mover, was still small, and, outside a limited group of leading industries, comparatively little used; the group includes mining, where the use of steam for winding as well as for pumping became general from about 1790-1800; blast furnace work; cotton and, to a less extent, other textiles; lastly, after 1820, coastal and river navigation." A contemporary writer on the cotton industry of the 1830's, E. Baines, estimated that three horse-power of steam was used for every one of water. Yet as late as the 1850's English and Welsh woollen mills still used half as much water as steam. (For precise figures, see Clapham: *op. cit.*, Vol. I, pp. 442-3.)

Steam arrived almost simultaneously with coal-gas lighting. Together they freed industry from the natural hindrances imposed by darkness, drought, frost and calm. The early steam engines, turning slowly with a minimum of mechanical complications, ran whenever their owners wished. So at last production could be organized in shifts, fixed capital could be exploited to the maximum, concentration of labour was worth while. Statistics of increased output and exports cover one side of the medal. The evidence of child labour lies on the other side.

ALTERNATIVES TO STEAM

Steam-power is inflexible and involves complicated shafting, thereby wasting power and restricting factory design. The best steam-engines were heavy fuel users, hence steam-using industries tended to concentrate in coal-bearing areas. The gas engine, notably the "Otto" of the 1860's, offered some escape from the dominance of steam, but steam suffered no real challenge until the arrival of electric power.

Throughout the 19th Century electricity was scarcely thought of in Britain as a form of industrial power, though its application to lighting and telegraphy was increasingly understood. By the last quarter of the century, when experiments were proceeding abroad, Britain still had cheap coal, and legislation down to 1898 positively hindered the development of really large generating stations, whilst industry, suffering from

¹*An Economic History of Modern Britain*, Vol. I, pp. 155-6.

depressed profits after 1874, was in no hurry to change its power supply. As late as 1918 an official Report on the Textile Trades disclosed that "electric power is very little used in Lancashire for driving textile machinery." Lack of cheap electricity retarded the British aluminium industry, so that the transformation of an unknown hamlet into the "aluminium town" of Kinlochleven began only in 1905.

As a major force in British industry electricity thus belongs to the post-1918 period. The expanding industries of the 1920's, motor-vehicle making, electrical and radio apparatus, plastics and the like, inherited neither the equipment nor the prejudices of the past. With them electric power was a *sine qua non*. By 1930 light engineering drew virtually all its power from electricity. Increased consumption, economies in generating, and the "grid" system made electric power cheaper and more widely available. The localizing effect of coal-fields was thus weakened, and the flexibility of electric power supply must be reckoned as a major factor in the drift of industry in the 1920's and 1930's towards London and the South-East of England.

Technical Changes in Textile Industries

TECHNICAL LEADERSHIP IN COTTON

Within a few decades cotton emerged from obscurity to become Britain's staple textile industry. The explanation must be sought in the demand for a clean cheap fabric, in the increasing supply of a cheap uniform fibre, and in constantly improving manufacturing technique.

From the early days of the East India Company ladies had worn Indian fabrics, chintz or muslin, according to their men-folks' wealth. By the early 18th Century domestic cloth-workers in Lancashire were weaving mixtures of flax and cotton into a cloth called "fustian," and these mixed fabrics were specifically exempt from an Act of 1721 prohibiting the wearing of calicoes. A series of statutes, of which this was one, was intended to protect the British silk and woollen industries, but in fact it created a closed market for Lancashire's expansion, for as the 18th Century progressed the raw material supply broadened; first from the Levant, then the West Indies, and

by the end of the century from the North American mainland where slave labour cultivated and the Whitney "gin" cleaned the fibre.

Cotton therefore provided a more favourable environment for new techniques than the older textiles with their traditional methods, rigid organization, and reliance on limited supplies of raw material.

THE BALANCE OF PROCESSES IN COTTON MANUFACTURE

Shorn of all refinements, textile manufacture involves spinning, weaving and finishing, and technical progress at any one stage is likely to disrupt the smooth flow from raw material to finished fabric. Kay's invention of the flying shuttle in 1733 had, by about 1760, speeded up weaving in all major textiles. It made no difference to the structure of industry, but enabled the individual weaver to produce cloth faster, and so set up a fresh demand for yarn. The famous series of spinning inventions then follow in natural sequence.

By the late 1730's Paul and Wyatt had devised a method of roller spinning, but failed commercially. Hargreaves' Spinning Jenny (1767) thus marks the first practical contribution to the yarn shortage. It was the exact counterpart of the flying shuttle, a cheap hand-machine which threatened no disturbance in the structure of the industry. But within a short time the water-frame was on the way. Its exact parentage need not detain us; Arkwright took out a patent, but the Courts annulled it in 1785. Its effects, however, must be stated:—

- (a) It decisively broke open the bottle-neck in production caused by yarn shortage.
- (b) It produced a yarn strong enough for use as the "warp," so that British weavers could now weave all-cotton fabrics.
- (c) By incorporating water-power it marks the beginning of concentrated production, thus modifying both the structure and location of the industry.

The "Mule," the third in the series, invented by Crompton in the late 1770's, incorporated features of the Jenny and the

water-frame, with the result that its yarn was both fine and strong. According to Daniels (*The Early English Cotton Industry*), the mule assured Britain of ultimate success in cotton manufacture. Its fine yarn could be woven into muslin, and Oldknow, the "founder of the British muslin industry," was using mules by 1783. The application of power took time, beginning at New Lanark in 1790. From that point the capacity of mules increased, and the mule followed the water-frame to riverside sites.

By this time the focus of experiment had of necessity turned on to finishing. Cylindrical printing was patented by T. Bell in 1784. From time immemorial bleaching had involved long exposure to sunlight followed by steeping in sour milk. James Watt in the mid-1780's introduced a recent French method of bleaching by chlorine, and Charles Tennant of St. Rollox simplified the process by introducing in 1798 an easily transportable dry bleach powder. (See A. and N. L. Clow: "Vitriol in the Industrial Revolution," in *Economic History Review*, 1945.)

By the last decade of the 18th Century weaving had become the bottle-neck in production. It had scarcely moved technically since Kay's flying shuttle, and the hand-loom weavers had become a prosperous highly-paid group. Power weaving had been investigated long before this time, and the "Dutch" loom provided a practicable though not very efficient means of weaving ribbon by power. These earlier investigations apparently had no influence on the Rev. Edmund Cartwright, who, impressed by the great output of yarn from the water-frame, began in the early 1780's to devise a loom with comparable capacity. His financial disasters make up "the same melancholy story" as is "true of most inventors" (Mantoux¹) and his failure to achieve commercial success, together with the lowering of hand-loom weavers' wages as recruits flocked into the industry, delayed the general arrival of the power-loom. Even in cotton, as Clapham demonstrates,² power-weaving did not enter on "the stage of rapid development" till about 1830.

¹*The Industrial Revolution in the Eighteenth Century*, p. 248.

²*An Economic History of Modern Britain*, Vol. I. p. 142.

TEXTILE MACHINE-MAKING

By 1800 the radical inventions in textile machinery were all known to Britain. Henceforth technical progress became largely a product of specialization in machine-making. Dr. Fay shows (*Great Britain from Adam Smith*, p. 298) how many textile mill owners began their business lives as machine makers, but by 1800 there were signs of a completely distinct textile machine industry. The firm of Dobson and Barlow goes back, under different names, to 1790, and its products from then to about 1830 illustrate the evolution of the all-metal machine. Similarly there were evidences of standardization. By 1830 Roberts of Manchester made standard templates of the components of their self-acting mule, an improved version of Crompton's original mule. So textile engineering became the first important specialized branch of mechanical engineering, and it is significant that Whitworth did his pioneer work on precision measurement and standard specifications in Manchester in the 1830's and 1840's.

TECHNICAL CHANGE IN COTTON MANUFACTURE IN THE 19TH CENTURY

Because the 19th Century had no Hargreaves, Crompton or Cartwright, its immense progress in equipment and efficiency has received less than justice. In brief, output increased as mechanization became more complete, as the machine makers produced more efficient equipment, and as the size of the firm grew to something approaching the optimum. From 1830 to 1890 the labour force in cotton-spinning rose by little more than 50 per cent, but output of yarn per operative rose more than fourfold. Because weaving in 1830 was still largely performed on the hand-loom, output figures for that branch mount even faster than in spinning. Such figures are at best a crude measure of efficiency, but they reflect in general terms the results of complete mechanization, steam power, and standardized high-speed equipment involving less supervision.

By the end of the 19th Century, however, the cotton industry had become less receptive to new techniques. In fine spinning the self-acting mule did not fully replace the old hand-controlled mule until the 1880's. The new "ring" spinning, highly

successful in America, did not seriously penetrate Lancashire until the 20th Century. Even more significant was American progress in automatic weaving by which the operative-loom ratio could be greatly improved. These new devices had their limitations, especially for the quality of production demanded in Lancashire, but their rapid adoption elsewhere helped in restricting the markets for British cotton exports.

TECHNICAL CHANGE AND THE LOCATION OF THE COTTON INDUSTRY

Three problems arise—

- (a) Why the cotton industry originally settled mainly in West Coast ports.
- (b) Why it became increasingly concentrated in Lancashire.
- (c) Why functional and geographical specialization developed within Lancashire.

The first two problems are so fully examined by Mantoux and most other modern writers that little more than a catalogue is needed here. Cotton tended to settle in areas already experienced in textile working, especially those relatively free from guild restrictions; those with commercial contacts with cotton-growing countries; and those with a humid atmosphere. So long as manufacturing remained a manual operation these conditions were satisfied by Bristol, Lancashire and the Clyde. With the arrival of the water-power phase the industry tended to concentrate in the valleys of swift rivers, and almost before this process was complete steam was replacing water and the "pull" of the coalfields began.

So by the early 19th Century the bulk of the industry was centred on Manchester, with an important "outlier" in the Glasgow-Paisley district. Expansion in the latter area was limited by the alternative occupations available, especially for men. (See G. M. Mitchell; "The English and Scottish Cotton Industry," in *Scottish Historical Review*, Vol. XXII.)

The subsequent specialization within Lancashire has not been fully examined, and the following speculations are drawn mainly from an article by Professor Jewkes. (*Economic History Supplement to Economic Journal*, January, 1930.)

(a) *Functional Specialization.* As power-weaving came later than power-spinning it is reasonable to assume that it began as an adjunct to mills already employing power for spinning. As late as 1850 not more than about one-fifth of the looms were owned by pure weaving firms and the "mixed" firm predominated. But by 1880, upwards of half of the looms were owned by pure weavers, and two-thirds of the spindles by pure spinners. Among the factors making for this differentiation were the greater optimum size for spinning, the different kind of management involved in the two processes, and the extensive yarn markets outside Lancashire.

(b) *Geographical Specialization.* The original Lancashire mill industry lay in and about Manchester. Within a hundred years Manchester had become primarily the commercial centre; spinning predominated in a horseshoe of towns all in south Lancashire; weaving had split off and moved north. Figures quoted by Professor Jewkes indicate that this regional specialization was well defined by 1884. His tentative explanation is that as weaving became a distinct mill industry it was forced to move in search of labour, and that once a measure of regional specialization was established it tended to intensify itself under the force of its own internal economies.

THE ADOPTION OF NEW TECHNIQUES BY OTHER TEXTILE TRADES

The mechanization of other textile industries involved two major problems—

- (a) The adaptation of machinery originally designed for cotton.
- (b) The invention of machines for processes unique to other textile fibres.

Adaptation of machines to wool encountered two kinds of obstacle. Until the great sheep ranches of Australia began production wool came mainly from small flocks, so that the natural irregularities of raw wool were aggravated by the diverse conditions under which it was produced. Secondly, the woollen industry of the 18th Century was already ancient and "more than any other, protected and regulated." (Mantoux.¹)

¹*The Industrial Revolution in the Eighteenth Century*, p. 85.

It lacked the adaptability of younger industries, and its conditions and structure varied from region to region and from the "wool" branch to the "worsted" branch.

Hence the imitation of cotton was slow and ragged. By the 1780's worsted-spinning by water-power was beginning, and Leeds had steam-powered mills by 1800. On the other hand, in the south-west of England both the Jenny and the flying-shuttle seem to have been novelties as late as the mid 1790's. Throughout the first quarter of the 19th Century power-weaving remained experimental in all woollen areas. In worsted-weaving power was gaining ground quickly by the 1830's, but wool proper remained hand-woven, and until the 1850's some branches continued to employ a big proportion of hand-loom weavers. In general the penetration of the woollen industries by capitalist methods was much faster than the adoption of mechanical production.

In the Irish linen industry cheap labour retarded mechanization. In the United Kingdom, where labour was dearer and cotton an alternative cheap fabric, linen could survive only by copying the methods of Lancashire. By the late 1780's Kendrew and Porthouse of Darlington and Marshall of Leeds were adapting cotton-spinning machines to the special requirements of flax. But rapid progress was confined to the coarse end of the trade. Professor Hamilton shows (*Industrial Revolution in Scotland*, p. 107) that fine flax yarns were hand-spun until after 1825 when Kay showed that preliminary steeping enabled flax to be drawn into finer threads. Of linen-weaving he writes (op. cit., p. 112) "machinery came much more slowly. It was not until about the middle of the 19th Century that power looms were beginning to replace hand looms on any considerable scale." Like wool, the industry was fully capitalistic before it was fully mechanized.

Both wool and flax involve processes distinct to themselves. Worsted manufacture involved a preliminary "combing" process. Combing machines go back to Cartwright's experiments, but were not efficient substitutes for hand-combing until the 1840's when both Britain and France evolved successful models. In wool, an intermediate process between carding and spinning was performed on the "slubbing billy," operated

by a male slubber and a gang of child "piecers." An American, Goulding, invented the "condenser" by which slubbing was mechanized, and though the condenser was efficient by 1832 it was not universal in British woollen mills until after the middle of the century.

Similarly in flax the preliminary process known as "heckling" has its own technical history. In the Leeds branch of the linen industry it was mechanized early in the 19th Century, but in Dundee the prominence of "hecklers" in the labour disputes of the 1820's indicates that it remained there a key manual process. (See D. Chapman: "The Combination of Hecklers in the East of Scotland," in *Scottish Historical Review*, 1948.)

NEW TEXTILE FIBRES

Jute was the only major textile fibre introduced to Britain in the 19th Century. The circumstances attending its introduction and determining its concentration in Dundee have been clarified by Mr. Chapman. (British Association: *Scientific Survey of Dundee*, 1939, and *Review of Economic Studies*, 1938.) The technical factor was the invention of "batching," by which the raw jute is steeped in a mixture of oil and water. The economic inducement was provided by the slump in bagging prices in 1836-7 coinciding with a rise in the price of raw hemp and the possibility of a complete breakdown in raw material supplies from the Baltic. Accordingly jute was developed as a substitute, and its manufacture expanded rapidly in response to mid-19th Century demands for sand and food bags.

Rayon is the new fibre of the 20th Century. Hitherto all textiles have relied more or less directly on annual yields, and the contribution of applied science has taken the form of synthetic dyes and waterproofing materials. In the early 18th Century French chemists argued that man could mechanize the function of the silk-worm in producing a continuous filament, and by the later 19th Century experiments were being actively pursued in most leading industrial countries. Commercial production on any significant scale in Britain began when the old silk firm, Courtaulds, took up Cross and Bevan's "viscose" process, and by 1909 the making of "artificial silk" occupied some 2,000 operatives in Coventry.

The 1914 War stimulated research on synthetic fibres, especially in Germany, and after 1918 a wider range of spun synthetic yarns became available to textile weavers. Machine-makers and fashion designers responded with appropriate modifications, and by the 1930's pure or mixed rayon fabrics were in general use. British production, though encouraged by a measure of protection, represented only one-eighth of the world's total, but Courtaulds with their associated companies occupied a dominating position both inside and outside the British Isles.

Technical Changes in Iron and Steel

The international reputation of British industry down to the later 18th Century was confined mainly to wool cloth, and the developments outlined in the previous sections represent extensions of an already substantial textile industry. In iron and steel pre-18th Century Britain enjoyed no such reputation. The industry in Britain was inevitably already capitalistic, and in some secondary branches a high level of technique had been attained, but shortage of charcoal imposed limits on the expansion of the basic processes, and increasing demand in Britain was met by imports of pig- and wrought-iron from Scandinavia.

This shortage of charcoal was responsible for the periodic migrations of the industry in search of new woodlands, leading to the erection of furnaces at such unlikely places at Invergarry in Inverness-shire, and for the increased experimenting in the use of some other fuel.

SMELTING BY COAL FUEL

In the 17th Century Sturtevant, Copley, Dudley and others seem to have approached success in their experiments. Continuous headway, however, dates from 1709 when the Darby family took over ironworks at Coalbrookdale (near Wolverhampton), and demonstrated the practicability of smelting by suitable coke. For about half a century this remained a local process. It seems likely that few coalfields yielded coal pure enough for the coking and smelting technique of the time. There were difficulties too in the creation of an

adequate blast. But the main hindrance to expansion was the quality of the product. In the early 18th Century castings formed a minor part of the output of the iron industry. Most of the pig was converted into wrought, and for this purpose charcoal-smelted pigs were technically superior.

After about 1760 the new process spread to South Wales, the North of England and Scotland. (See, for example, H. Hamilton: "The Founding of the Carron Ironworks," in *Scottish Historical Review*, Vol. XXV.) Castings were in greater demand, prices rose with the Seven Years' War, and coke smelting was being continually improved. The Carron Works in Scotland introduced Smeaton's compressed-air pump, producing a blast of terrifying violence. Indeed, Professor Ashton says that the "victory over charcoal" was not complete until the "application of the double-acting blowing cylinder, actuated by the Watt steam-engine." (*Iron and Steel in the Industrial Revolution*, p. 37.)

The theory of the air blast was reconsidered and revised by Neilson and others in the Glasgow area in the 1820's and 1830's. Hitherto cold air had been thought essential; Neilson proved that pre-heated air resulted in higher temperatures for the use of less fuel. The result was particularly important to Scotland, where the hard "splint" coal could now be used uncoked.

Smelting by coal fuel was the key to Britain's changed fortunes in the iron world. Nature had equipped Britain with coal and iron ore in the same geological series, and inland coalfields acquired a new significance in the country's economic life. But for this fortuitous grouping of raw materials, deficiencies in transport would inevitably have limited expansion. So the iron industry grew up on the coalfields, badly located once ore had to be imported, but safe meanwhile for a century of spectacular growth, based on local resources.

WROUGHT IRON

"The furnace produced pig iron which passed to the forge to be made into rod and bar iron, which was either sold in that form, or passed to the splitting mill to produce sheet and slit rods for nail-making." This account of the processes in South Yorkshire from 1690 to 1750 may be taken as fairly representative.

(A. Raistrick and E. Allen : " South Yorkshire Ironmasters," in *Economic History Review*, May, 1939.) The handling of iron after the blast-furnace stage involved further charcoal heating and power for bellows, hammers and rollers. Fundamentally, therefore, the problem was the same as in smelting : how to break away from dependence on charcoal and water-power.

Both Roebuck at Carron and Cranage at Coalbrookdale seem to have come near success in the 1760's when experimenting received fresh impetus by the rising price of Swedish bar iron. By 1783-4 Peter Onions at Merthyr Tydvil and Henry Cort at Fontley (near Portsmouth) had evolved a method of producing wrought iron by " puddling " or stirring in a reverberatory furnace heated by coal fuel. With this Cort combined improved rolling plant, making for a smoother flow in production and economy in fuel.

Thenceforth puddling quickly became the normal method of large-scale bar and sheet production, and down to the last quarter of the 19th Century it remained the key to Britain's metallurgical supremacy. Without it, Britain and her increasing overseas markets would have gone short of shafting, bridges, railway metals, boilers and ships' plates. Mechanical aids, such as Nasmyth's steam hammer (1839), and much bigger furnaces, enabled iron-masters to meet these greatly widening markets, but the fundamentals of technique changed little. Leading railway companies ceased buying wrought-iron rails in the 1870's, but demand for iron bars and plates kept output very high until the 1880's. Only then did wrought iron seriously give place to steel.

STEEL

For centuries a few centres in England made and used steel for cutting tools and springs. The traditional process involved the heating of pure wrought-iron bars in a charcoal furnace for several days until the metal had absorbed the due proportion of carbon. The resulting " blister " steel still required heating and hammering to make the " shear " steel needed for high-quality products. About 1740 Benjamin Huntsman, a Doncaster clockmaker, moved to Sheffield and there devised the " crucible " process by which blister steel could be reheated

in a sealed fireclay crucible over a coke furnace. The resulting "crucible" or "cast" steel was eminently suitable for fine-edge tools, and despite the prejudice against products of a new process, Huntsman's method was extensively employed by the late 18th Century, so that after 1815, Britain, once a steel importer, had a little for export.

By modern standards steel output remained low until after 1860, and as steel-makers continued to favour Swedish bar iron, prices remained relatively high. But the significance of steel in the "Industrial Revolution" is not to be judged by tonnage. A few tons of good steel converted into springs, cutting tools, dies, drills, and the like, enabled Maudslay, Bramah, Whitworth and their contemporaries to lay the foundations of the machine-tool industry.

THE RISE OF THE MODERN STEEL INDUSTRY

Mass production of steel begins with the erection of the first Bessemer converter at Sheffield in 1859. Reduced to its simplest terms, the process consisted of pouring molten pig iron into the converter in which the still-fluid metal was subjected to an air blast by which impurities were burnt out. The original converters were lined with silica bricks, and the process was effective only with non-phosphoric iron, particularly that smelted from hematite. By 1870 the British "make" of steel was nearly a quarter of a million tons, as against an annual maximum of 100,000 down to 1860. Probably the expansion would have been greater but for the conservatism of metal users, the great capacity of existing "puddling" plants, and the limited supply of hematite in Britain.

Hard on the heels of Bessemer came the Siemens-Martin "open-hearth." Its essential feature was the use of pre-heated gas fuel which attained such a temperature that pig iron and scrap, charged cold, could be refined into good steel. After extensive trials the Siemens Steel Company began production at Landore, Swansea, in 1869. By 1873 their capacity was 1,000 tons a week, and by 1885 "open-hearth" steel output in Britain had reached over 600,000 tons.

The trio of steel inventions is completed by the modification of the Bessemer process by two cousins, Gilchrist and Thomas.

At Middlesbrough in 1879 they demonstrated a converter lined with a basic material, dolomite limestone, which, with a proportion of lime in the charge, absorbed any phosphorus in the iron. Britain has a great deal of phosphoric ore in the Cleveland Hills and the Jurassic scarps, but for various reasons the new "basic" process was taken up more quickly on the Continent. By 1880 British economy had lost something of its earlier buoyancy, for profits had fallen off. Furthermore, much of Britain's steel industry had migrated to coastal sites, the Tees, the Clyde and Swansea, and had come to depend on imported hematite, especially from Spain.

From that point Britain lost much of her dominance in the world of steel. Germany, with the great Lorraine ore fields at her disposal, took up the basic process with startling rapidity. Germans, Swedes and Americans moved on to the newer electric furnaces. Americans, by the 1890's, were using hydraulic machinery for charging furnaces, and their steel-makers and steel-users were quick to see the possibilities of new steel alloys. Britain was by no means stagnant, either in technique or output, but suffered from obsolescent equipment, often badly located, and from an apparent lack of will-power to undertake major reorganization. (Britain's reactions to the changing conditions of steel production are very fully analyzed in D. L. Burn : *Economic History of Steel Making*.)

Coal-mining

BEFORE THE RAILWAY AGE

It is now known that the use of coal has been expanding since the 16th Century, replacing charcoal in industries ranging from brewing to brickmaking. (For an exhaustive examination of the coal industry prior to 1700, see J.U. Nef : *Rise of the Coal Industry*, 2 Vols.) With the 18th Century, demand assumed new proportions with the technical changes in smelting and puddling and the arrival of steam power. Furthermore, as population grew, so demand for coal for making bricks and lime, salt, soap and beer, and for domestic heating, rose at least proportionately.

For various reasons coal output was relatively inelastic.

Except in the Tyne and Wear fields early 18th Century collieries were small and comparatively superficial workings. Depth was limited by problems of drainage, of haulage both underground and to the surface, and of ventilation, and ignorance of geology. Similarly, inadequate surface transport restricted workings to a short radius of navigable waterways. Consequently the major coalfields were coastal or riparian, and because of their fortunate location the Tyne and Wear collieries monopolized the great business of London's coal supply down to the coming of railways.

Accordingly the increase in British coal output from an estimated five million tons in 1750 to over thirty million in 1840 reflects the joint effects of transport changes and improved internal equipment. As we shall see in Chapter 4, canals such as the Forth and Clyde and the Monkland were opening up new coal-mining districts a generation before the railway age opened. The "fire engine" made the first major contribution to the problem of pumping mines, and for this purpose it was not immediately superseded by the Watt engine. On the other hand Watt's rotary movement, supplemented by the 1840's by the wire rope and the metal "cage," overcame the age-old difficulty of raising coal to the surface. By the same period the safety lamp had come into general use, based on Humphrey Davy's invention of 1815, and the underground miner's ancient problem of a safe light was solved. In ventilation there had been little real progress and in many pits circulation of air was still maintained by strategically placed furnaces. None the less working down to 2,000 feet was becoming possible.

COAL IN THE RAILWAY AGE

Between 1850 and 1913 British coal output rose more than five-fold. The record output of 1913, 287 million tons, represented in round figures a quarter of the world total for that year. The new factors in demand were railways, steamships and exports to relatively coal-less countries on the Continent. Old demands had grown. Despite economies and better design in furnaces the iron and steel industries consumed a quarter more coal in 1910 than they had done in 1873, a year of very high output. There were more steam-engines in industry and

more coal-gas was consumed. Yet in 1913 roughly a quarter of the coal raised in Britain left the country in ships, either as bunker or export. Jevons in 1865, by his forecasts of future consumption, had aroused at least mild anxiety about the size of Britain's reserves and the wisdom of heavy exports. To this it was replied that coal was our only bulky export, providing outward cargo for vessels bringing our bulky imports. Without coal exports we should pay higher freights on timber, iron-ore, wheat and the like. A Royal Commission of 1903-5, writing with fuller knowledge of geology, dispelled any alarm about future supplies, but stressed the need for fuel economies.

In practice, however, fuel economy in Britain was not systematically examined until after 1918. Since then fuller use of the gas by-products of coke ovens, better technique in the generating of gas and electricity, and greater use of scrap in steel-making have resulted in greater output per ton of coal consumed. This coincided with the partial substitution of oil for coal-firing in ships, and with a serious drop in the overseas demand for British coal. In consequence British output after 1918 failed to recover the high level of 1913, and even with the revival of industrial activity stood only at 228 million tons in 1938.

Similarly mining technique lagged until after 1918. Mechanically-driven fans were becoming general by the later 1870's, but pit-head handling remained rough and ready down to the 20th Century, and the Royal Commission of 1903 compared British grading and marketing unfavourably with current German methods. But the worst lags were in mechanical hewing, partly a result of the smallness of many British pits, partly the inevitable result of geological structure. Clapham¹ wrote: "Only some very tiny fraction of coal was cut by machinery in the 'eighties. No important part was so cut even forty years later." Partly as a result, output per man, which had risen appreciably from the 1850's to the early 1880's, lagged or even fell from then to the early 1900's, and coal acquired the reputation of being a somewhat "stagnant" industry. By the time of the Samuel Report (1925) the percentage of British coal mechanically cut had risen to nineteen; by 1939 it had

¹*An Economic History of Modern Britain*, Vol. III, p. 103.

risen to about sixty. This evidence of apparent technical headway must, however, be seen against contemporary changes in other countries, and Professor Court writes : " The British coal industry was more mechanized than ever before in 1939 ; but compared with the Continental fields it was more technically obsolescent than it had ever been." (*Economic History Review*, 1945, p. 21.)

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or more briefly from the appropriate sections of :—

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CHAPTER 3

AGRICULTURE

THE treatment in this Chapter will be more strictly chronological, beginning with the period of parliamentary enclosure, passing on to the post-1814 depression, the mid-Victorian prosperity, the impact of foreign competition after the 1870's, the boom induced by the 1914 War and finally the attempts at devising a "policy for agriculture" in the 1920's and 1930's.

From 1750 to the Repeal of the Corn Laws

As a basis for discussion, the main trends in this period may be isolated as follows—

(a) The major "Enclosure Movement" in British history, gaining impetus by 1750-60, was virtually complete by 1846.

(b) With this, agriculture, in common with other contemporary occupations, tended to move towards concentrated units and a more completely "cash nexus" between master and man.

(c) Technique moved *pari passu* with structure. The period opens with the empirical "improvers" and ends with the application of science to agriculture.

(d) Agriculture in general passed through a long cycle of prosperity and depression, standing at the end of the period on the eve of its "Golden Age."

(e) Protection for home-grown grain rose from moderate dimensions to a peak in 1815-28, and virtually disappeared by the late 1840's.

(f) Despite changed structure and improved technique, British food output did not keep pace with the growth of population. In an average mid-18th Century year Britain could export some grain. By the late 1840's complete cessation of imports would have meant a real reduction in the food standards of the masses.

ENCLOSURE*(a) Nature and Purpose*

The word "Enclosure" runs like a thread through the history of British farming since the 13th Century. Under the Tudors and early Stuarts the incentive was provided by the demand for wool from the cloth industry, and there is some reason to believe that down to the later 18th Century the principal objective was increased production of meat, skins and wool. (On this thesis see Hasbach.¹) But opinion is virtually unanimous that by the last two decades of the 18th Century strenuous endeavours were being made to extend and intensify arable farming, and certainly after 1793 the rate of enclosure was accelerated by the profitable nature of wheat production.

Enclosure could mean the consolidation of the strip plots of the old open-fields, or it could mean fencing in of common land and reclaimed waste. In either case it was a capital undertaking, and therefore likeliest when financial prospects were good and when those who stood to gain were able to influence the Government.

(b) Procedure

After about 1760 the normal procedure involved a petition from the parish concerned, a Private Act authorizing the enclosure, and then the survey and allocation of land by Commissioners appointed for the purpose. Some historians, from Hasbach to the Hammonds, have castigated late 18th Century parliaments as heavily prejudiced in favour of the bigger landowners who normally sought Enclosure Acts, but a recent investigation of Nottinghamshire enclosures from 1743 to 1845 at least casts doubt on the view that landowner M.P.'s manipulated Enclosure Bill procedure to serve their own interests. (W. E. Tate: "Members of Parliament and Enclosure Bills," in *Economic History Review*, 1942.) Yet the fact remains that the political environment was wholly favourable, and stands in sharp contrast to that of 1485 to 1640.

(c) The Extent of Enclosure

When the 18th Century opened probably one-half of the

¹*History of the Agricultural Labourer*, Appendix II.

arable land of England retained the field-pattern of the Middle Ages. This area, which had survived through earlier enclosure movements, lay mainly in a great triangle, bounded to the west by a ragged line from the Tees to Lyme Regis, to the south-east by a similar line from Lyme Regis to Lowestoft, and to the east by the coast, forming, in Clapham's phrase, "a great central wedge." (See maps in Gonner¹ or Clapham.²) No single theory has so far completely explained this distribution. It may be that the organization of manorial agriculture had for some reason been stronger in this midland zone. Alternatively, as M. Aurousseau has suggested, there may be some correlation between the date of enclosure and the nature of soils and rocks. (See Economic History Supplement to *Economic Journal*, 1927, p. 280.)

Parliamentary enclosure after the mid-18th Century therefore affected mainly this central wedge. By 1820 only six counties had more than 3 per cent of their area in the open-fields, and within a generation of that thoughts were turning to the rescue of the few remaining open spaces. "With that, common land passed out of agricultural into social history." (Clapham.³)

(d) *Effects of Enclosure on the Agricultural Population*

(i) On Labour. The conflict of opinion over the effect of enclosures resolves itself largely into an attempt to set alleged economic gains against alleged social and moral losses. Emphasizing the ill effects on labourers, the Hammonds say: "The effect on the cottager can best be described by saying that before enclosure he was a labourer with land, after enclosure he was a labourer without land." (*Village Labourer*, p. 76.) In other words, it is argued that enclosures helped in stripping the rural labourer of auxiliary sources of income, leaving him fully exposed to the variations in money wages and the risks of unemployment. Against this must be set Clapham's cautious approach⁴; there is no evidence that the average cottager ever had fields of his own; rights on the

¹*Common Land and Enclosure.*

²*An Economic History of Modern Britain*, Vol. I.

³*Ibid.*, Vol. II, p. 259.

⁴*Ibid.*, Vol. I, p. 114 ff.

common land were never universal; in some places the Enclosure Commissioners did entertain extra-legal claims advanced by cottagers.

Nor is it possible to say exactly how enclosure affected the demand for agricultural labour. Where it meant consolidation of fields only, it probably reduced permanent demand, but where it involved breaking up waste and ploughing up of grass it must have increased the permanent labour force.

Finally, as much of this enclosure coincided in time with rapid industrial expansion and with phases of acute economic strain, it is evident that it was only one of several forces impinging on the condition of rural labour, and the effects of the several forces cannot readily be isolated.

(ii) On the Small Landowner. Much recent research has been devoted to the fate of this once-important element in British rural life. (Especially E. Davies: "The Small Landowner," in *Economic History Review*, 1927, and J. D. Chalmers: "Enclosure and the Small Landowners," in *Economic History Review*, 1940.) In general this research confirms Clapham's opinion¹ that the notion of a cataclysmic downfall of the yeoman freeholder in the late 18th Century is mistaken. These small occupying owners had declined greatly at some period earlier than 1780, but there is no evidence that the survivors were adversely affected by enclosures in the succeeding twenty or thirty years, indeed in some areas the numbers rose a little. A further decline set in about Waterloo, but was not, apparently, directly related to enclosing.

(iii) On the Great Landowner. Estate ownership, in England at any rate, reveals fairly well-defined trends from the Reformation onwards. Down to about the Civil War the old "feudal" families were tending to give place to the "gentry." By 1700 the tide had again turned. Noble families were regaining their old place and were shortly to become leaders in the drive to enclose and improve. Lord Ernle² illustrates the aristocratic enthusiasm for agricultural improvement in an age when the king rejoiced to be called "Farmer George." While their home farms became laboratories of agricultural

¹*An Economic History of Modern Britain*, Vol. I, p. 105.

²*English Farming Past and Present*, p. 207.

experiment, on most estates the bulk of the land was let or leased. "It is wrong to think of enclosure as causing tenant farming, for in general tenant farming came first." (C. R. Fay : *Great Britain from Adam Smith to the Present Day*, p. 231.) It seems likely that in this enclosure period the average tenancy somewhat increased in size, but there is no evidence of any radical transformation in the ownership of land. (The evidences are carefully marshalled in Clapham.¹)

FARMING TECHNIQUE

England and Scotland inherited different field systems. In both countries farming technique stagnated until the modern enclosed fields emerged, and both then made distinctive technical contributions. It must therefore be emphasized that enclosure, improved arable farming, and rational methods of stockbreeding move forward as interwoven threads.

(a) Arable Farming The "Improving Movement" sprang largely from aristocrats who adhered to some particular school of agricultural doctrine. These men, regarded no doubt as cranks by their conservative neighbours, culled their notions either from Continental travel or from the already substantial volume of English farming literature. Landmarks are the foundation of the Honourable Society of Improvers in the Knowledge of Agriculture in Scotland (1723), the pioneer work of Jethro Tull on implements and tillage, the cultivation of turnips and clover as field crops in East Lothian by Cockburn of Ormiston, the successful demonstration of new rotations and crops by the great Norfolk landowners Viscount Townshend and Thomas Coke. Like most pioneers, they made rash claims (see a reassessment of Tull by T. H. Marshall in *Economic History Review*, 1929), and the adoption of better methods remained patchy and localized throughout the 18th Century and after. Of Aberdeenshire, Professor Hamilton writes: "The home farms were like oases in the desert" (*Industrial Revolution in Scotland*, p. 51); and of Cambridgeshire, Lord Ernle²: "It will probably be true to say that the county as a whole had made no general advance on the agriculture of the thirteenth century."

¹*An Economic History of Modern Britain*, Vol. I, Chapter IV.

²*English Farming Past and Present*, p. 194.

The process of pulling up the backward areas to the level of the best was accelerated by the substantial profits of the Napoleonic Wars, by the activities of the numerous agricultural societies, and by the propaganda of agricultural writers, Arthur Young foremost among them.

Down to the mid-19th Century the new industrial skill had little direct influence on farming methods. In some implements metal replaced wood, the horse-drawn drill—the core of Tull's method—slowly superseded broadcast sowing, ingenious craftsmen in Scotland devised threshing machines, but, in general, arable farming after Waterloo relied still on primitive equipment with manual, horse or ox power. Lothian farmers soon had steam-driven stationary threshing sets, but the mobile steam thresher was still novel in the 1840's. Elkington transformed land-drainage technique in Warwickshire before 1800, but cheap field drainage awaited the invention of the pipe-making machine in the 1830's. Despite much experiment there was no effective substitute for hand-reaping until Croskills made their "Beverley" reaper in 1853. Clearly these mechanical problems were not beyond the inventive or technical capacity of an age which made power looms and railway engines. The fact is that after the boom of the Napoleonic Wars farming fell into a long depression when initiative was sapped and capital scarce.

(b) Stockbreeding. Any division between arable farming and stockrearing in Britain is necessarily artificial. The new crops, turnips and clover, raised in fenced fields, formed an essential element in the Norfolk "four-course" crop rotation, enabling farmers to dispense with the traditional three-yearly fallow. Instead of fallowing land, the farmer could now maintain the nitrogen content of the soil by judicious cropping and stock-rearing. New crops and fenced fields thus made for more head of stock kept in better condition.

For centuries stockrearers had served two great markets; wool from their sheep had gone to the cloth-makers, and cattle had walked prodigious distances to feed London. (See G. E. Fussell and C. Goodman; "Eighteenth Century Traffic in Livestock," in *Economic History Supplement to Economic Journal*, 1936.) As other concentrations of population devel-

oped so the demand for meat widened. The response came with the New Leicester sheep bred by Bakewell, and the Shorthorn cattle of the Colling brothers. A hundred years before Mendel published anything on heredity, Bakewell, using empirical methods of inbreeding, was producing flocks of heavy quick-maturing sheep. In all stockbreeding the emphasis changed from size, strength and skin, to rapid growth and weight of meat.

AGRICULTURAL DEPRESSION AFTER THE NAPOLEONIC WARS

The commonly accepted view that Waterloo was followed by "peace and beggary" (Ernlé¹) needs some qualification for recession in agriculture started before fighting actually ceased and the degree of depression was by no means uniform either from district to district or from one branch of farming to another. In fact, "the picture of unrelieved depression is false." (Fussell and Compton.²)

(a) The End of the Price Boom. From 1804 to 1812 the price of wheat doubled, reaching a record peak of 126s. 6d. a quarter. In these wartime conditions marginal land had been brought into grain cultivation, but a series of poor harvests from 1809 to 1812 had disguised this increased productive capacity and thrust the trend of grain prices well above the general price curve. Tenants offered high rents, they and their landlords adjusted their standards of living to their inflated incomes, and future prosperity seemed to depend on a continuance of the same balance between prices and costs.

1813 had a bumper harvest, and the immediate fall in prices reflected the true productive capacity of the country. The fall would have been steeper but for Army demands for food-stuffs and a return of bad weather in 1815-18. Competition for tenancies ceased, by 1816 rents had almost returned to the level of ten years earlier, and a spate of pamphlets set out the "Ruined Condition" and "Distressed State" of farming. As we shall see in Chapter 7 deflation of the currency was making for a general price fall, but the fall in agricultural produce prices proceeded faster than that of most commodities,

¹English Farming Past and Present, p. 317.

²Economic History Supplement to *Economic Journal*, 1939, p. 204.

and must be attributed primarily to supply and demand in the market for foodstuffs.

The political strength of agricultural interests was demonstrated in the highly protective Corn Law of 1815, and except in particular areas where Irish wheat was easily accessible imports of wheat and flour remained yet negligible. So current fiscal policy reinforced the high cost of transport in maintaining the virtual monopoly of British farmers in the home grain market, and external influences had little bearing on the distress of British agriculture.

(b) *Exceptional Burdens on Agriculture.* The following is little more than a précis of Dr. Fay's analysis of this subject (*Great Britain from Adam Smith to the Present Day*, pp. 241-43).

(i) The cost of Poor Relief under the "old" Poor Laws reached a maximum of nearly £8 million in 1818. In England this represented a compulsory levy on occupiers, varying in incidence from district to district, and only partially offset by the subsidies given to labourers under the Speenhamland System. With the reform of the Poor Law in 1834 (see page 204) substantial reductions were effected in the more heavily rated areas.

(ii) The tithe was an ancient burden. In some places the incumbent's tithe rights had been ceded in return for a grant of land. In most places the old dues in kind had been commuted into money payments, but the evil remained in that the tithe was a tax on produce, not profits. Again farmers secured some relief with the Tithe Commutation Act (1836).

(iii) Since the time of Charles II the Game Laws had become more severe on the poacher, but gave the tenant no compensation for damage done to his crops by game preserved for the sport of landlords. Some easing of this injustice came through the greater tolerance of landlords, but the legal position of tenants remained unchanged until 1880.

(iv) Similarly the tenant had at best a dubious claim to compensation for permanent improvements effected at his expense. Especially in England many landlords were legally incapable of granting long leases which alone could give the tenant that security essential for long-term planning of improve-

ments. Again the law was not substantially modified until the last quarter of the 19th Century.

“ High Farming, 1837-74 ”

RETURN OF PROSPERITY

In his chapter headed “ High Farming,” Lord Ernle maintains that whilst agriculture in 1837 had not recovered from the post-war slump, and whilst technical progress remained patchy, there were evidences of a brighter future. From 1836 to 1839 wheat prices were better, and the foundation of the Royal Agricultural Society presaged the coming alliance between practice and science. In fact full recovery was delayed to the early 1850's. The gloom about 1850 prompted “ The Times ” to employ James Caird as its special correspondent to tour the main agricultural areas. His report, *English Farming in 1850-51*, provides a full picture of methods, tenures and employments, and invites comparison with the findings of Arthur Young eighty years earlier. In those intervening years the position of the tenant farmer had appreciably worsened, especially if his revenue came mainly from grain, for while wheat prices were practically identical, rents had doubled and labour cost a third more. The redeeming features were a healthy rise in yields per acre, and substantial price improvements in butter, meat and wool.

Lord Ernle describes 1853-62 as the “ Golden Age,” and the prosperity of that decade was not seriously impaired until 1874. So experience seemed to falsify the theory that protection was essential for the well-being of British farming, for the first twenty-five years of free-trade in corn were, on balance, the most prosperous it has experienced in peacetime since the 18th Century.

THE BASES OF MID-VICTORIAN PROSPERITY

As contemporary economists pointed out, the British farmer enjoyed the natural protection of distance. Imported wheat in the mid-19th Century was still mainly European, and so long as the Americas and Australia lacked men and railways, and so long as ocean shipping depended on the winds, no major new source of cheap grain was likely to develop. Furthermore,

each decade had at least one war, notably the American Civil War, tending to postpone the arrival of cheap imports. Imports rose, so that by the early 1870's about one-half of Britain's bread was made of foreign wheat, but the effect of such imports was largely confined to stabilizing prices within reasonably narrow limits either side of 50s. a quarter. Over a wide range of products, milk, fresh meat and fruit, the British grower remained firmly entrenched, and generally buoyant prices reflected the strength of demand from the growing population. Internal transport changes, above all the railways, had destroyed local monopolies and improved the market for producers more distant from conurbations.

EFFICIENCY IN FARMING

In 1848 James Caird published a pamphlet entitled *High Farming, the Best Substitute for Protection*. Within a decade his advice was being taken, and the catalogue of improvements runs through reaping machines, drainage by government grant and private companies, steam-threshing, and already widening use of superphosphate and similar "artificial" which the soil chemists were advocating. In general the backward areas caught up, and, helped no doubt by a fortuitous run of good summers, average yields improved. Outside grain production, the most conspicuous headway came in cattle-breeding, where, despite rinderpest and foot-and-mouth disease, numbers increased, and the present pedigree breeds emerged. We may doubt whether in peacetime British farming has ever touched so high a level of efficiency.

Depression and Stagnation, 1874-1914

(a) *The Slump in the Late 1870's*

"By far the greatest event of the 'seventies, fraught with immeasurable consequences for the future, was the sudden collapse of English agriculture." (G. M. Trevelyan: *English Social History*, p. 552.)

(i) *The Weather*. Two Royal Commissions investigated the collapse. The first was inundated with evidence of damage done by "the dripping seasons of the late 'seventies" (Clapham's phrase). The year 1879 marked the peak in a

crescendo of bleak springs, wet summers, mildewed grain and diseased livestock, afflictions which seem to have been at their worst in the English Midlands.

(ii) *Prices.* In all earlier ages poor yields had been offset by good prices. But in the black year, 1879, wheat was 15s. a quarter cheaper than in 1873. There was a fractional recovery about 1880, and then a renewed fall carrying wheat down to less than 23s. a quarter in 1894. In agriculture there is inevitably a lag between prices and costs; in this phase it was abnormally long because of the belief that the depression was associated with the weather and would vanish with the first hot summer. Accordingly the high rents of the early '70's were not permanently cut until the later '80's when the true nature of the situation was better understood.

(iii) *Foreign Competition.* In Chapter 7 we shall examine the factors making for a general price fall in this period. For agricultural prices non-monetary factors predominated. In the mid-Victorian era, and especially about 1870, a mass of capital had gone to build docks and railways in North America, and now, as the United States settled down after their Civil War, the fruits of that capital began to reach Britain. Simultaneously the competition between steam and sail reduced ocean freights. Between 1870 and 1886 the freight on wheat from Chicago to Liverpool was almost halved. By the end of the century the same factors, combined with technical progress in refrigeration, were bringing cheap foreign and imperial meat on to the British market.

So, after thirty years, those who criticized the abolition of agricultural protection seemed vindicated.

(b) *Government Action*

(i) *The Strength of Free Trade.* In 1846 Disraeli opposed the repeal of the Corn Laws. When the catastrophe he forecast eventually arrived he was Prime Minister, yet he made no attempt to challenge the deep-rooted belief of most contemporaries that cheap food was good for the nation as a whole. Faced with the same issue, most Continental countries raised protective walls. But Britain depended more than most on the utmost freedom of international commerce, and in

Britain the weight of voting power lay with the industrial classes in whose minds "agricultural interests" meant "aristocratic interests." (Trevelyan.¹)

(ii) *Minor Reforms.* Accordingly the scope of government action was limited and may be crudely described as "tinkering with the problem." As we saw above, the laws of tenancy and entail were modified to encourage the tenant farmer. From 1896 agricultural land was partially derated. A Board of Agriculture was revived in 1889 and became a valuable source of statistical and educational information. Legislation from 1892 onwards facilitated the creation of small-holdings, and local authorities were authorized to assist in agricultural education.

(c) *The Effect on Agriculture* ~

(i) *Cropping.* The outstanding change from 1874 to 1914 is the retreat from arable farming. Detailed figures are easily accessible (e.g. Ernle²), and the following is a fair sample :—

ENGLISH WHEAT AREA (in million acres).

1866—3·13	1901—1·61
1871—3·31	1911—1·80
1881—2·64	

Farmers attempted to follow the elementary rule of a free market in growing most of those crops for which they retained the greatest relative advantage. Hence a general tendency to abandon wheat and wool in favour of dairy produce and meat, for which, in the fresh state, there was no effective foreign competition.

(ii) *Labour.* A second reaction in times of falling prices is to cut expense and draw on the natural qualities of the soil. As an employer of labour agriculture lost its predominant position and Britain's transition to an "industry state" was accelerated. In the first onset of depression wages were cut wherever possible and the apparently robust agricultural trade unions sickened and all but died. Happily for the labourer, prices fell at least as fast, and by the '90's his money wages were again on the upgrade. Indeed, the improved real

¹*English Social History*, p. 541.

²*English Farming Past and Present*, Appendix VIII.

wages in 1900 of the man who stayed on the land is one of the few bright patches on a gloomy picture.

(iii) *The Structure of Agriculture.* The depression checked, perhaps reversed, the 19th Century trend towards bigger farms. Between 1885 and 1910 farms of over 300 acres declined by 9 per cent. The small-holding movement based its justification on social rather than purely economic grounds; at least the small-holding provided a livelihood for a family and helped to check the drift from the land. Yet down to 1914 the small-holding was still confined mainly to those areas where soil or location encouraged the kind of husbandry for which a small acreage is always best.

War and State Aid After 1914

(a) *Britain's Food Supply in 1913.* "Is it not perilous for a nation to sacrifice its agriculture to the development of its industries, and thereby to become dependent upon the foreigner for the satisfaction of its most elementary needs?" (E. Halévy: *A History of the English People*, Pelican Edition, Vol. II, p. 11.)

In the 19th Century, and especially after 1846, Britain took that risk. Of the $4\frac{3}{4}$ million tons of cereals consumed annually in the last five years before 1914, less than one million was grown in Britain. Of the meat consumed, two-fifths came from overseas. (For detailed figures, see A. W. Flux: "Our Food Supply Before and After the War," in *Journal of Royal Statistical Society*, 1930, p. 541.) The pressure of a growing urban population against the means of subsistence had been eased by pushing production far afield in the low-cost areas of the new continents, an arrangement happy enough so long as ocean traffic was safe.

(b) *War.* By 1915 losses of ships from enemy action were mounting, and the Government set up a committee under Lord Milner to consider the prospects of increasing domestic food production. Its report formed the basis of Government policy in 1916-17 when the intensified U-boat campaign threatened Britain with starvation and defeat.

As in the Napoleonic Wars, major efforts were directed to the expansion of arable farming. County Committees, set up

under the direction of the Board of Agriculture, had authority to direct farmers and allocate scarce labour and materials, and though an all-out "ploughing-up" policy was not officially adopted until 1917, it produced a wheat crop in 1918 some 60 per cent above the average of the ten pre-war years. With direction went guaranteed prices. The Corn Production Act, 1917, fixed minimum grain prices, stabilized rents, and set up wage-fixing machinery. (For some suggestive comparisons between 1801-15 and 1914-18, see Ernle¹ or Venn.²)

(c) *The Post-1918 Slump.* In 1815 the Government sought to assure agriculture of remunerative prices by means of a protective Corn Law. The same aim is evident in the Agriculture Act of 1920 which provided for minimum prices, but with important conditions. In return for guaranteed prices the farmer was required to observe minimum standards of husbandry, and to pay wages in accordance with scales promulgated by the Agricultural Wages Board. In fact it was the first peacetime approach to "a policy for agriculture."

The price-fixing section collapsed immediately as market prices fell and the State was unwilling to undertake wholesale subsidizing of home grain production. To compensate farmers, wage-fixing was temporarily suspended. The high prices through the War and down to 1920 had attracted new men and capital into farming, and the mounting roll of bankrupts after 1921 told its own story. The staple branches of British agriculture reverted very much to their pre-1914 condition, a tendency illustrated by the renewed decline in the arable acreage. (Figures in Venn.³)

(d) *The Revival of State Action.* The abandonment of the main terms of the Agriculture Act looked like a return to *laissez-faire*. But from the mid-1920's Government action gradually became more positive. The Agricultural Wages Act of 1924 restored wage-fixing, the infant sugar-beet industry received subsidies from public funds, fresh legislation sought to promote small-holdings, further derating of agricultural land came in 1928, State-sponsored corporations offered credit to

¹Ibid., Chapter XX.

²*Foundations of Agricultural Economics*, Part II, pp. 511-15.

³Ibid., p. 483.

the increased number of owner-occupiers, and by the late 1920's organized grading and marketing were beginning in Britain on lines already familiar overseas.

The decisive turn in policy came in the years about 1930, when, as we shall see in other matters, the State's attitude to economic affairs took on something of the Mercantilism of earlier centuries. The key to the change is the world depression of those years and the world-wide tendency towards economic nationalism. By 1932 Britain was decisively committed to a policy of controlling imports, and by extending subsidies and organized marketing the Governments of the 1930's sought to assure the main branches of agriculture of a remunerative existence. On strictly economic grounds it was a costly policy and keenly criticized. Its defence, however, involved other considerations, not least the uneasy international situation and the threat of a possible repetition of the near-starvation of 1917.

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CHAPTER 4

TRANSPORT

IN this Chapter we shall deal with canals, roads, railways and ocean shipping, concentrating mainly on the economic significance of each and on the attitude of the State towards their construction and management.

Before the Railway Age

The railway played no significant part in Britain's economic life until the late 1830's, a generation after Trevithick had demonstrated the practicability of a steam locomotive running on lines. Two broad explanations have been advanced for this lag. It is said that Trevithick and his contemporaries encountered an impasse of track problems. (C. E. R. Sherringham : *Economics of Rail Transport*, Vol. I, p. 166.) Clapham¹ adopts a different approach when he makes his foreign visitor to Britain speak of "the perfection of the means of transport and travel" in the first third of the 19th Century. It is certain that contemporary opinion had changed since the early 18th Century when travellers wrote in feeling terms of the execrable roads, and when the great task of improving and extending the inland navigations had only just begun. The suggestion, therefore, is that coastal shipping, canals and roads had in fact kept pace with the requirements of the country's economic life, and that railways did not come until the 1830's because they were not needed before.

WATER TRANSPORT

"In the seventeenth century England became water conscious." (C. R. Fay : *English Economic History*, p. 118.) In the two studies cited below, Dr. Willan shows how river and coastal shipping combined in that and the next century in handling much of the mineral and agricultural traffic of the

¹*An Economic History of Modern Britain*, Vol. I, p. 75.

land, offering cheap rates over long distances, providing an escape from the increasing restrictions on road vehicles, and permitting the flow of food and fuel to keep pace with the rising population of London. Without any notable advances in engineering skill, the Britain of 1660-1760 improved its waterways and significantly reduced the areas monopolized by road transport.

These improvements point to the canal age. In working on rivers the engineers widened their experience of hydro-mechanics and strengthened the main arteries into which the network of canals could be fitted. The canal-building era stretched from 1759 to about 1830 when "the construction of the original—that is, with few modifications, the existing—British canal system was all but complete." (Clapham.¹) After the success of the Bridgewater Canal from Worsley to Manchester (1761) canals came fast as the demand for heavy minerals rose and the secular fall in interest encouraged borrowing, and by the canal mania of the early 1790's, when interest rates touched a very low level, the techniques of canal financing and construction had markedly developed. In England the rectangle cornered by London, Bristol, Liverpool and Hull was furrowed by navigable waterways, providing transport not only for minerals, building materials and bulky foodstuffs, but also for the pottery of Staffordshire and the light-metal wares of Birmingham. In Scotland the Forth and Clyde Canal had by 1790 fulfilled an old Scottish ambition in linking the Atlantic with the North Sea, whilst the shorter Monkland Canal tapped the coal and iron ore of Lanarkshire, thus providing the proprietors there with a direct outlet to Glasgow and the Clyde.

THE PLACE OF CANALS IN THE INDUSTRIAL REVOLUTION

Dr. Fay has summarized the "services" of canals (*Great Britain from Adam Smith to the Present Day*, p. 186) under four headings:—

(a) "They valorized Great Britain's industrial hinterlands." They helped to break down the handicaps of distance, thus tending to widen markets and even out the competitive power

¹*An Economic History of Modern Britain*, Ibid.

of different regions. More specifically they rectified local fuel shortages and led to the development of coalfields remote from natural navigable waterways.

(b) "They provided a cheaper form of transportation." According to Jackman¹ canal carriage was "in most cases only one-quarter to one-third of the cost of land carriage." The fame of the Bridgewater Canal arose from the reduced price of coal in Manchester. In fact, they were complementary to the roads, carrying loads beyond the capacity of road surfaces or road vehicles.

(c) "They helped to distribute population" and "gave elbow-room for industrial expansion."

(d) "They offered a new field for the exercise of engineering talent." The experience of the canal engineers, Brindley, Telford and their contemporaries, became the text-book learning of the railway builders of the 19th Century. To this we may add that they provided a laboratory for experiment in the financing of public utilities, and accustomed a relatively wide range of people in the provinces to the idea of investing in transferable non-government securities.

THE DECLINE OF THE CANALS

Apart from the Manchester Ship Canal no important canal has been cut in Britain since the opening of the railway age, and a great many have degenerated into anglers' haunts. As in the preceding section, we must compress an involved topic into what it is hoped are suggestive headings.

(a) Canal transport suffers inherent limitations, especially of speed and mobility. It is arguable that these limitations might have been reduced in Britain by clearer foresight and perhaps national planning. But canals were often local undertakings, promoted and planned as local requirements dictated, and the rôle of the State was confined to the granting of powers to private undertakers by Act of Parliament. Accordingly canals varied in section, were discontinuous, and lacked both size and strength to handle the economic power-driven barge of the later 19th Century.

¹*Development of Transportation*, Vol. 1, p. 449.

(b) Canal transport succeeds best in long hauls over flat country. No major industrial area in Britain is as much as 100 miles from the coast. Hence British canals never reaped the benefit of long hauls and were in fact subject to competition in many regions from coastal shipping. The surface of Britain is essentially irregular in relief, and particularly in the important Lancashire-Yorkshire industrial zone the efficiency of canals was reduced by a multiplicity of locks and tunnels. North of the Leeds-Bradford area relief made construction virtually impossible, and consequently the North of England turned at an early date to railways.

(c) The canal companies provided a waterway, and were not themselves public carriers. The canal carriers acquired a bad reputation for charges and service, and neither they nor the canal owners made any real attempt to improve facilities until railway competition was upon them.

(d) With this competition most canal undertakings collapsed, and the excellent dividends of the 1830's were evaporating by the mid-'40's. A few well-sited and well-constructed navigations, such as the Aire and Calder, kept busy; some, such as the canal from Taunton to Tiverton, fought losing rate-cutting battles against the rival railways (E.C.R. Hadfield: "Canals Between the English and Bristol Channels," in *Economic History Review*, 1942); most quickly succumbed to tempting offers or the threat of war to the death. By the late 1840's a very substantial mileage of canal was owned by the railway companies, and as this mileage included many of the main arteries it gave the railways the power to starve the still independent arteries and minor waterways.

ROADS

Early Hanoverian Britain inherited a twofold road problem: in part administrative, in part technical. The condition of roads varied from parish to parish, or, perhaps more accurately, from one geological formation to another, and with the growing animal and goods traffic of the 18th Century surfaces disintegrated into seas of mud or drifts of dust according to district and season. Over wide areas the problem was aggravated by the fencing of open fields and commons during

the enclosure movement of the second half of the century which resulted in a restriction of movement to the official highway.

An obvious need was a unit of administration larger and wealthier than the Parish, and though no such general reform was accomplished until the late 19th Century, the establishment under Private Acts of Parliament of a series of Turnpike Trusts did provide uniform administration for substantial stretches of main road. Yet, like the canals, the turnpikes were regional enterprises, and, apart from the provision of a few strategic roads in Scotland, the 18th Century had nothing approaching a national road policy. The first thirty years of the 19th Century saw several Parliamentary inquiries into the possibility of consolidating the privately-owned turnpikes into trunk roads, but with the coming of railways the turnpike trusts gradually lapsed and roads generally reverted to parochial management. From then until the establishment of the County Councils in 1888 and the rebirth of road transport in the early 1900's, highway maintenance remained a very haphazard local concern.

Turnpikes began in the later 17th Century and preceded the age of scientific road construction ; indeed some of them were notoriously bad roads. Highway engineering, apparently a lost art in Britain since the withdrawal of the Romans, revived after 1760 with three outstanding personalities. John Metcalf, a blind Yorkshireman, devoted thirty years to road-building in Yorkshire, Lancashire and Cheshire. Before long two Scotsmen, Thomas Telford and J. L. Macadam, were between them enunciating and demonstrating scientific principles of road foundations, surfaces and drainage. With them and their contemporaries engineering acquired new techniques for civilian uses, and the profession of civil engineer secured a distinct status.

Throughout the 18th Century Parliament had sought to preserve road surfaces by laws regulating the weight of vehicles and the width of wheel treads. The new generation of road builders sought to reverse this policy by making the road suit the vehicles, and consequently vehicle design leaped ahead. By the early 19th Century road transport was both swifter and surer than a century before. The stage coach " which gave

the same impetus to road improvement as the motor car is giving today" (G. D. H. Cole: *Persons and Periods*, Pelican Edition, p. 82) had largely replaced the horse for private travel. To cope with the needs of business, Palmer's fast mail coaches were setting up new standards in postal services. For conveyance of goods the wagon had superseded the pack-horse.

Like canals, the improved roads made for greater mobility of goods and people. But equally like canals, they touched only particular regions and suffered the same limitations of the carrying capacity and speed of the conveyances using them. Both belong to the "Horse Age" in the history of inland transport.

Railways

THE EXPERIMENTAL STAGE

The ancestor of the modern railway is the colliery tramroad of the 18th Century. To ensure easier conveyance of coal from pit-head to canal or coast, mine-owners, especially in the North of England, laid down wood or wood and metal rails along which horse-drawn wagons moved with comparative efficiency. By the end of the 18th Century the construction of these tramroads was already reflecting the growth of the iron industries by the adoption of solid cast-iron rails and wheels with a flange on the one or the other. So metal rail tracks considerably preceded steam locomotion.

Locomotion was experimental down to the 1830's. Before 1815 Trevithick, Stephenson and Blenkinsop had demonstrated practicable steam locomotives, but promoters and engineers remained sceptical until the convincing trial runs of Stephenson's Rocket in 1829. Even after that, horses were still used on some lines, and stationary engines were common to haul trucks up the stiffer inclines. Similarly engineers disputed over the pattern of rail and the rival merits of cast and wrought iron, and down to 1846 no serious attempt was made to standardize gauge. Thereafter the "standard" of 4ft. 8½in. was generally adopted, though the Great Western Railway persisted with its broader gauge until the closing years of the century.

The ultimate place of railways in the country's economic

structure was equally uncertain. The early promoters were mostly traders and manufacturers, and influential groups, especially among the landowning classes, were neutral or frankly opposed. In view of their ancestry it was generally expected that railways would concentrate on goods traffic and the success of the Liverpool and Manchester line with passengers failed to destroy completely a widespread belief in the risks and horrors faced by the railway traveller, "smothered with smoke," his "gob full o' dust" and his "peepers full o' cinders." (The carrier's account of his one railway journey in Neil Bell's novel, *The Handsome Langleys*.) By the 1840's these doubts and uncertainties were being resolved, and it then became clear that the railways would revolutionize both economic and social life.

CREATION AND EXPANSION OF THE RAILWAY NETWORK

The railway as we know it began with the Stockton and Darlington line in 1825 and the Liverpool and Manchester in 1830. Their success ushered in the first British "Railway boom," resulting by 1838 in the "production of something like 500 miles of operating public locomotive railway, of which the London and Birmingham and its continuations up to Preston . . . accounted for nearly one-half." (Clapham.¹) Recession, bordering on crisis by the late 1830's, checked promotion, but construction of authorized schemes went ahead until by 1843 nearly 2,000 miles were in use. This first boom had bred a body of professional railway promoters and engineers, and they, the Hudsons and Stephensons, were waiting for new opportunities. Conditions became favourable again by the mid-40's. In 1843-46 Consols hovered about par for the first time since 1754 and as in the mid-1830's investors looked for better returns. (For the annual yield on Consols from 1753 to 1933, see G. F. Warren and F. A. Pearson: *Gold and Prices*, p. 403.) Opponents of railways were ridiculed in the Press and had fallen back to the last ditch of petitioning against Sunday trains. Railway magnates exercised political influence, and Hudson himself became an M.P. in 1845. So the stage was set for a second and greater boom. Mr. R. J.

¹*An Economic History of Modern Britain*, Vol. I, p. 387.

Cruikshank has revived from the pages of the *Daily News* the popular and Press excitement of 1845-6 when "hundreds of companies were floated to finance thousands of miles of new track. Prospectuses swarmed at such a rate that the newspapers could not print them . . . nothing like it had been seen since the South Sea Bubble." (*Roaring Century*, p. 45.) In 1846 alone 4,538 miles of new track were authorized, and by the end of 1848 4,646 miles were in use. In this brief period almost all the present main lines were mapped out, though much of the projected mileage took years to complete, for the boom collapsed with revelations of gross financial irregularities. The phrase "to cook accounts" seems to have been coined by one of George Hudson's staff!

By 1870 the main lines of today were virtually complete, and total mileage had risen to 13,562. Henceforth construction turned mainly to intensifying the network in industrial areas, tying together hitherto disconnected systems, and defeating by tunnel or bridge such great natural obstacles as the Severn, the Forth and the Tay. Simultaneously the companies, notably the Midland, worked towards safer and more comfortable travel. The "block system" of signalling spread after 1870, the Midland had enclosed carriages for third-class passengers on all trains after 1872, and automatic continuous braking became compulsory on passenger trains after 1889.

FINANCE OF RAILWAY BUILDING

Railways inherited from canals a considerable experience in the technique of promotion, and like canals the earliest railways were local enterprises backed by local business men. Behind the Stockton and Darlington stood Edward Pease, a Darlington manufacturer, and behind the Liverpool and Manchester Joseph Sandars, a Liverpool corn merchant. These local magnates, many of them Quakers, formed the core of early railway promotion, and having secured the necessary Parliamentary approval they engaged contractors and salaried engineers.

By the time of the railway booms of the 1830's and 1840's the whole business had become professionalized, with engineers and contractors co-operating in promotion. Money was sought

in the wider pool of savings, and capital became anonymous. Despite the frequent examples of low commercial morality and the unwise activities of such financial intermediaries as the Glasgow Exchange Banks, this phase of railway financing inevitably created a new public attitude towards investment. For the first time in British history the English provinces played a leading financial rôle, as when most of the £5 million needed by the London and Birmingham line was raised in Lancashire. Similarly investment in non-government negotiable securities touched fresh groups. From something of a gamble in the 1840's railway stock became in twenty years a sober investment, the ideal security of the family lawyer and the middle-class man of property. (On the role of the middle-classes in economic development in general, see R. Lewis and A. Madge : *The English Middle Classes*.)

RAILWAYS AND THE STATE.

“ The attitude of Governments to railways may be described as positive or negative . . . the negative attitude is English . . . interference takes the form of legislating against certain possible evils, not of planning general schemes for harmonious progress . . . controlling evil rather than promoting good.” (Cleveland-Stevens in 1915.¹)

Every railway promotion and amalgamation involved an Act of Parliament and Parliament had long experience of similar authorizations from the days of turnpikes and canals. But once it became apparent that railways were to produce more far-reaching effects on social and economic life, further State intervention was inevitable. For clarity's sake we shall consider this intervention under three headings :—

(a) *Ownership*. The nationalization which became effective in 1948 was advocated in Parliamentary debates in 1836, and the case was powerfully argued in succeeding decades by Chadwick and Bagehot. Under Gladstone's Railway Act of 1844 the State acquired the option of purchasing lines authorized after that year and after twenty-one years of private ownership. Lines authorized before 1844 were excluded from the option, and the purchase of others would have been piece-

¹*English Railways, Their Development and Relation to the State*, pp. 61-62

meal as the private owners' term expired. In fact there was no general public support for State ownership, and no impelling military considerations such as those which influenced the attitude of Continental governments. Accordingly, a Royal Commission in 1865-7 recommended that no action be taken on the State purchase option. No action was likely in Britain until the theory of State ownership had been adopted by a major political party and endorsed by a General Election.

(b) *Amalgamation.* Railway amalgamations go back to the mid-1830's, and became a subject of general interest in the railway world by 1844, when, under the powerful direction of George Hudson, Carr Glynn and Mark Huish, amalgamation proceeded almost *pari passu* with new promotion, leading within a few years to the creation of such major blocks as the Midland and North-Western.

If carried far enough amalgamation meant regional monopoly, especially as it coincided with the absorption of the main canals into railway ownership. Each major wave of amalgamation therefore roused Parliament to inquiry. Committees considered the question in 1846, 1852-3 and 1872, and for two brief periods, 1845-6 and 1846-51, "permanent" boards were responsible for examining amalgamation projects and reporting to Parliament. As Parliament consistently refused to delegate its power of final decision or to accept any rigid guiding principle, its attitude to amalgamation appears inconsistent and certainly defies easy definition until 1873. Then, by rejecting two important amalgamation bills, it virtually scotched legal amalgamation.

It did not, however, kill informal amalgamation, for railway managements, already meeting officially in the Railway Clearing House, devised new arrangements for eliminating competition by pooling receipts and fixing rates. This in turn led to official inquiry, and the report of a Departmental Committee in 1909-10 which stressed the public benefits of "a properly regulated extension of co-operation rather than a revival of competition" (Report, 1911, p. 40) indicated a significant change in the trend of official opinion, paving the way for wartime control and the Railways Act of 1921. By this measure the railways of the United Kingdom were welded

into four groups; the North-Eastern, the London, Midland and Scottish, the Great Western, and the Southern. Over much of its territory each had a monopoly, though competition survived along some heavy traffic flows. Monopoly, however, became subject to official regulation through new machinery for rate-fixing and wage-determination.

(c) *Services and Charges.* By legislation of 1840 and 1842 the Board of Trade acquired specific though limited powers to inspect railways and authorize railway by-laws, mainly in the interests of public safety. The more important Railway Act of 1844, to which we have already referred, though an emasculated version of Gladstone's original proposals, stipulated a minimum passenger service on every line with a third-class fare of a penny a mile (hence the "Parliamentary Trains" of Victorian humorists), provided for the conveyance of mails and troops, and included an abortive section enabling the Treasury ultimately to control the profits of lines authorized after 1844.

By the 1850's, as we have seen, concern was growing about the monopolistic tendencies of railway undertakings, and attention focused on preferential charges. An Act of 1854, commonly called Caldwell's Act, contained a clause on this subject, seeking to prevent the granting of "undue or unreasonable preference" to any particular persons or commodities, but until the establishment of the Railway Commission in 1873 no central authority existed with any real power of surveillance. The functions of this body expanded after the Railway and Canal Traffic Act, 1888. Under this Act railway companies were required to submit to Parliament revised schedules and classification of goods, and after much bargaining these were confirmed and became effective in 1893. As these involved, in many cases, higher rates than those prevailing down to 1892, traders prophesied ruin and pressed Parliament for some modification. Accordingly, fresh legislation of 1894 restricted companies to the rates in operation in 1892 except where increases were authorized by the successor of the body set up in 1873, now called the Railway and Canal Commission.

In short, the rates of 1892 became the effective maxima for

the future, and the whole structure of railway charges became highly rigid. Meanwhile costs rose as Parliament insisted on more adequate safety devices, taxation increased and labour pressed for higher wages. The Railway Strike of 1911 precipitated the issue, and in 1913 the Railway and Canal Traffic Act authorized the Commission to sanction an all-round increase in charges to offset higher costs.

For the seven war and immediate post-war years the railways operated under close State supervision with a State guarantee of revenue. As we have seen, the outcome was the consolidation of companies into four groups under the Act of 1921. It also established a new Railway Rates Tribunal with wide regulative functions, including the fixing of fares and rates, the classification of merchandise, and control of "exceptional rates" quoted to individual traders; in short, public regulation of private regional monopolies. (See W. M. Acworth: "Grouping under the Railways Act, 1921", in *Economic Journal*, 1923.)

(For an entirely different approach to this problem of railways and the State, see L. A. C. Knowles: *Industrial and Commercial Revolutions*, Part V.)

The Revival of Road Transport

In any case these regional monopolies were soon to be destroyed by road transport. The internal combustion engine possessed in its high power-weight ratio a quality lacking in all previous engines, and the Daimler engine of the early 1890's was "recognizably the same machine as that which drives the modern car." (F. Sherwood Taylor: *The Century of Science*, p. 42.) Dunlop had already invented the pneumatic tyre in 1888, and by 1900 both the Anglo-American and the Shell organizations had specially constructed "tankers" for the conveyance of mineral oil. (See A. C. Hardy: *Oil Ships and Sea Transport*.) There remained certain legal restrictions and the handicap of neglected road surfaces, but by the early 1900's the motor car was legally tolerated and the County Councils were working on the main roads.

Already by 1914 the motor car was well past the novelty stage and becoming a utility vehicle. The war, by 1917-18,

had become a conflict of rival internal combustion engines mounted in tanks and aircraft, and inevitably the post-war years saw a transport revolution. In 1919-21 private motor cars in Britain increased some five-fold, and within a few years motor omnibuses and lorries had broken the railway monopolies and undermined the whole structure of railway finance. The railways had, as we have seen, developed a system of charging based on a schedule of merchandise resting fundamentally on the theory that the more valuable the commodity the heavier transport cost it can "bear." Motor transport charges, on the other hand, were based primarily on the cost of conveyance irrespective of the value of the load. Consequently the railways tended to lose their better-class goods traffic, whilst simultaneously and for obvious reasons their short-distance passenger traffic fell to the ubiquitous bus companies.

State action, proceeding on the assumption that the railways must be retained in the interests of both national economic life and national security, assumed two main forms :—

(a) Enabling the railways to invest in road transport undertakings and provide their own road services. Hence the absorption of Pickfords and Carter Paterson by the railway companies.

(b) The establishment in 1930 of the Traffic Commissioners to regulate the issue of licences to new road transport undertakings. After 1930 the expansion of commercial road transport was severely restricted, and the granting of new licences was frequently conditional on the provision of specified services or the charging of specified fares.

Except under war conditions, however, public control over road transport was virtually confined to limitation by licensing until the passing in 1947 of the Transport Act by which the State secured powers to take over and operate the main road transport undertakings.

Shipping

As constant reference will be made in the next chapter to the function of shipping, we confine ourselves here to two aspects.

THE TECHNICAL DEVELOPMENT OF THE MERCHANT SHIP

The steam-driven steel ship evolved from the inventions of Cort and Watt. With the invention of puddling it was possible to supply wrought-iron plates and angles for the construction of boilers and large tanks, and "it was the art of boiler-making which led to the art of iron-shipbuilding." (E. C. Smith: *History of Naval and Marine Engineering*, p. 95.) The art was quickly learned, for John Wilkinson built a wrought-iron barge, the "Trial," in 1786. The next year Wm. Symington, a Scottish engineer, began work on a marine steam-engine, and early in 1802 the "*Charlotte Dundas*," "the first successful steamer," was making her trials on the Clyde. (Kirkaldy.¹)

The iron ship had evident advantages. It had greater cargo space than the wooden ship of similar overall dimensions, it enabled shipbuilders to contemplate a new range of sizes, and it could better withstand the stresses and vibrations set up by steam propulsion. Yet "of the 3,400,000 tons of sailing ship and the 170,000 tons of steamers registered under the red ensign in 1850, only a very tiny proportion was iron-built" (Clapham²), and that in a country for centuries deficient in timber. There was still a strong prejudice in favour of wood, especially in Admiralty and insurance circles and among the shipyard workers. (The old shipwright in George Blake's novel, *Constant Star*, met the challenge of iron with "the feck of us'll no' be haulden wi' thir new-fanglet weys o' daen'.") There were doubts about the behaviour of the compass in iron ships and a few disasters gave evidence for the sceptics. Accordingly the great age of wrought-iron shipbuilding was delayed till 1860-80. Then, after another clash of opinions, steel replaced iron.

In the 1840's and 1850's, the last decades of the supremacy of wood and sail, the North Americans with their abundant timber seriously challenged British shipbuilders. The American "Clipper" of the pre-Civil War years epitomized efficiency in wood and sail, and so long as the steam-engine was heavy on fuel and coaling stations were rare, sail continued to dominate the shipping world. Events of the 1860's proved decisive.

¹*British Shipping: Its History, Organization and Importance*, p. 43.

²*An Economic History of Modern Britain*, Vol. II, p. 64.

With the Civil War the United States turned from ship-to railway-building, and the opening of the Suez Canal in 1869 created a major ocean route virtually unusable by sailing ships. The joint triumph of steam and iron meant the triumph of British ship-building, for no other country in the third quarter of the 19th Century had comparable heavy-engineering facilities. Of the shipping entering British ports in 1860, 56 per cent was British-owned. By 1870 it had risen to 68, and from 1880 to 1895 it never fell below 70.

SHIPPING AND THE STATE

We shall see in the following chapter how from the 14th Century onwards, and with increased vigour from the mid-17th, Britain sought by a series of Navigation Acts to restrict certain trade to her own ships, thereby seeking to stimulate her ship-building industries. With the repeal of these laws in 1849-53, premature as some thought but none the less final, British shipping was for some sixty years "completely free from Government control except for the safety regulations imposed by the Board of Trade and the requirements laid down for the protection of seamen." (L. A. C. Knowles: *Industrial and Commercial Revolutions*, p. 313.) It is true that in important matters — marine insurance, provision of docks and harbours and the like — shippers had to rely on private undertakings or local corporate bodies, yet over a wide range of services shipping always drew some sustenance from the State. In war the Navy was available for convoying, naval expeditions rooted out nests of pirates on the North African coast and cleared routes for merchantmen in the Far East, and the Brethren of Trinity House and the Commissioners of Northern Lights illuminated the approaches to harbours and inlets.

Direct assistance, however, lapsed until the 20th Century. In the early 1900's Parliament gave limited financial aid to enable particular British lines the better to compete against State-subsidized foreign rivals, but this foreign rivalry did not assume threatening proportions until after 1918. A greatly increased global tonnage was then competing for a volume of carrying trade which remained obstinately stagnant by pre-1914 standards, and meanwhile the United States had risen

again as a close rival to Britain. To aggravate the condition, the world slump of 1929-31 bit still deeper into the torn flesh of Britain's merchant marine. The outcome was a moderate measure of State aid in the form of a temporary subsidy to tramp shipping and a favourable State loan to the Cunard Company to permit the building of the "*Queen Mary*" and the "*Queen Elizabeth*."

Social and Economic Effects of the Revolution in Transport

As much of the remainder of this book turns upon this theme it suffices here to draw attention to Part IV of the late Professor Knowles' *Industrial and Commercial Revolutions*, in which the effects of mechanical transport are analysed in detail under the following headings :—

(a) The change in the relative importance of regions and countries.

(b) The change in the relative importance of commodities.

(c) The emergence of new commercial and financial organizations.

(d) The recasting of social life resulting from greater mobility of goods and people.

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CHAPTER 5

COMMERCE AND COMMERCIAL POLICY

“ The Petition . . . Humbly sheweth . . . That foreign commerce is eminently conducive to the wealth and prosperity of a country, by enabling it to import the commodities for the production of which the soil, climate, and industry of other countries are best calculated, and to export in payment those articles for which its own situation is better adapted.” (*The Free Trade Petition of 1820.*)

THIS Chapter falls into two closely related halves. In the first the aim is to trace changes in the nature, pattern and organization of Britain's foreign trade. In the second we begin with the still bright embers of mercantilism, pass through the Victorian epoch of free trade and conclude with the neo-mercantilism of the 1920's and 1930's.

Developments in Overseas Trade

OVERSEAS TRADE IN THE LATER 18TH CENTURY

(a) *Colonial.* “ Britain began in this century to reap the fruits of its new location. By the year 1763 it stood at the centre of widely spaced imperial possessions, in India, in the West Indies, in North America, in West Africa and in the Mediterranean, and, further, it had achieved world ascendancy in naval power and maritime commerce.” (W. G. East in H. C. Darby [Ed.] : *An Historical Geography of England before 1800*, p. 501-2.) The creation of this enviable situation makes up some of the more spectacular pages of British history. By force of arms Britain had occupied extensive areas capable of growing tropical and sub-tropical crops. Through the Navigation Acts, backed by naval power, she had monopolized trade between these areas and Europe and already rivalled the Dutch as the world's leading ocean carrier. Contemporary statesmen set high value on these exclusive trading territories. West Africa supplied slave labour for the West Indies. Slaves and British

manufactures paid for the sugar and rum from the West Indies and the tobacco from the American mainland colonies. Thus trans-Atlantic trading assumed a triangular pattern with British west coast ports at one corner, West Africa at the second and the West Indies at the third. From the Far East the East India Company brought tea, spices, silks and dye-woods. The return trade was less satisfactory, for India was not yet a major British market, so there was ample room in outgoing vessels for the constant stream of human replacements for "John Company's" service.

(b) *European*. Because this colonial trade was conducted so largely by great chartered companies and because it involved military and naval activities, it has tended to obscure the older and, in the aggregate, greater trading with the European continent. The industrial and urban development of late 18th Century Britain was possible only by imports of timber, iron, hemp and flax from the Baltic, cotton from the Levant, wool from Spain, and, in poor British harvests, wheat from France or East Europe. To balance this trade Britain exported her manufactures, wool cloth, hardware and pottery, and re-exported a substantial part of her imports of colonial produce. (On the importance of this European market to the "Black Country" see H. Hamilton: *English Brass and Copper Industries*, p. 292.)

(c) *18th Century Seaports*. In 1700 London handled 80 per cent by value of the country's total recorded imports and 74 per cent of the exports. For 1790 the corresponding figures are 70½ per cent and 56 per cent. (Figures quoted in Darby: *op. cit.*, p. 543.) London's dominance rested on its great population and internal market, the strength of the "City" in mercantile finance, its fine location for re-exports to the Continent, and the concentration within it of the main activities of the great chartered trading companies.

Ocean traffic was highly seasonal, and, as its volume increased congestion in the Thames, became more acute. Furthermore, by the late 18th Century the economic centre of gravity was shifting towards the coalfields of the Midlands and North. Accordingly London's hegemony, especially in exports, tended to weaken. By the early 18th Century Bristol already rivalled

London in the slave trade, but as the century went on and roads and canals provided new lines of internal communication, Bristol in turn was overshadowed by Liverpool. Liverpool, beginning as an outpost of Chester, grew through active participation in the "Triangular" trade, through the rise of the cotton industry in its immediate hinterland, and through its waterborne trade with the Potteries and Black Country.

Elsewhere in the North increasing mercantile activity can be traced in harbour construction and river improvement. Hull's first dock was begun in 1775. Glasgow, a rival to Liverpool in the colonial and raw cotton traffic, secured its first Act for improving the Clyde in 1759. The great civil engineers Telford, Rennie, Smeaton and Golborne, were indeed in active demand by municipalities and harbour authorities almost everywhere.

(d) *The Organization of Commerce.* We have already seen that trade with Europe had passed from the control of chartered companies. By the late 18th Century the East India Company was the one remaining important monopolist, and its monopoly was to be weakened in 1813 and destroyed in 1833. Individual traders, who replaced the companies, originally combined the functions of carrier and trader, buying goods outright, loading them on board ship, hoping to find a profitable market. This was, in fact, the time-honoured practice of "adventuring." There are late-18th Century examples of significant variants. Wealthy manufacturers sold direct to overseas customers, and by 1802 there existed a "Society of Shipowners," who were, apparently, carriers pure and simple.

Increased trade is reflected in the growth of marine insurance in this period and as in so many 18th Century activities the informal group plays a decisive part. Lloyds began in the late 17th Century as a coffee house frequented by merchants seeking and offering marine insurance. A hundred years later there was a little insurance business in northern ports, and in London some private underwriting in the Jamaica, Jerusalem and other coffee houses, but Lloyds predominated. The members had evolved a common form of policy, and their "List" and "Register" provided authoritative information on the

movement and details of vessels. (C. Wright and C. E. Fayle : *A History of Lloyds.*)

OVERSEAS TRADE IN THE NAPOLEONIC WARS

"The course of the Napoleonic Wars, with blockade and counter-blockade, made business a gamble." (G. M. Trevelyan : *English Social History*, p. 464.) On balance it was a successful gamble. Over the war period Britain's merchant tonnage increased, partly by captures from the enemy, partly because the relative superiority of the warship over the armed merchantman was not great by modern standards, and partly by the introduction of the convoy system in 1798.

Secondly, the conditions prevailing from 1793 to 1815 were less abnormal than those of 20th Century wars. The 18th Century was one of commercial warfare and trade embargo from which had emerged a race of skilful smugglers. They, and their European counterparts, pierced Napoleon's self-blockade of Europe. Certainly it was an erratic and dangerous trade, but on balance the Continental System had only a limited effect and virtually collapsed with the Russian campaign of 1812.

In the last resort Britain's trade depended on the British Navy, and after Trafalgar its supremacy was never in doubt. Accordingly Britain controlled all the trade with America, Asia and Africa except that still conducted in neutral United States ships. The result was a strengthening of Britain's already strong entrepôt position, with stocks of colonial produce mounting up in Britain for re-export to Europe whenever circumstances there permitted. Until 1798 statistics of trade were compiled on the basis of long obsolete "official" values, but from that year a concurrent series is available based on declared values, and it is then possible to judge more accurately the real importance of re-exports in Britain's overseas trading position. In 1814, the peak year, these re-exports represented well over one-third of the total exports of the country, and Britain's success in continuing this branch of trade in the face of difficulties simplified her task of meeting her military commitments in Europe and her subsidies to allies. (On the interpretation of trade statistics, see A. H. Imlah : "Real

Values in British Foreign Trade," in the *Journal of Economic History*, 1948.)

None the less the wars altered the pattern of British trade. In particular Napoleon's blockade emphasized the already considerable importance of American markets. Between 1805 and 1810 the Americas absorbed over half of the domestic products exported from Britain. Indeed, in many respects the Anglo-American War of 1812-14 was more damaging to British trade than the contemporary war on the Continent.

"THE WORKSHOP OF THE WORLD"

With peace Britain clinched her industrial leadership, and a marked degree of international specialization ensued. In this section we shall see how this was reflected in the commodities and direction of overseas trade from 1815 to the 1870's, and how the methods and organization of commerce reacted to developments in transport and communications.

(a) *The Commodities of Trade: Imports.* Down to the middle of the 19th Century timber was Britain's chief bulk import. Through the centuries Britain had imported naval spars and exotic furniture woods, and by the later 18th Century, with its house- and factory-building, loads of softwood for general use were coming from the Baltic. Then, with the political upheavals after 1793, Parliament set out to stimulate the Canadian timber trade by preferential duties, with such success that by the 1840's colonial timber imports were upwards of twice those of foreign. With the equalizing of duties considerations of distance reasserted themselves, so that within a generation four-fifths of the timber imports were again foreign, mainly Baltic.

After about 1770 textile fibres had occupied an increasing amount of shipping space. Raw cotton, in the 1780's still a mere twenty million pounds in weight, came mainly from the Levant and the West Indies. After 1815 American dominance was soon established, and by the 1820's imports were of the order of two-hundred million pounds, rising almost continuously to a thousand million by 1860, with three-quarters of the total from the United States. The Civil War of 1861-65 precipitated a "Cotton Famine" in Lancashire and a frantic search for

alternative sources. (See W. O. Henderson : *The Lancashire Cotton Famine*, and a graphic account in Thomas Armstrong's novel, *King Cotton*.) The search proved that no other area could grow in bulk the qualities required for Lancashire's mass production, and by the 1880's the United States were again sending their pre-war quota. The other main textile, wool, had come for centuries from British flocks, helped out by special qualities from Spain. After 1815, as consumption soared beyond home production, imports came from Germany until the opening of Australian and South African ranching. By the 1850's these imperial sources had decisively replaced the Continental.

Among food imports sugar always figured prominently, and the West Indian sugar interests formed a powerful *bloc* in 18th Century political life. As late as the 1820's sugar still rivalled cotton as Britain's costliest import, and in the 1860's it was exceeded only by cotton and grain. But the outstanding feature of 19th Century food imports is the rising relative importance of wheat and flour. In bad years 18th Century Britain imported a little ; in good years she exported. Despite the growth of population the Britain of the 1820's was still roughly self-supporting in bread grain. Thereafter imports became greater and more regular. After 1838 imports of wheat never fell below a million quarters a year ; after 1848 only once below four million. This clear transition from a "balanced" to a "specialized" economy may be regarded as complete by the 1880's, when one-half of Britain's bread was made of imported grain, and grain and flour cost more than any other single imported commodity.

(b) *The Commodities of Trade : Exports*. The maintenance of a specialized economy of this kind involved great exports of goods and services, and the buoyancy of mid-Victorian Britain was founded upon the comparative ease with which she could sell the products of her advanced industrial equipment. Both specialization and leadership are illustrated by the volume of cotton goods exports. As early as the 1820's cotton goods alone made up exactly one-half of the value of Britain's visible exports. Never, save perhaps in Japan a century later, has a great nation come to rely so quickly on one export industry.

And that key rôle was remarkably well sustained, for in the 1880's cotton manufactures still made up one-third of British exports, and textile goods as a whole nearly one-half.

So 19th Century Britain remained what she had been for centuries, a textile exporting nation. Similarly raw and near-raw materials occupied a prominent place though the composition of the group changed. In the 1820's bar iron, china clay, a little coal and some non-ferrous metals were the main items in an assortment representing one-sixth of the total export value. Coal alone had risen to one-thirteenth by the 1880's and provided a bulky cargo to ease freights on bulky imports. Railway metals, and similar semi-finished capital goods, pursued a jerky upward course to a high level about 1870. Much of this trade was obviously associated with British capital investments overseas, though the exact relationship awaits elucidation.

The mass production of machines began only with the generation after Waterloo; Maudslay was born in 1771, Nasmyth in 1808, Whitworth in 1803. In consequence the export of finished machines began late, and was in fact illegal except under licence down to 1843, though there was much evasion and smuggling of components and machine tools. With the lifting of the ban, exports of "machinery and millwork" rose steadily in value and by the early 1880's were worth about the same as those of coal. Miscellaneous finished goods, cutlery, hardware, pottery and glass, similarly increased in export value, but in this period never attained more than a small fraction of the total. In short, whilst Britain, especially in the 1850's and 1860's, was busy equipping other lands with capital and capital goods, her prime function was still that of clothing men and women of every race and colour.

(c) *The Organization of Commerce.* The changes in organization which, as we have noted, were apparent before 1815, were sharply accelerated by the advent of railways, steam-ships and ocean cables. In old commercial practice replacements came slowly and stocks were of necessity heavy. With steam transport, helped after 1869 by the shorter Suez route to India, smaller stocks and quicker turnover were possible. Similarly the hazards of trade were reduced by the laying of ocean cables

in the 1860's whereby the world markets came nearer to the economist's idea of "perfection." Information about crops, prices and shipments was henceforth common to the commercial world, and especially in commodities where exact grading was possible, dealing in "futures" became accepted commercial practice. (S. Dumbell: "The Origin of Cotton Futures," in *Economic History Supplement to Economic Journal*, 1927.)

On the export side the ancient method of "adventuring" all but died out and the newer method of "consignment" declined. In place of the elaborate chain of advances by factor to maker and shipper to factor, "working to order dominated the export trade" (Clapham¹). So generally the manufacturer could shift the risks of overseas trading on to the merchant, and especially in capital goods there was no real risk at any point, for manufacture would not begin until the contracts were signed.

The financing of international trade revealed Britain's mid-19th Century stature. A writer in *The Economist* for 1851 says: "Practically speaking, England gives long credits for her exports, while the imports are paid for in ready money." The commercial life-blood of the age was the "bill on London," an international currency, honoured by merchants and bankers everywhere, and reinforced by the presence of British representatives or agents wherever trade was worth while. (See below, p. 183.)

~~INTERNATIONAL COMPETITION SINCE THE 1870'S~~

(a) *New Factors in International Economy to 1914.* International specialization was never perfect, and by the 1870's Britain's industrial leadership was threatened. Inevitably the Germans developed their great human and material resources. Emigration of men and money supplied the factors of production lacking in North America. After a generation of flirting with free trade, Continental Europe and the United States turned back towards more resolute protection of their "infant" industries. Their domestic markets provided the basis for large-scale production, and towards the end of the century growing international rivalries stimulated State aid to armament and

¹*An Economic History of Modern Britain*, Vol. II, p. 314.

shipbuilding industries. The two salient factors in this new situation may be baldly stated:—

(i) World manufacturing was tending to increase faster than world trade.

(ii) Britain's share in world manufacturing fell.

The changing pattern of world economy was directly reflected in Britain's overseas trade. From 1873 to 1900 the average annual increase in the volume of exports was lower than in any comparable period in the 19th Century. In general, producer goods tended to occupy a bigger share, so that by 1910 the value of exported metal and metal goods, coal, machines and chemicals almost equalled that of textiles. These producer goods went particularly to those primary-producing countries with which Britain did increasingly more trade, especially countries within the Empire. In 1910 India was Britain's best customer, with Australia a good fourth. Germany and the United States came second and third. In other words the mid-19th Century trade pattern had been modified, but in no sense destroyed.

(b) *The 1914 War and Post-war Trade Depression.* In 1919, after a brief pause following the Armistice, the British business world looked to the future with great confidence; indeed, a writer in *The Economist* for that year forecast that the outstanding economic result of the war would be "a new lease of life for British trade." In the very short run there was some justification for that optimism, but by the mid-1920's exports of almost all staple industrial products were appreciably, and some drastically, below the 1913 level. Even then many thought that overseas markets were still suffering from post-war dislocation and that eventually the export industries would recover. In fact the pattern of international trade had changed decisively, but it took Britain ten years to discover it.

The new pattern revealed tendencies already apparent before 1914. The war had accelerated the industrialization of hitherto agricultural countries, so that, after 1918, they were increasingly capable of making such consumer goods as require relatively little industrial experience. Partly because of this, and partly through intense Japanese competition, the British cotton industry never recovered its 19th Century dominance

of exports. In 1910 textiles still made up 38 per cent of Britain's exports; in 1938 they made up only 25 per cent. Against this, over the same period exports of machinery, electrical goods, vehicles and chemicals rose from 14 per cent to nearly 40 per cent. Britain was concentrating more on the export of producer goods and of intricate mechanisms for which her long industrial experience still gave her relative advantages.

Similarly the changed direction of trade was foreshadowed before 1914. After 1918 the world suffered from political instability in which countries tended to build up their own economies or form groups for mutual security. In such a situation production inevitably continued to rise faster than world trade, and especially after the slump of 1929 trade rapidly lost that multilateral character which had blossomed in the 19th Century. So trading with particular areas was emphasized, and Britain looked more to the opportunities of Empire trade than at any time since the 18th Century.

Commercial Policy

MERCANTILISM IN THE 18TH CENTURY

The popular notion that free trade is Britain's traditional commercial policy is incorrect. Until well on in the 19th Century our overseas trade was subject to a varying degree of regulation, and since the opening of the 1914 War controls of several kinds have been reimposed. The regulation of trade, which thus appears "natural" to Britain's economy, formed the permanent hard core of an otherwise somewhat opportunist policy known to historians as Mercantilism. (A brief but authoritative analysis of this by E. F. Heckscher may be found in the *Economic History Review*, 1936.) In practice the commercial side of mercantilism involved "a mass of expedients to increase exports and diminish imports, resting on all manner of Government interventions and controls designed to promote these laudable ends." (Sir A. Gray: *Adam Smith*, p. 8.)

Apart from the years of Walpole's Ministry, 18th Century Britain was usually at war with the French or Dutch. These wars were fought primarily to establish commercial and colonial

leadership. With each war Government expenditure and the National Debt mounted, and much of the fiscal controversy of the 18th Century turned inevitably on the means of increasing revenue. Furthermore, as Dr. Fay points out,¹ with the 18th Century the emphasis of trade policy shifted more decisively to the stimulation of "productive development at home." Accordingly the legacy of Navigation Laws was retained and enforced, and the superstructure of protective duties and bounties was reinforced in the interests of British manufacturing and farming. (For the protection of textile industries, see above, p. 30.)

MERCANTILISM UNDER ATTACK

From the 17th Century particular aspects of restriction were criticized, and many of the older restrictive agencies, the guilds and chartered companies, were already decaying. But until *The Wealth of Nations* (1776) the "Commercial System," as Adam Smith called it, had never been fully analysed, and nobody had previously attacked the principle of commercial regulation and offered a complete alternative.

To Adam Smith the individual, if left to himself by temporal authorities but guided by an "invisible hand," would employ his energies and resources in the way most advantageous both to himself and to society. Therefore any attempt by the State to divert trade from its natural courses must damage the public well-being. In a long review of fiscal policy Smith maintained that governments had in practice shown themselves incapable of acting for the greatest benefit of all the people, and that bounties, tariffs and monopolies had in fact failed to achieve the objects for which they were designed.

Before Adam Smith died in 1790 the views of manufacturers and politicians already showed signs of his influence. William Eden, who negotiated the trade agreement with France in 1786, was his friend and admirer. This agreement marked an important step towards easier trade with the old enemy, and had the backing of those industries in which Britain's technical superiority was already established. Yet the strength of dissentient opinion indicates that faith in the virtues of freer

¹*Great Britain from Adam Smith to the Present Day*, p. 24.

trade remained very sectional, and the conversion of British industry as a whole was a slow process. This fuller conversion is often dated from the publication in 1820 of a free trade petition signed by the merchants of London, but Thomas Tooke, the author of the petition, tells us that they signed reluctantly even then. (T. Tooke and W. Newmarch: *History of Prices*, Vol. VI, p. 342.)

Clearly, free trade was likeliest to appeal to those whose technical skill and low costs of production placed them in a favourable competitive position. Their interests required cheap raw materials and cheap food. It followed that as this group increased in numbers the popularity of free trade grew, and a cleft was opened between the manufacturing and farming interests. The political history of the first half of the 19th Century and the attitude of the politicians towards fiscal reform are alike unintelligible except in terms of this clash of interests.

FREE TRADE

(a) *The Corn Laws.* For most of the 18th Century Britain exported or imported grain according to the nature of the harvest, and fiscal policy had sought to create price conditions reasonably satisfactory to producers and consumers, with, as the century went on, increasing favour to the producer. An Act of 1773 allowed imported wheat to be released for sale whenever the home price rose above 48s. a quarter, but when the price fell below 44s. exported wheat was subject to a bounty of 5s. a quarter. This, to Adam Smith, was as good a compromise as could be expected from the clash of interests.

Under war conditions after 1793 Corn Laws were virtually inoperative, and, as we have seen, the post-war slump produced the highly protective law of 1815 by which foreign wheat could not be released from store until the home price exceeded 80s. This high level of protection reflected the political strength of agriculture, its leaders making free use of Adam Smith's admission that protection was justified for industries essential to national safety.

In fact the 1815 Act failed to create conditions of farming prosperity. Meanwhile, with the publication of the London Petition of 1820, agriculturists could no longer argue that free

trade in corn would necessarily mean unilateral sacrifice, and Ricardo, in his *Principles*, led economic thought in advocating a gradual move to general freer trade with, at most, a small fixed duty on grain. By the 1820's a considerable body of political leaders was favourable to reduction of duties, but "a solid ignorant gentlemanly vote" (Clapham¹) withstood all reform until 1828 when Wellington adopted Huskisson's plan for a "sliding" scale of protection. From about £1 when the price was 66s., the duty fell by jerks to 1s. when the price was 73s. This was about the best the free-traders could expect from the unreformed Parliament. Yet, after the 1832 Reform Act, ten years elapsed with abundant controversy but no achievement. Then, in 1842, Peel revised the scale downwards.

By late 1838 the repeal agitation assumed an organized form in Manchester, blossoming out in 1839 into the Anti-Corn Law League, led by Cobden and Bright and backed by manufacturers and some of the workers. Most workers, however, influenced by Chartism, suspected free trade in grain as a device to lower wages, and the League as a propaganda machine seeking to divert attention from the hardships of the "New" Poor Law. Throughout the ensuing controversy Cobden was the central figure, exalting free trade into a philosophy of international friendship, and, as some believe, gradually converting Peel. (On this thesis, see Barnes.²) So the deficient wheat crop in Britain and the Irish potato famine either completed Peel's conversion or gave him the opportunity of admitting it. At all events repeal of the corn duties was passed by a divided Parliament in 1846 and became effective in 1849.

(b) *Duties on Industrial Commodities.* "In England, William Pitt was Adam Smith's first and greatest disciple." (Fay.³) Pitt was in office ten years before the French Revolutionary War opened, and in that phase he went as far towards freer trade as sectional interests would allow him. His proposals for commercial reciprocity between the United Kingdom and Ireland failed because manufacturers still feared

¹*An Economic History of Modern Britain*, Vol. I, p. 335.

²*A History of English Corn Laws from 1660 to 1846*, Chapter XII.

³*Great Britain from Adam Smith to the Present Day*, p. 16.

the competition of Irish textiles. The Eden Treaty with France succeeded because it benefited British exporters of cottons and pottery.

With the outbreak of war considerations of revenue and economic warfare outweighed purely commercial considerations, and downward revision was delayed until the 1820's, when Robinson at the Treasury and Huskisson at the Board of Trade undertook substantial modifications. To strengthen British industry, duties on numerous raw materials were lowered. Many duties on manufactured goods, now mainly outmoded because of Britain's technical leadership, were similarly reduced. For the same reason bounties on exports were no longer necessary and were dying out. Yet nowhere was there a clean sweep, and Clapham¹ quotes with approval a contemporary opinion: "If free trade is the right policy, the work of introducing it remains to be done."

Huskisson's reforms were limited, in part because of his continued support for imperial preference, in part because free trade was as yet incompletely accepted by the nation. And as most duties were specific, their effect tended to increase as the general level of prices fell; indeed, it has been estimated that the ratio between the level of duties and the real value of imports was higher in 1830 than before Huskisson began his reforms. In other words, the real importance of Huskisson in tariff history lies, like that of Pitt, in the tendencies displayed and in the simplification of Customs schedules effected. It remained to Peel and Gladstone to make free trade a reality. (On the real burden of duties on imports in this period, see A. H. Imlah.²)

By the time they took over the task Britain had gone far on the road to the "industry state," depending for her well-being on the utmost freedom of international commerce. Peel revived the Income Tax in 1842, and so created a revenue sufficient to allow great reductions in duties on raw materials and substantial reductions of those still remaining on manufactured goods. Gladstone, in his budgets of 1853 and 1860, virtually completed the process. Henceforth duties were levied

¹*An Economic History of Modern Britain*, Vol. I, p. 326.

²"Real Values in British Foreign Trade," in the *Journal of Economic History*, 1948.

on a relatively narrow range of articles of general consumption, notably tea, sugar and tobacco ; were levied for revenue only ; and gave no preference to any country. The last of the old imperial preferences went in 1860, and " thereafter for more than thirty years a once great imperial cause lay entombed in the leaden shell of Gladstonian finance." (Fay.¹)

(c) *The Navigation Laws*. The system of Navigation Laws surviving into the 19th Century originated under the Commonwealth and Charles II, in an age when England was battling for a place in a commercial and colonial world dominated by Holland and the Iberian countries. The intention crudely summarized, had been to confine English colonial trade to ships of England or of the colonies ; the import of goods to England to ships of England or of the country from which the goods originated ; and the export of specified colonial products to England only. It represented, therefore, another aspect of mercantilist policy. By the early 19th Century the circumstances in which the system originated had changed utterly in Britain's favour. The Dutch mercantile strength had declined in the 18th Century, and Holland after 1815 was a friendly neighbour. The breakaway of the United States and the acquisition of Canada and India had entirely upset the old pattern of empire and created new values. With revolts in South and Central America, old hostile Spanish and Portuguese Empires were crumbling.

Revision, long overdue, was undertaken by Wallace and Huskisson in the early 1820's. Like their fiscal reform, it was cautious, but it made some important breaches in the monopoly of colonial trade, and, together with a series of commercial treaties initiated by Huskisson, it began the removal of those discriminations whereby Britain had sought to stimulate her shipping and shipbuilding. The two following decades saw further modifications by mutual agreement with foreign Powers and by the mid-1840's the surviving restrictions were being subjected to diplomatic bombardment from Prussia and the United States. Furthermore, as imperial preference was dying, so the case for imperial restrictions weakened. After long Parliamentary debates the Navigation Laws were repealed

¹*Great Britain from Adam Smith to the Present Day*, p. 56.

in 1849, leaving only certain restrictions on coastal shipping, which lasted four more years.

So by the 1850's traders were not only freed from most British tariffs ; they were also free to employ any ships and to move goods in any direction.

THE REBIRTH OF IMPERIALISM

This whole-hearted acceptance of free trade involved the abandonment of imperial preferences. Simultaneously the "white" colonies, though bound to Britain by ties of blood and money, acquired an increasing degree of political independence. A country as secure as Britain in its industrial and naval supremacy could afford so to rarify the ties of empire, and the revived interest in imperial matters in the closing decades of the 19th Century is clearly associated with the "Great Depression" and Britain's awakening to new rivalries.

First, then, imperialism was, in Halévy's phrase, "a commercial speculation." Business interests were powerfully represented in British Parliaments, and a governing body so constituted could not fail to show concern over the fate of British capital in South African mining, or over the prospect of opening new and perhaps exclusive markets. But, as Halévy also insists, imperialism was an ideal based on the neo-Hegelian concept of the relationship of the individual to the State. Political thought was shifting away from mid-19th Century liberal individualism, and emphasizing the duties and obligations of the citizen to the society which endowed him with his particular qualities. Hence, to stand aside while Germans and Frenchmen extended their empires, as indeed they were doing, was cowardly refusal to face responsibilities.

Down to 1914 the practical results had little apparent effect on British commercial policy. There were Imperial conferences, subsidies for various purposes to tropical colonies, better facilities for empire borrowing in London, the extension of the penny post to the Empire, new chartered companies for exploration and trade in Borneo and Africa, substantial territorial acquisitions, and tariff concessions by the Dominions in favour of British goods. But Joseph Chamberlain's basic proposal, a return to protection with preferences to

imperial produce, was decisively rejected at the 1906 Election.

THE RETURN TO PROTECTION

Despite this, there had been murmurings against the apparent inequity of unilateral free trade from the 1880's onwards. Despite Cobden's faith, the nations of the world had not followed Britain's lead very far, and with the depression of the 1870's they had generally raised their already high tariff walls. "Why," asked the murmurers, "should Britain alone offer an open market?" By the end of the century this question was sharpened by arguments that the monopolistic German cartels were "dumping" their goods in Britain at prices subsidized from those charged to consumers within their own tariff frontiers.

Yet down to 1914 the British fiscal system retained all the marks of Gladstonian liberalism. Then, as a wartime measure, duties were imposed on "unessential" imports, mainly of a luxury character. Though there was no overt intention of breaking with free trade, these duties survived the peace and their scope was widened in 1921. The Safeguarding of Industries Act of that year authorized duties of up to 33½ per cent on imported goods the low price of which could be attributed to currency depreciation in the country of origin.

In other words, free trade as the basic principle of fiscal policy was not abandoned until the slump of 1929-32. By 1931 Britain was faced with a formidable adverse trade balance resulting from the diminished purchasing power of overseas customers. Faced with two apparently alternative solutions, the abandonment of the gold standard or the restriction of imports, the British Government decided to adopt both, and by the Import Duties Act, 1932, Britain decisively broke with free trade. The general tariff based on that Act enabled Britain to re-establish a policy of imperial preference. From 1919 there had been minor concessions to empire produce, and with the Ottawa Agreements (1932) the range was greatly widened to include substantial tariff preferences or favourable import quotas to most empire-produced foodstuffs. (On the economic integration of the Commonwealth by "men, money and markets," see also below, pp. 162 and 187).

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CHAPTER 6

LABOUR ORGANIZATION

THE Industrial Revolution was disruptive in its effect on traditional industrial structures. In general it tended to widen the gulf between classes and to create what Disraeli was to call "The Two Nations." In these conditions the workers were stimulated to follow the primitive urge to co-operate in order to guard against the risks of the new industrial order by that strength which comes from mutual aid.

The Background

Labour organizations must not be studied in isolation. They have developed against a changing background of political and economic life on which they constantly impinged. Before we consider any particular organization we shall therefore sketch in this background, following lines suggested in Professor Cole's *Short History of the British Working Class Movement*.

DOWN TO 1848

We have seen elsewhere that the first half of the 19th Century saw the rapid adoption of steam-power, leading to industrial concentration and urbanization, processes possible only through townward migration of country-bred workers and unrelenting accumulation of capital from the profits of industry. For the mass of labour this involved a harsh introduction to the discipline of factory life, and, especially in times of depression, a nostalgic longing for the old modes of life. For skilled workers it meant the disruption of traditional practices and trade customs, a weakening of apprenticeship, and "dilution" of labour; hence the participation of skilled workers in the Luddite activities in the closing years of the Napoleonic Wars. (See J. L. and B. Hammond: *The Skilled Labourer, 1760-1832*, Chapters IX, X and XI.)

In a phase so fluid and so truly "transitional," solid labour

organization was unlikely, and, as we shall see below, mass labour activity consisted primarily of sporadic outbursts of a revolutionary character, prompted in the main by coincidence of unfavourable economic conditions and official severity.

THE "MID-VICTORIAN BOOM"

The quarter-century after 1850 saw radical changes both in the composition of the industrial population and in the availability of capital. A greater proportion of the urban population was town-bred, at least one generation removed from the rural background, and, as we shall see in Chapter 8, real wages were generally improving. As capital became more freely available from banks and by the introduction of limited liability the fierce drive for accumulation eased. In short, this was a generation more reconciled to the régime of private capitalism, turning to self-help within the existing structure, evolving stable organizations in the fields of trade unionism and consumers' co-operation, and receiving its "reward" in the extension of the Franchise in 1867.

AFTER THE 1880'S

Gradually the industrial proletariat became conscious of its essential solidarity and its leaders came increasingly under the influence of left-wing political thought. Marx was translated into English in the 1880's; he, Morris, Henry George, the Fabians, Hyndman, the French Syndicalists and the American Socialists, all in their various ways destroyed the complacent acceptance of private capitalism which had characterized the previous generation. So distinctively "labour" politics emerged and labour formulated its long-term aims, seeking control over the means of production, believing that the vote, secured in 1867 and 1884, was not enough to achieve social justice.

Trade Unionism

★ ORIGINS AND EARLY GROWTH

The clue to the origin of modern trade unionism lies not so much in factory life as in the divorce of the worker from the ownership of the means of production. That divorce had begun

in some industries long before the concentration of labour into factory towns, and in the 18th Century vigorous activity of a trade union character can be traced among shipwrights, the woollen operatives of the South-west of England, the hatters and tailors in London and the cutlers in Sheffield.

As industrial equipment became more specific and costly, the gulf between the operative and ownership of the tools of production tended to widen, yet until well on in the 19th Century trade unionism remained disjointed and its growth uneven from industry to industry. For this apparent lag a number of explanations may be offered :—

(a) The legal prohibitions down to 1824, and the general hostility of the governing and employing classes.

(b) The fluid nature of the labour force in industry, its mixed origins and varied background, all of which bred mutual distrust and hindered the growth of solid organizations.

(c) The irregular progress of large-scale and mechanized industry. So long as small units and manual processes persisted the skilled worker could regard himself as a potential master and employer.

(d) Poor internal communications and lack of understanding between regions.

(e) The large proportion of women and children in factories.

★ THEORY OF TRADE UNION EXPANSION

The conventional explanation of trade union expansion after the removal or reduction of these initial hindrances may be called the "prosperity theory." It seeks to equate the numerical strength of trade unionism to general business conditions, maintaining that in business booms membership rises steeply, whilst in depressions it either stagnates or rises much less quickly. "A well-established union can often be seen reacting directly to the course of trade and the growth of its own industry." (Clapham.¹) A recent examination of union history in several countries leads to the suggestion that the prosperity theory, in its bald form, oversimplifies the problem. (See H. B. Davis: "The Theory of Union Growth," in

¹*An Economic History of Modern Britain*, Vol. III, p. 320.

Quarterly Journal of Economics, 1941.) It now appears that a boom in union membership can generally be traced back to a period of business depression in which workers' grievances accumulate. The lag between this phase and the numerical increase in membership is determined by the quality of leadership, the demand for labour, and the strength of employer resistance to union activities.

★ THE LAW AFFECTING TRADE UNIONS

Trade union history consists of two constantly interweaving strands: law and organization. To clarify the main features we shall treat them separately.

(a) *Statute and Common Law in 1800.* The tradition of the common law is strongly tinged with individualism. From this sprang the doctrine of restraint of trade, elaborated by the Courts of the 18th Century so that a combination of workmen could be challenged as a conspiracy to restrain trade.

✓ The common law was so reinforced from time to time by Parliament that by the end of the 18th Century the Statute Book contained some forty Acts prohibiting combination in specified industries. (Aspinall.¹) The practical explanation of the attitude of 18th Century Parliaments is no doubt to be sought in class prejudice, in gradually emerging belief in freedom of individual labour contract, and, certainly after 1789, in suspicion of potentially revolutionary trade clubs with their elaborate admission ceremonies and strange oaths. There is, however, a theoretical explanation, for since the Statute of Artificers of 1563 the local magistrates had the power and duty to arbitrate in industrial matters and determine wages.

✓ This statutory prohibition of combinations reached a peak in the Combination Acts of 1799 and 1800, though exactly how these general Acts affected the actual and legal position of the trade clubs and associations is still uncertain. (Compare the views of M. D. George in *Economic History Supplement to Economic Journal*, 1927, and in *Economic History Review*, 1936, with those of Cole and Postgate,² and of Aspinall.³) The

¹*The Early English Trade Unions*, p. ix.

²*The Common People*.

³*The Early English Trade Unions*.

traditional view is that the Acts of 1799-1800 mark a real landmark in legal repression. Modern critics point out that recorded prosecutions after 1800 are not more numerous than before, and were still often brought under the common law. The new Acts did not apply to Scotland, provided appreciably lighter maximum penalties than those often awarded by common law judges, and as they prescribed summary jurisdiction local magistrates could exercise considerable discretion.

In favour of the traditional view it should be observed that because charges were brought before local magistrates many convictions were possibly not recorded ; while Scotland was not directly affected, the Scottish Courts were influenced by the spirit of the Acts ; and though a great many trade clubs undoubtedly survived in the early 1800's, they were mainly underground or disguised, or lived by the tacit consent of the magistrates.

(b) *The Repeal of the Combination Acts, 1824-5.* This legal intolerance continued down to 1824. The basic cause of the legal changes then lies in the relative prosperity of 1820-24 which " made it possible for the industrialists and the Government to afford a greater tolerance." (W. W. Rostow : *British Economy of the Nineteenth Century*, p. 116.) In this more favourable atmosphere Place and Hume manœuvred the repeal of the Combination Acts through a Parliament almost unaware of what it was permitting.

Two distinct statutes are to be noted¹ :—

1. " An Act to repeal the Laws relative to the Combination of Workmen," 1824. This not only repealed the Acts of 1799-1800 and various others of like nature, but also specifically exempted combinations from prosecution " under the common or the statute law."

When this Act was passed economic conditions were moving very fast towards the crest of a boom with almost full employment and sharply rising living costs. So, encouraged by their legal freedom and emboldened by ample employment, the unions launched a series of strikes for higher wages which were

¹The substance of these is to be found in A. E. Bland, P. A. Brown and R. H. Tawney : *English Economic History*, pp. 633-8.

still continuing when the boom gave place to recession. In this more heated atmosphere Parliament passed the second Act—

2. "An Act to repeal the Laws relating to the Combination of Workmen, and to make other Provisions in lieu thereof," 1825. As the title indicates, this modified the concessions of 1824. In effect it legalized a combination "for the sole purpose of consulting upon . . . the rate of wages . . . or the hours of time for which . . . they shall work," and left unions a limited but effective sphere of legitimate action.

So, in the belief that combinations were the reaction to repression and would wither away in the sunlight of freedom, Parliament in 1824-5 removed the heaviest of the repressive laws.

© *The Inquiries and Legal Reforms of 1867-75.* Through the later 1830's and 1840's trade unionism suffered eclipse. Its legal status, however, remained virtually unchanged until 1867 when, in *Hornby v. Close*, it was held that a union was not entitled to take advantage of the Friendly Societies Acts, and consequently had no legal protection for its funds.

This decision came at a time when a wave of strikes and lock-outs, accompanied by some violence, focused public attention on the need for further clarification of the law, and a Royal Commission was set up in 1867. Its Majority Report recommended that the narrow legal status conferred in 1825 be widened, and that unions be entitled to registration for the safeguarding of their funds—but subject to conditions.

In fact, compromise was again the keynote of the legal changes in 1871. The Trade Union Act of that year gave registered unions financial security, thus demolishing the precedent of *Hornby v. Close*, but simultaneously the Criminal Law Amendment) Act attached penalties to loosely defined offences in strikes, such as "watching and besetting."

Since the extension of the franchise in 1867 the political parties were becoming more sensitive to working-class demands, and in 1875 the Conservatives yielded to the storm of protest raised by the 1871 legislation and its application by the Courts. Accordingly, by the Conspiracy and Protection of Property Act, 1875, peaceful picketing was legalized.

(d) *The Challenge of the Courts.* "It was no theory, but the practical need to defend trade union rights against judge-made law, that brought Labour into politics to form a party of its own." (G. M. Trevelyan : *Social History of England*, p. 574.)

This new threat to freedom of action is fully described in the Webbs' *History*. By the '90's actions for damages were succeeding against union officials. Picketing, though no longer a criminal offence, was, if done in concert, held to be an actionable wrong. But the two classic cases concerned the unions themselves, not merely their officers.

✓ In the Taff Vale case (1901), the Taff Vale Railway Co. was awarded damages against the Amalgamated Society of Railway Servants for losses incurred by the company as a result of a strike. "The first result was to make the newly-formed Labour Party . . . into an effective political force." (Webb.¹) Parliament's response was the Trade Disputes Act, 1906, by which a union was exempted from civil proceedings in respect of tortious acts committed by it or on its behalf.

Within two years the second main assault developed, this time against the political activities of trade unions. In the Osborne Case (1908-9) it was held that a union was not entitled to employ its funds for political purposes. Again Parliament reversed the ruling by the Trade Union Act, 1913, which legalized "political levies" provided opportunities were given for members to "contract out" if they desired.

(e) *The Trade Disputes and Trade Unions Act, 1927.* With increasing solidarity in the ranks of labour the threat of a general strike became a real menace to capitalist institutions. The short-lived General Strike in Britain in 1926 was followed by strong demands for legal restraints on trade union activities, and the 1927 Trade Disputes Act resulted. It weakened the position of trade unions in four main respects :—

(i) A strike with any object beyond the furtherance of a trade dispute in the industry in which the dispute occurred and calculated to coerce the Government was declared illegal.

(ii) Picketing was subject to new restrictions.

¹*History of Trade Unionism* p. 604.

(iii) Civil Service staff organizations were required to sever all connections with bodies having political activities.

(iv) Political levies could be collected only from members who had positively agreed to subscribe.

The Act was repealed *en bloc* in 1946.



TRADE UNION ORGANIZATION AND AIMS

(a) *The Trade Clubs.* Down to the 1820's the characteristic labour organization was still the local trade club, often scarcely distinguishable from a friendly society, based on local craft affinities. Mr. Postgate¹ has shown how in building trade organizations "the lodge was the unit, the real living body." As these clubs had no legal protection they devised their own methods of impressing on new members the obligations of membership and many carried on ancient guild functions of controlling entry to the craft via apprenticeship. They belonged mainly to the skilled aristocracy of labour, on whose behalf they fought an often losing battle for ancient trade customs. Because they were exclusive, because they were conservative, they fought in an increasingly unfavourable environment.

(b) *National Unions and Robert Owen.* By the later 1820's serious attempts were made at trade unionism on a national scale. In 1829 John Doherty founded the Grand General Union of Cotton Spinners Societies; moved on from his own trade to organize the potters in a national union; and by 1830-31 was on the more ambitious project of a National Association for the Protection of Labour. Short-lived as these were, they form an important preface to the Owenite movement of the early 1830's.

Owen had become a national figure before he actively entered the trade union movement. His basic creed can be simply stated: man's character is made for him, not by him; he is the creature of environment; as industrial life is part of that environment, the true end of industry should be the betterment of the people engaged in it. So the Grand National Consolidated Trades Union of 1833-34 marks an attempt to overthrow private capitalism by general strike action, and to

¹*The Builders' History*, pp. 143ff.

put in its place a system of co-operative production based on Owenite concepts. In this spirit the Operative Builders' Union resolved itself into a Guild to control the building industry, and in 1833 undertook actual building work in Birmingham. (Postgate.¹)

Superficially the rise of the Grand National reflects the workers' disillusionment over the Reform Act of 1832 and the Factory Act of 1833, and its failure the strength of the Government of the day. At bottom, however, it sprang from the deep resentment of the workers against the kind of life into which they had been drawn, and it failed because it was premature, because of strong sectional interests, because it lacked solid organization. (On the nature of the social background in this period see J. L. and B. Hammond : *The Bleak Age*.)

Its ignoble collapse discredited large-scale trade union enterprise. Working-class energies, numbed by this failure and by the vindictive reprisals inflicted by the Courts (see W. Citrine and Others : *The Martyrs of Tolpuddle*), flagged temporarily, to revive in the late 1830's in fresh activities, and from 1837 to 1848 attention centred mainly on Chartism and the Anti-Corn Law League. None the less the Owenite phase taught important lessons :—

- (i) The obvious need for organization.
- (ii) Doubts on the possibility of successful direct action through a general strike.
- (iii) The dangers and difficulties of inter-union activity.

Ⓒ *New Model Unionism.* The radical Utopianism of the 1830's was replaced in the 1850's and 1860's by moderation, acceptance of private capital, and practical organization ; in fact the lessons of the Owenite and Chartist failures were taken to heart. The new leadership, typified by Newton, Allan and Applegarth, reflected the views of skilled labour. ~~Lofty ideals went overboard in favour of conciliation, moral uplift, emigration and temperance.~~ According to our view we label this as "statesmanlike leadership" (G. P. Jones and A. G. Pool : *A Hundred Years of Economic Development*,

¹*The Builders' History*, p. 101.

p. 161) or "the Servile Generation" (Postgate¹). The unofficial cabinet, now commonly called the "Junta" (there were less polite contemporary tags), made up of these permanent officers, was by no means passive in such industrial matters as payment in truck and piece rates (see M. and J. B. Jeffreys: "Wages and Hours and Trade Customs of the Skilled Engineer in 1861," in *Economic History Review*, 1947), but politically it came very near to the Liberal Party, and the extension of the parliamentary franchise in 1867 may well be regarded as its political reward.

Typical of this New Model Unionism was the Amalgamated Society of Engineers (1851). Its main features may be summarized: it linked together groups of engineering operatives throughout the country; it was confined to skilled workers; it collected substantial regular contributions; with these it maintained an expert central organization and offered worthwhile cash benefits; it pursued a moderate industrial policy, regarding strike action as the last resort.

(d) *Unionism Among Unskilled Workers.* The exclusiveness of the New Models offered no niche for the mass of unskilled and general labour, and its moderation made no appeal to the lower wage trades. Yet even among coal-miners, where unionism ebbed and flowed widely with industrial prosperity (see, for example, E. Welbourne: *Miners' Unions of Northumberland and Durham*), moderation was the keynote in the 1860's and 1870's when the men's leaders accepted the principle of a linkage between wages and the price of coal. The leaders of the agricultural labourers' unions of the early 1870's were a canon of the Church of England and a Methodist lay preacher, and despite the rural strikes of 1873-4 the emphasis lay largely on betterment by way of increased mobility.

With erratic trade after 1875 and the appearance on the horizon of new apocalyptic horsemen (see p. 128), the influence of the moderates wore thin and un- and semi-skilled labour turned hopefully to more radical doctrines, the various brands of socialism, syndicalism and communism. By the 1890's something of the spirit of 1833-4 was reborn. The London Dock Strike of 1889, organized by Socialist leaders, symbolized

¹*The Builders' History*, Chapter IX, *passim*.

a great upwelling of unskilled labour, commanding in this particular instance widespread sympathy, and revealing a new solidarity in the ranks of labour. In the Northumberland miners' strike of 1886-7 orators preached nationalization of the mines, a pre-view of the policy of the Miners' Federation in later years. (Welbourne.¹) These were symptoms of the "New Unionism," pugnacious, socialist, scornful of the old friendly society ideals, "a mass movement of sheer reaction against the failure of orthodox trade unionism or moderate parliamentarism to secure any improvement in the working-class standard of life." (Cole : *Short History*, Vol. III, p. 70.)

The relative stagnation of real wages in the first decade of the 20th Century created fuel for further discontent, and the years immediately before the 1914 War were marred by turbulent industrial relations. As the numerical strength of trade unionism grew, over four millions by 1913, well over eight millions by 1920, it came to embrace more and more of lower-paid workers. Furthermore, unionism was moving towards an industrial rather than a craft basis, in part a natural reaction to the concentration of control and ownership in industry. Many iron and steel workers came within the Iron and Steel Trade Confederation, many engineers within the Amalgamated Engineering Union, most road-transport and dock workers within the Transport and General Workers Union. In trades with long experience of craft associations these fusions were halting and incomplete ; in such trades the traditions created in the days of the "New Models" were a barrier against revolutionary ideas (Postgate²), for as these revolutionary ideas hinged mainly on the theories of syndicalism or, in Britain, guild socialism, the industrial union was a necessary basis for ultimate ownership by the workers.

② *Central Organization and Political Allegiance.* Continuous history of Trade Union Congresses begins in 1868. From the start their prime function has been co-ordination of trade union policy, the provision of a sounding-board for trade union opinion, representing by 1890 the views of 1½ million workers. Inevitably such a body, meeting annually for not

¹*Miners' Unions of Northumberland and Durham*, p. 241

²*The Builders' History*, p. 395.

more than a few days, tended to delegate functions to committees, the chief of which, the Parliamentary Committee, was charged in 1899 with the duty of convening a meeting of socialist societies from which the Labour Party of 1906 ultimately emerged.

In thirty years the political complexion of Congress had changed. Under Applegarth and Allan "Trade Union Congress was little more than a Liberal election instrument."¹ In 1900, despite the strong impact of socialist doctrine, strong elements were unwilling to break from the Liberals, but, as we have suggested above, the general swing of the trade unions towards the Labour Party was accelerated by the attitude of the Courts in the labour disputes of the early 1900's.

The enormous increase in trade union membership during and just after the 1914 War involved a recasting of the central organ; in particular the movement needed a central staff with powers of initiation as well as co-ordination. Accordingly in 1921 the General Council was established to replace the old Parliamentary Committee, with, after 1924, the important function of intervention in industrial disputes on behalf of the unions concerned. In this capacity the General Council faced its first great test in the disputes which led up to the General Strike in 1926. With the collapse of that strike after nine tense days the vision of success by swift strike action, which had haunted the minds of trade unionists throughout the previous quarter-century, gave place to a sober process of rebuilding and a firmer belief in the possibilities of political socialism.

★ Chartism

Superficially Chartism was a political movement. It carried forward the spirit of the "Radical Reformers" of the post-Waterloo period, it expressed the resentment of the workers of the conservative nature of the 1832 Reform Act, it preached a programme of political reform of which the main features became law in the following century. Similarly its failure and collapse in 1848 can be explained on grounds of divided leadership, administrative and financial weakness, renewed faith in the honest purpose of government after the repeal of the

¹*The Builders' History*, p. 337.

Corn Laws, and lack of middle-class and metropolitan support. Viewed thus Chartism is a topic for the political and social historians.

✦ THE ECONOMIC BACKGROUND

"The Chartist mass was an army of misery." (Clapham¹)

(a) *The Stage of National Economic Development.* As we saw earlier in this chapter the character of working-class movements down to the middle of the 19th Century was determined by the painful process of adjustment to the new economic structure. So, to quote the Hammonds (*The Bleak Age*, p. 177): "For some ten years the English poor found in the Chartist agitation an opportunity of protesting against the place they occupied in the raw industrial settlements spreading over the Midlands and the North."

(b) *Contemporary Economic Well-being.* In brief, why did Chartism begin in 1837, reach peaks of activity in 1839, 1842 and 1848, and then disintegrate? The opening date marks the coincidence of sluggish trade and employment, rising grain prices and the first attempts to apply the stricter "New Poor Law" to the industrial areas. Some trade improvement took place in 1838 and early 1839, but from the later months of 1839 to the end of 1842 Britain suffered almost unbroken depression and high food prices. 1843 to 1845 was relatively prosperous and grain was cheaper, and in these years Chartism lapsed into quiescence. Then, after the peak of 1845, business activity declined to a low point in 1848.

✦ THE COLLAPSE OF CHARTISM AS AN ORGANIZED MOVEMENT

The same analysis can be applied. By the middle of the 19th Century workers were becoming reconciled to industrial discipline; the most painful processes, such as the extinction of the hand-loom weavers, were virtually over; accordingly protest gave place to acceptance and self-help. By 1849 the "Hungry Forties" had ended, employment was rising, and domestic grain prices were no longer protected. Furthermore, Chartism had never commanded the support of all the workers; better-paid craftsmen stood aloof; men in good employment

¹*An Economic History of Modern Britain*, Vol. I, p. 584.

saw more immediate prospects in the agitation for repeal of the Corn Laws ; and true Chartists regarded the Anti-Corn Law League as a hostile, capitalist-sponsored body. No doubt the strength of Nonconformity acted as a barrier against common action between workers and lower middle-classes. Hence Chartism died, and Britain had but a mild echo of the Continental Revolutions in 1848.

The Co-operative Movement

ITS PLACE IN WORKING-CLASS HISTORY

We have already noticed the rôle of mutual aid in working-class movements. In his recent book *Voluntary Action* Lord Beveridge writes (p. 110) : " Consumers' co-operation in Britain is numerically the largest of all the Mutual Aid movements, just ahead both of the friendly societies and of the trade unions." It is arguable that the idea of co-operation is as old as human society, yet co-operation becomes a defined movement only with the changed industrial structure of the 19th Century. Viewed thus it is evidence of the workers' early consciousness of their common interests within the capitalist structure.

EARLY EXPERIMENTS IN CO-OPERATION

There are examples, even before 1800, of isolated groups engaging in co-operative production of such necessities as flour, but until Robert Owen co-operation cannot be regarded as a conscious principle of social organization. " The industrial revolution supplied the necessity, and Robert Owen the inspiration," (C. R. Fay : *Great Britain from Adam Smith*, p. 423.) Owen advocated co-operation as a substitute for competition in an ideal society consisting of co-operative communities. Tested by this standard modern co-operation remains immature, and indeed owes little to Owen except inspiration. To quote again Dr. Fay (op. cit., p. 424) : " In the spiritual sense, but in that only, Owen was the parent of British co-operation."

THE DEVELOPMENT OF CONSUMERS' CO-OPERATION

Continuous history begins with twenty-eight flannel weavers who started a store in Toad Lane, Rochdale, in 1844. Within ten years the Rochdale " Pioneers " were a model for other

groups in the industrial north of England. Various factors made for success ; resentment at the prices and quality of goods sold by private traders ; the prevalence of money rather than " truck " wages in the textile industries ; the severely practical shopkeeping nature of this new co-operation. The dividend idea was not new, but the Rochdale men made it work. Furthermore most of these societies in the 1840's and 1850's concentrated on groceries in which demand was relatively stable and stories of adulteration by private traders commonest.

Yet the great surge forward was delayed till the 1860's and after. Until " Slaney's Act " (1852) and the Companies Act (1862) the legal status of societies and shareholders remained unsatisfactory. Once the legal position was secure expansion was brisk, continuing in steady progress through the relatively depressed years of the 1880's and early 1890's. By 1900 there were 1439 societies with a total membership of about a million and three-quarters, and the average member bought goods to the value of £30 each year. Expansion was keenly resisted by private traders, and the movement has always found its most favourable environment in industrial areas ; indeed the penetration of rural areas and central London is one of the most recent developments.

THE WHOLESALE SOCIETIES

" The future historian of the movement will date the modern phase, not from 1844, but from the foundation of the C.W.S." (Carr Saunders and Others¹.) The C.W.S. began in 1864, and its Scottish equivalent in 1868. Their development turned upon three requirements :--

(a) Legal facilities for societies to hold shares in other organizations. Acts of 1867 and 1876 made this federal growth possible.

(b) Leadership. J. T. W. Mitchell, Chairman of the English Wholesale from 1874 to 1895, and William Maxwell, Chairman of the Scottish C.W.S. from 1881 to 1908.

(c) Clarification of the relationship of the " Wholesales " to Producers' Co-operation. Producers' Co-operation passed through a brief phase under the stimulus of Owen. A second

¹*Consumers' Co-operation in Great Britain.*

opened with the Christian Socialists of the late 1840's. But workmen-managed workshops in Britain were always weak (see B. Webb : *My Apprenticeship*, Appendix E) ; the C.W.S. lost money through backing them, and partly as a result it added direct production to its original function of wholesaling.

Direct production by the Wholesales began with soap, boots and biscuits in the 1870's, took in flour, clothing and furniture in the 80's and '90's, and by the early 1900's had reached overseas into plantation ownership. Yet despite the manufacturing activity of the Wholesales, visible to the naked eye in the locality of Manchester or Glasgow, their function in the co-operative movement remained primarily that of wholesaler. Already by 1910 six out of every seven local societies in England were affiliated to the C.W.S., and upwards of three-quarters of the goods they sold had been handled first by the Wholesale. A quarter of a century later the production of the Wholesales represented not more than about one-fifth of the sales of local societies, and the range in which the Wholesales had a monopoly remained narrow.

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CHAPTER 7

PRICES AND ECONOMIC FLUCTUATIONS

As the movement of prices is so intimately related to variations in the nation's economic weather, the first part of this Chapter is intended as a preface both to the study of fluctuations which follows it and to the survey of wage changes in Chapter 8.

Price Movements Since 1750

PRICE INDICES

The price indices normally employed in economic histories are based on the wholesale prices of an assortment of commodities mainly in the raw or near-raw condition. In no other way is it possible to compare like with like over long periods of time. A cubic foot of English oak is substantially the same thing to-day as it was in Nelson's time, but a present-day "utility" table is very different from the "large modern circular table" which Miss Austen's Emma introduced to Hartfield. Unfortunately, therefore, these price indices do not directly reflect the cost of goods in the form in which most people buy them. Professor Silberling argues that in practice the prices of consumer goods do follow reasonably closely the wholesale prices of the materials from which they are fabricated, but obviously the proportion of final price represented by labour and profits is not a constant, and in any case indices of wholesale prices must neglect such important items of everyday expenditure as rent and personal services.

Price indices such as Jevons' and Sauerbeck's must therefore not be mistaken for cost-of-living indices. Professor Silberling, in the work cited below, prepared a cost-of-living index based on the prices of fifteen commodities weighted to represent their average respective domestic budgetary importance over the period with which he was dealing, and for the past half-century fuller information becomes increasingly available in the official publications of the Board of Trade and more recently in the

retail food and cost-of-living indices of the Ministry of Labour.

THE ANALYSIS OF PRICE MOVEMENTS

Over comparatively long periods, it is possible to recognize generalized price trends. So we can say that from 1874 to 1896 the "secular" trend was downwards. Within each such period there occur short-term and often violent fluctuations associated with the ups and downs of business activity conveniently called "trade cycles." The simple approach to price history, therefore, involves a chronological division into secular trend periods, noting the more conspicuous oscillations within each.

(a) *The Later 18th Century.* "Between the middle 'fifties and the early 'nineties wholesale prices rose by some 30 per cent." (T. S. Ashton: *Industrial Revolution*, p. 142.) Two extracts from the tables in *Prices and Wages in England* (pp. 710-11 and 721-22) illustrate the nature of the rise. In both examples the average price for 1720-40 is reduced to 100.

PERIOD	RANGE OF PRICES PAID FOR MALT BY ETON COLLEGE	RANGE OF PRICES PAID FOR COAL BY GREENWICH HOSPITAL
1740's	84 to 117	97 to 119
1760's	98 to 135	110 to 122
1780's	131 to 174	125 to 156

In all ages down to the mid-19th Century price movements were directly influenced by the yield of the domestic harvest, and in each of the last five decades of the 18th Century there was at least one phase of poor harvests. The period coincides with the early stages of the Industrial Revolution in which a larger proportion of the labour force was employed in creation of capital equipment and "a smaller proportion in producing food and drink, boots and clothes, furniture and houses" (Ashton¹), and this diversion of resources from immediately productive uses was accentuated from time to time by the imminence or presence of war. So the cost of laying industrial foundations and of national defence combined to postpone the price-reducing effects of specialized industry.

(b) *The Napoleonic Wars.* With intensive war after 1793 these factors became interwoven with fresh commercial and

¹*Industrial Revolution*, p. 143.

financial derangements. As the fortunes of war ebbed and flowed, so trade with Europe and the demand for commodities varied. The British corn market became virtually closed and in the early 1800's the price of wheat reflected domestic yields by ranging widely from £3 to over £6 a quarter. After 1797 the currency was inconvertible, and inflation of the currency by Government financial transactions and by the note-issue of country banks was a major factor in the price peaks of 1800-1 and 1813-14. (See E. V. Morgan: "Some Aspects of the Bank Restriction Period," in *Economic History Supplement to Economic Journal*, 1939, and below p. 167.)

The total result of these several influences was an erratic but always high price level. The following figures, extracted from Silberling's price index, show the general price pattern during the war years:—

(Base year)	1790—100	1805—160
	1793—109	1807—152
	1796—136	1810—176
	1801—166	1811—158
	1802—143	1814—198

In some important respects, notably in the dating of the final wartime peak, this index differs from that of Jevons where the peak appears in 1810 (used, for example, in Warren and Pearson.¹) The discrepancy seems to arise from the large amount of Baltic produce included in Jevons' index, and contemporary literary evidence supports the view that general commodity prices reached their maximum in the winter and spring of 1813-14.

(c) *Price Fall, 1814 to 1850.* From the 198 of 1814, Silberling's index falls steeply to 135 in 1816. No single explanation covers this fall. Even before the war ended trade with North-West Europe was relatively easy and domestic harvests improved with better weather. After 1815 Government spending eased off and the first steps were taken to deflate the currency by reducing the volume of paper in circulation. (See A. W. Acworth: *Financial Reconstruction in England, 1815-22.*) But as the Corn Law of 1815 provided fuller protection to domestic grain producers, poor harvests in 1816 and 1817 were

¹*Gold and Prices*, p. 87.

again reflected in rising wheat prices. The tendency to deflate was temporarily reversed, and general prices moved up, carrying Silberling's index to 150 for 1818. That marked the final flare-up of inflated paper, for within three years the currency had been established on a gold basis and the period of wartime monetary derangement was over.

From 1818 to 1849 the long-term trend was decisively downwards, with three "cyclical" booms with crests in 1825, 1839 and 1847, each appreciably lower than its predecessor. Two broad explanations, perhaps complementary, are possible. With the return of peace the country began to benefit from earlier capital investment in mills, canals, harbours and machines. Much of the new investment in the 1820's and 1830's was in enterprises such as power-looms and blast-furnaces which "yielded their cost-reducing results within a fairly short period . . . It was natural that the price trend should be downwards." (W. W. Rostow: *British Economy of the Nineteenth Century*, p. 17.) The second explanation seeks to relate price movements to gold supply in an economy employing a gold-based currency. So Clapham,¹ after explaining the complications introduced by changing tariff levels and banking practice, writes "there is little doubt that the general falling trend of gold prices, between the decade 1820-30 and the gold discoveries of 1848-51, was evidence of a relative shortage of gold in relation to the world-demand for it in currency and in the arts." Layton and Crowther² advance the same thesis, drawing attention to the dislocation in South American gold-mining and the lack of elasticity in other forms of circulating media. In short, the supply of money failed to keep pace with the demand for it, and by the late 1840's the consequent stringency was seriously threatening Britain's commercial relations with economically backward countries. (See L. H. Jenks: *The Migration of British Capital to 1875*, pp. 155-61.)

(d) *Buoyant Prices, 1850-74.* This quarter-century saw two substantial price advances with relative stability in between. From 1850 to 1857 the rise was of the order of 30

¹*An Economic History of Modern Britain*, Vol. I, p. 507.

²*An Introduction to the Study of Prices*, pp. 37 ff.

per cent. A sharp but brief recession accompanied the crisis of the latter year, then from 1859 to 1871 the price-curve follows a smoothly undulating plateau, and finally with the boom of the early 1870's it moves up some 10 per cent above the average of the 1860's. It is arguable that in this whole period, and particularly in the closing years, an increased proportion of new investment was directed into unproductive uses or into overseas enterprises yielding results only after a considerable period of gestation. Money sunk in American railways in the ten years after the Civil War did not immediately yield the natural fruits of cheaper grain. (See Rostow.¹)

The traditional explanation, at least for the initial rise in the 1850's, turns to the sudden influx of new gold from California and Australia. In 1853 Britain coined eight times as much gold as she had done in 1850, whilst simultaneously currency stringency was eased by wider use of cheques to supplement and ultimately supplant the inland bill of exchange. (See Clapham,² and below, p. 179.) So the currency shortage which threatened to hamstring the commercial world in the late 1840's was averted and expansion was reflected in rising prices.

(e) *Prices During the Great Depression, 1874-96.* The years 1873 and 1896 mark, respectively, the zenith and nadir of general prices in Victoria's reign. The fall between them was irregular; fast to 1879, checked in 1880, then down again to 1887, a temporary small recovery to 1889-91, and a final fall to 1896. On the base 1910-14=100 the index moved down from 134 in 1873 to 74 in 1896.

The conventional explanation was set out by Keynes as follows: "The story, on which we were brought up, tells how the decline in prices which culminated in 1896 was due to a shortage of gold occasioned by the failure of new mining to keep up with the demand arising from the adoption of the gold standard by a number of countries. Now for the decade ending about 1886 this explanation is probably correct." (*Treatise on Money*, Vol. II, p. 164.) The increased demand for gold for currency purposes coincided with a relatively

¹*British Economy of the Nineteenth Century*, pp. 37 ff.

²*An Economic History of Modern Britain*, Vol. II, pp. 334-9.

greater use of gold in industry and the arts ; it is estimated that in 1880-84 only 22 per cent of new gold went into currency as against 81 per cent in 1850-54. (Warren and Pearson.¹)

This conventional explanation breaks down for the later part of the period in which there is no evidence of serious shortage in Britain of circulating medium, and the whole approach via the Quantity Theory of Money is critically examined by Dr. Rostow² whose emphasis rests rather on the price-effects of variations in costs and demand and of current and earlier investment. Attention therefore, is tending to turn from general to special causes to which Clapham³ gives a clue : "Special causes for any particular fall could easily be assigned — virgin soil for wheat ; metallurgical inventions for steel ; the revolution in the transport system for most things." Production was in fact expanding fast on a global scale, and British investment, for almost all this period, turned inwards to the intensive development of existing industries.

Recovery and Boom, 1896-1920. By 1914 general wholesale prices had regained the level of 1881. The climb from the low point in 1896 was erratic ; fairly brisk to 1900, then on a sagging plateau to 1905, then up again with a break in 1908-9. With war the climb became precipitous, so that by the Armistice prices were two-and-a-half times and by mid-1920 more than three times the 1913 level, for unlike the Napoleonic period the main peak came after the fighting ceased.

The upward turn after 1896 coincides with a great expansion of gold mining in Africa coupled with the introduction of better methods of extraction in goldfields everywhere. New gold came in quantities far in excess of anything hitherto experienced in the 19th Century, and "there could be no doubt that the weight of the new gold was pushing down the purchasing power of the mass" of existing gold. (Clapham.⁴) Yet because the world demand for it had expanded, its effect was more gradual than that of the new

¹*Gold and Prices*, p. 125.

²*The Economy of Britain in the Nineteenth Century*, especially Chapters III and VII.

³*An Economic History of Modern Britain*, Vol. II, p. 339.

⁴*Ibid.*, Vol. III, p. 19.

gold in 1850, for by 1900 every main currency except the Chinese used gold as its base.

With the 1914 War this gold base was unofficially abandoned by Britain. The Treasury notes issued by the British government were in practice inconvertible, the Government's power to acquire loans from the Bank of England involved the transfer to the public of purchasing power for which no solid backing existed, as in all modern wars the State became a major purchaser, and productive resources were redeployed in the making of warlike goods destined mainly for speedy destruction. The final peak in 1919-20 marks the post-war boom when wartime controls were speedily abandoned and optimistic business men set out to satisfy "a great banked-up desire for all sorts of goods and services, the supply of which had been cut off, or at all events, greatly curtailed." (A. C. Pigou: *Aspects of British Economic History*, 1918-25, p. 172.)

(g) *Deflation in the 1920's.* The boom cracked in the summer of 1920. The Board of Trade Wholesale Price Index (1913=100) stood at 325 in May and June and then fell, slowly at first, fast by the winter, reaching the 160's by the early months of 1922. The three succeeding years of relative stability were followed by a renewed but gradual deflation from the resumption of the Gold Standard in 1925 to the onset of the world-wide slump of 1929-31, during which, in September 1931, prices fell to a point below the 1913 level.

The break in the boom of 1920 was not the result of any sudden reduction in the quantity of bank money in existence, though the Government was gradually contracting the issue of fiduciary Treasury notes, and after the spring of 1920 money was circulating appreciably slower. "It seems fairly clear that the boom of 1919 and 1920 contained within itself the seeds of its own collapse." (A. E. Feaveryear: *The Pound Sterling*, p. 321.) The raising of the Bank Rate to 7 per cent in April, 1920, accomplished the somewhat invidious task of restraining credit and coincided with a general drying-up of the abnormal post-war demand for replacements and hitherto scarce articles. Hence the view that by mid-1920 the optimism of traders was fading and that the immediate cause of the slump

is to be sought in "the attitude of business men." (Pigou.¹)

Economic Fluctuations

The formidable bibliography attached to this Chapter indicates the attention now being focused on the history of economic fluctuations. In the past there was a dangerous tendency to concentrate on movements of prices and interest rates, with the inevitable result that early studies were predominantly monetary. Data regarding other variables, physical production, employment and the size and distribution of the national income, are imperfect even for the 19th Century, but recent work, such as the papers by Messrs. Wilson and Shannon quoted below, is filling some conspicuous gaps in our knowledge of the volume as distinct from the value of production. Similarly a great deal of illumination can yet be shed on the international aspects of economic instability. The historical chapters in Professor Schumpeter's massive work move in this direction by their comparative treatment of Britain, Germany and the United States.

TRENDS IN ECONOMIC DEVELOPMENT

Researchers in this field have invented their own jargon; "Kondratieffs" to imply long trends, "Juglars" and "Kitchins" to imply medium and short cycles. British literature, more conservative in language and cautious in generalizations, still adheres in general to the secular price waves at least as "useful analytic units for the examination of trends." (Rostow.²) Dr. Rostow interprets the main trends in British economy from the eve of the Napoleonic Wars to 1914 in terms of the varying nature and direction of investment, and the following is a crude summary of his analysis.

From the outbreak of the wars in 1793 to 1815 the country's economy was distorted by the diversion of resources into unproductive uses and by the hindrances to overseas trade at a time when Britain's industrial and agricultural capacity and population were increasing fast. After the peace investment turned to productive enterprises so that the phase of rapid

¹*Aspects of British Economic History*, Chapter V, *passim*.

²*British Economy of the Nineteenth Century*, p. 7.

internal development from 1815 to the late 1840's was truly one of "Industrial Revolution." That the period has a bad name in social history, that it was a period of unrest and unhappiness, was due to dear food, painful readjustments of labour, and low standards of public health and social morality.

The 1850's and 1860's have the popular title of the "Good Years." They were not good for everybody, for grave social evils still existed, but as we have seen, they were years of rising or steady prices and general internal stability, with Britain at her zenith as an international economic power. In this position Britain turned to overseas investment in enterprises yielding delayed results, whilst at home there was much new investment in steam shipbuilding. In short, Britain was employing the fruits of her industrial leadership to prepare the world for greater and cheaper production.

Similarly, the phase 1874-96 has its own title, "The Great Depression," and its own literature, beginning with the Report of the Royal Commission on the Depression of Trade and Industry, 1886. In many ways the label is a misnomer. The period witnessed a great overall increase in production, and as we shall see in the following chapter, in real wages. What troubled producers was the secular price fall and the decline in profit margins. Dr. Rostow's interpretation of these phenomena turns upon the inward direction of investment after the early 1870's which tended to force down the returns of capital. But it must also be remembered that the period coincides with the meteoric rise of Germany and the United States as major industrial producers, for whilst both experienced the initial set-back in 1873-4 both displayed great resiliency, seeking escape in protection and internal industrial organization in trusts and cartels.

The turn in prices in 1896 marks the conventional end of the Great Depression, though Dr. Rostow prefers the eve of the Boer War. From then to 1914 almost every trend was reversed. Capital again went abroad in great volume, expenditure on armaments rose, trade terms moved unfavourably to Britain, and real wages stagnated. In a sense, Britain was passing through another phase of national abstinence. Had she enjoyed a period of peace, the second quarter of the 20th

Century might have been a very happy period for the inhabitants of Britain.

BOOMS AND SLUMPS

Contemporary economic narratives, as well as indices of prices, output, interest rates or bankruptcies, all confirm that no two successive years have precisely the same economic weather. Explanations of these short-term variations are legion, but they all tend to fall into one of the two following groups :—

(a) It is arguable that the capitalist structure, at any rate over the past 150–200 years, possesses certain inherent characteristics making for a relatively regular cyclicity of slumps and booms. For the 18th Century Mr. Wilson¹ provisionally concludes that cyclicity can be traced in particular industries from about 1720, but that only in the later 18th Century were industries so integrated and interdependent that their fluctuations move in harmony. Lord Beveridge writes : “ Fluctuations of industrial activity in Britain of an average length not very different from those of the modern trade cycle can be traced over the whole time for which data of construction industries are available, i.e. from 1785,” and he has devised an index of industrial activity and exports showing annual variations from the trend. (*Full Employment*, p. 310–13.) Peaks of industrial activity appear in 1792, 1803, 1810, 1818, 1825, 1836 and so on to 1929 and 1937, with corresponding troughs in 1797, 1808, 1816, 1821, 1831 onwards to 1932. The precise turning-points are still under discussion (see Dr. Rostow’s criticism² of Lord Beveridge’s turning-points), but a great body of opinion accepts the broad pattern, and this apparent regularity of boom and slump has gathered about it a library of theoretical explanation ranging from sun-spot occurrence to the refinements of modern monetary and psychological analysis.

(b) “ If we study the recorded history of depressions in Great Britain, we shall be tempted to argue that their advent is not due to anything connected with the internal working of

¹“Industrial Activity in the Eighteenth Century,” in *Economica*, 1934.

²*British Economy of the Nineteenth Century*, pp. 33–4.

the British economic system, but rather to external causes." (G. D. H. Cole : *Intelligent Man's Guide to the Post-war World*, p. 397.) Similarly, Professor Silberling,¹ working from his indices of prices and bankruptcies from 1779 to 1850, concludes that the wave-like undulations exhibit no marked periodicity or precise regularity of occurrence, and believes that any tendency towards such regularity was complicated and modified by political and accidental circumstances. Any realistic historical study must take account of the impact of these external forces : war and rumour of war, variations in the seasons, gold discoveries, political dislocations at home or overseas, economic slumps in important overseas markets. The two following illustrations will indicate the nature of this impact :—

(i) Variations in the Seasons

Down to the late 1840's British fiscal policy was framed with the object of preventing any regular import of cheap grain, with the result that the growing population was fed from a relatively circumscribed area. Within this area annual yields fluctuated with the nature of the seasons, and Tooke and Newmarch² illustrate the relationship between the size of harvests and the market price of grain. Seasonal variations produced two effects. As the demand for wheat was relatively inelastic and expenditure on wheat flour represented a substantial part of working-class outlay, any upward movement in wheat prices reacted unfavourably on the demand for other goods and services. Hence a poor harvest meant a reduced demand for textiles and similar consumer goods. Secondly a domestic grain shortage involved, down to the later 19th Century, the purchase of grain from European countries likely to require payment in gold. So a harvest failure was liable to upset the trade balance and imperil the country's gold stocks. (For an example of this effect in 1838-9, see Tooke and Newmarch.³)

By the later 19th Century Britain was becoming a regular heavy importer of grain from dispersed sources, so that grain,

¹" British Prices and Business Cycles, 1779 to 1850," Supplement to *Review of Economic Statistics* (Harvard, 1923).

²*The History of Prices*, Vol. I.

³*Ibid.*, Vol. V, p. 2.

as we saw in Chapter 5, had become a regular item in overseas trade, and under free trade conditions it was possible for a poor domestic harvest to coincide with low grain prices. Bread no longer occupied so dominant a position in the average domestic budget and an increase of a penny or so on the loaf produced a much smaller effect on the demand for other goods than it had done a hundred years earlier. Accordingly a good domestic harvest in the 1880's might "give the finishing touch to a good year—it did in 1889—but it was not essential to any real measure of prosperity, as it had been fifty or even thirty years earlier." (Clapham.¹)

(ii) War

Dr. Redford in his *Economic History of England, 1760-1860*, Chap. VII, analyses the effect of the Napoleonic Wars on British economy and emphasizes the unsettling of normal rhythms of economic development. The effect of that war, as of all others in which Britain has been involved, appears partly in the dislocation of foreign markets, partly in the emphasis of domestic production on warlike goods and consequent redirection of investment, and partly in the agitation of the credit mechanism and currency inflation. In more recent wars the redirection of the country's resources has been subject to direct government guidance and the turnover to a "war economy" accordingly more rapid than after 1793. In such conditions any inherent tendency towards regularity of boom and slump is inevitably twisted and masked by a complex of external influences.

The Cotton Famine and consequent slump in the British cotton industry in the early 1860's illustrates the impact of a war in which Britain was not directly involved. It seems likely that after the very high production about 1860 some recession in the industry must have followed, but the length and depth of the actual slump exceeded anything which could reasonably have resulted from tendencies inherent within the capitalist structure of the industry. (See W. O. Henderson: *The Lancashire Cotton Famine*.)

¹*An Economic History of Modern Britain*, Vol. III, p. 10.

THE AMPLITUDE OF FLUCTUATIONS

The view is often advanced that the vertical distance between crests and troughs in economic fluctuations displays a definite trend. Lord Beveridge believes that cyclical fluctuations increased in amplitude down to the second quarter of the 19th Century and then decreased, reaching a minimum in 1887-1913 only to widen out again sharply after 1920. In so far as fluctuations are regarded as purely financial affairs this greater stability in the later 19th Century may be attributed to the more skilful manipulation of credit by the Bank of England and the greater stability and integration of financial houses in general. (A. E. Feaveryear: *The Pound Sterling*, p. 288 ff.) It is arguable that as the average firm in that period tended to increase in size and resources, so the business world in general became more stable and sudden failures were replaced by gradual recessions.

Against this must be set the views of Dr. Rostow¹ who agrees that the amplitude of cycles increased after the 1790's but finds no clear trend in the major cycles of the 1820's, 1830's and 1840's. For the second half of the 19th Century his examination of unemployment records leads him to the conclusion that whilst the trade cycle undoubtedly affected a growing proportion of the population "the relative amplitude of cyclical movements in employment did not change in a systematic and significant way."

POLITICAL AND SOCIAL EFFECTS OF FLUCTUATIONS

Between economic and political history there lies an extensive frontier-land, still largely uncharted. Very clearly long periods of depression have permanent political repercussions, for when, in Dr. Rosenberg's phrase, "sinful capitalist Babylon" seems to totter, "apocalyptic horsemen appear on the horizon." The depression after 1874 bred criticism of individualism and *laissez-faire*, pointing the way to closer union between the political state and the economic structure within its frontiers. Right-wing politicians interpreted this as grounds for a return to mercantilism with state protection for industry and trade.

¹*British Economy of the Nineteenth Century*, pp. 44 ff.

In most overseas countries policy was immediately turned in this direction ; in Britain fiscal liberalism survived until another and a deeper depression in 1931 destroyed it. To left-wing politicians depressions proved the inability of private capitalism to create permanent prosperity, hence the development from the 1880's of various brands of British Socialism with the common aim of public ownership of the means of production, distribution and exchange.

The link between economic well-being and political happenings can be more intimately studied by concentration on short-term changes as providing the setting or the excuse for particular political actions. Dr. Rostow shows how the Combination Laws were repealed in 1824 at a time when employment was relatively good, food prices moderate and labour peaceful ; and how the Ten-hour Bill could not be passed in 1844 because industry needed every hour it could get, but was passed in 1847 because trade was slack. It must not be suggested that short-run fluctuations bred the demand for these and similar reforms. It is suggested that they created the appropriate tools either to smooth the channel or detonate the rocks.

The impact of economic fluctuations on the social life of the community has been examined by numerous economists, statisticians and criminologists.¹ In any period before the establishment of universal social insurance the relationship would normally be direct, though, in some cases, a time-lag would inevitably occur. There is, for example, a well-established link between economic prosperity and the consumption of spirits, though, as Dr. Thomas points out, the maximum psychological need for such stimulants would arise in times of economic depression. Marriage-rates tended, in the 19th Century, to shift upwards with prosperity ; births to increase with prosperity with a lag of one or two years. Such correlations do not, of course, prove causality, but certainly indicate a number of very close relationships and prove the need for close integration of economic and social studies.

¹For a critical résumé of these, see D. S. Thomas: *Social Aspects of the Business Cycle*. Chap. II.

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CHAPTER 8

WAGES AND EMPLOYMENT

EXCEPT for comparatively recent years we cannot speak with precision of the level either of real wages or of employment. The present Chapter will therefore set out some of the more obvious considerations involved in the historical study of these matters, and will indicate the more significant trends.

Wages and Purchasing Power in the 18th Century

METHOD IN WAGE HISTORY

Generalizations about wages and purchasing power must rest on a great mass of data. Cash wages for unit periods provide only a starting point. Beyond that we need to know the extent of short time and unemployment, whether there were stoppages from wages, what ancillary sources of income existed, and whether children or women contributed to family earnings. Assuming all that we then need details of habits of consumption, prices of goods and services and the amount paid out in rent. All these change with time. Similarly with time the nature of occupations tends to change. A mill-wright in 1800 may well have been very different from a mill-wright in 1700, even in the same town. For the 18th Century the available data are patchy, society was increasingly fluid, and old wage structures were disintegrating. Hence many economic historians reject the application of statistical methods to this period (e.g. Mantoux¹). On the other hand, Mrs. Gilboy² argues that "even if the data are imperfect, they are, to my mind, if handled with caution, a better basis for discussion than purely descriptive material."

REGIONAL DIFFERENCES IN THE 18TH CENTURY

Mrs. Gilboy's work is based on wage and price records for

¹*The Industrial Revolution in the Eighteenth Century*, p. 439.

²*Wages in Eighteenth Century England*, p. xxvii.

three distinct regions, the London area, the "West Country," and a northern region including Lancashire and North and West Yorkshire. On the crude index of money wages London labourers started the century high and remained high, the West started low and rose little, and the North started low and finished high with a considerable upward heave after 1760.

The relative well-being of the three appears in a different light when supplementary and family earnings are added. In London neither amounted to much more than beer money and the like. In the other regions both were considerable, for in both textiles and agriculture women's work was intense (clearly demonstrated in I. Pinchbeck : *Women Workers in the Industrial Revolution*), and at least down to the later 18th Century many rural labourers had secondary sources of income in common-rights.

An obvious inference is that 18th Century wage levels were determined by the regional demand for labour. As we shall see in Chapter 9 the labour market was imperfect. Geographical immobility set a premium on the value of labour in the immediate vicinity of expanding industries or public works, and it cannot be coincidence that the substantial rise in money wages in Lancashire and Yorkshire accompanied the concentration of the textile industries, town-building, canal-cutting and the emergence of all the ancillary services after about 1760.

REAL WAGES IN THE 18TH CENTURY

Was the average working-man better off in 1790 than his grandfather had been under Queen Anne? Did he and his family enjoy more goods and services? A great mass of contemporary literature deplored the "luxury" of the lower classes. Critics argued either in good mercantilist language that luxury goods were imported and tended to drain off the country's bullion, or alternatively that luxury was morally dangerous to the workers, though Manderville, in his *Fable of the Bees*, defended "luxury" as a creator of employment.

Modern opinion is undecided. One school maintains that as reasonably stable money wages in the early 18th Century coincided with generally falling wheat prices, there is a strong presumption that this was a good period for the worker. In

fact wheat is an imperfect index of expenditure, for in this period probably two-thirds of the country's bread was made of other grains. The argument proceeds to show that after about 1750 wheat prices rose, cottage industries waned, and countrymen lost their subsidiary sources of income. Hence rising money wages were counteracted by dearer food and loss of subsidiary revenue. Mrs. Gilboy¹ comments on this: "beside the picture of distressing conditions, we place our data on the rising standard of living of the general unskilled labour of the north."

We know that by the end of the 18th Century population was growing fast. If it is true that real wages were also increasing over a significant part of the country the greater demand must have stimulated production. Domestic demand may have been a factor in the timing and nature of the Industrial Revolution, but its precise significance requires fuller investigation. (See C. R. Fay, *English Economic History*, Chapter XX, "The Demand Side of the Industrial Revolution.")

Industrial Wages, 1790 to 1850

THE IMPACT OF CAPITALIST METHODS

In the Preface to the first edition of Volume I of his *Economic History of Modern Britain*, Clapham spoke of "the legend that everything was getting worse for the working-man down to some unspecified date between the drafting of the People's Charter and the Great Exhibition," and, he said, this legend "dies hard." A theoretical basis for the "legend" is provided by Marxist doctrine, and is vigorously restated by Dr. Kuczynski. Under unregulated capitalism, it is argued, the condition of labour tends to deteriorate both absolutely and relatively to that of the employers. Capitalism will constantly seek to maintain a reserve pool of labour, fed by men rendered redundant by technical change and the substitution of capital for labour. Similarly capitalism, in its early stages at all events, depends for its expansion on current profits, and to maximize these the employer will seek always to extract the utmost time and effort from his workers in return for the lowest

¹*Wages in Eighteenth Century England*, p. 226.

possible remuneration. Hence the argument that the Industrial Revolution was possible only through the exploitation of labour.

THE INADEQUACY OF STATISTICS

Statistics do not exist for the exact testing of this theory over any considerable period. Some guesses have been made. It has been said that "the distribution of incomes in Great Britain seems to have been much the same in 1909 as it was in 1812" (C. Clark: *Conditions of Economic Progress*, p. 430), but Dr. Bowley believes that no "fine measurement of incomes, earnings, or wages" can be made before 1880, and that it is far from easy even thereafter. (A. L. Bowley: *Wages and Incomes since 1860*, p. 99.)

As the country became more industrialized a larger part of the population was exposed to economic crises, and recurring slumps were reflected in loss of wages through un- or under-employment. Similarly, mechanical production involved discipline, enforced in this period by fines or threat of "the sack." The isolation of some industrial units and shortages of cash probably increased payment in kind, but whether the average "Truck Shop" gave value for money we cannot say. Nor do we know whether children made a bigger contribution to the average family's revenue than before, though as there were relatively more children in the country in the first three decades of the 19th Century it is not unreasonable to suppose that they did.

Assuming all this could be reduced to a statistical formula, and that we had precise indices of prices and full knowledge of consumption habits, we could assess the material condition of the workers. But "the life is more than food, and the body than raiment." Dr. Hammond speaks of the "poverty of life" in the Industrial Revolution which afflicted most working-class groups. There was little security. For all workers there was the same want of beauty and culture, the same absence of those things which make up the "good life." The weighting we attach to these deficiencies will influence our judgment of the workers' well-being, and our interpretation of their reaction to the new industrial system of the early 19th Century.

THE AVERAGE WAGE

Average money wages of industrial workers rose fast from 1790 to a peak in 1810, from which they fell less decisively and recovered a little in 1824-5. Dr. Fay estimates that "at the time of the repeal of the Combination Act wages were 50 per cent higher . . . than in 1790." (*Great Britain from Adam Smith*, p. 397.) The slow fall was then resumed to about the mid-1840's with another small recovery to 1850, bringing the level up again to about 40 per cent above 1790.

Averages possess inherent weaknesses, and particularly in this period of rapidly changing techniques important groups of workers received wages far removed from the average. The hand-loom weavers experienced an entirely different wage trend. As we saw in Chapter 2, they occupied a dominant position in the textile industries in the 1790's, and their weekly wage reached a peak of over 25s. in the decade 1795-1804. Then, before the power loom seriously competed, their trade became over-manned by recruits from spinning and by Irish immigrants. After Waterloo their average wage had fallen to 15s. or less, and a generation of painful extinction followed, with the still numerous survivors in the 1830's miserably existing on 5s. or 6s. a week.

At the other extreme stand the aristocrats of labour: the skilled mechanics; the key men of the textile trades, cloth shearers and the like; some printing operatives; the breeches-makers, who, according to Francis Place, earned 36s. in 1815 and maintained it to the mid-1830's. Dr. Trevelyan gives us a salutary reminder that no picture of the Industrial Revolution is complete if it omits the life of the mechanics, the *élite* of the manual workers. (*English Social History*, p. 479.)

Wages in Agriculture, 1790-1850

As late as 1831, 28 per cent of all the families of Britain were employed in agriculture. Clapham¹ argued from this that nearly half the population must have lived under conditions "which may properly be classed as rural." In other words the "condition of labour" in this period was still

¹*An Economic History of Modern Britain*, Vol. I, p. 66.

predominantly that of agricultural labour and the ancillary trades.

In all rural employments, money wages, especially in the Napoleonic War period, can tell only part of the story, and we turn first to some of the complications.

ENCLOSURE

The old country adage, "Enclosures make fat beasts and lean poor," no doubt derives from an earlier age, but it is by no means certain that the enclosures of this period either increased the demand for labour or gave the same security of employment as the older agricultural systems. We discussed above (Chapter 3) the uncertainty which surrounds the alleged loss of common-rights in this period, and though generalizations are hazardous it seems reasonable to argue that, as the enclosure movement symbolized a more rational approach to farming it tended to place the farm labourer more nearly in the position of the economist's "pure" wage-earner.

POOR RELIEF

We shall examine in Chapter 11 the rise and fall of the Speenhamland System. "In innumerable rural areas, North as well as South, some poor-law allowance had become part of the economic—or uneconomic—organization of agriculture since 1795." (Clapham.¹) Though such allowances were never universal most English Poor Law Overseers seem to have made grants to fathers of big families. This allowance system must be interpreted in relation to the degree of mobility of labour, for where labour was subsidized and immobile, true money wages must have been depressed.

RURAL UNEMPLOYMENT

We have seen that after 1812 farming slipped into a trough of depression from which it did not permanently rise till the middle of the 19th Century. In these conditions employers retained a minimum of permanent labour, and particularly with the advent of threshing machines large-scale winter unemployment became universal in the corn-growing regions. (See N. Gash : "Rural Unemployment, 1815-34," in *Economic*

¹Ibid., Vol. I, p. 122.

History Review, 1935.) It is broadly true that corn-growing districts in the early 19th Century had a pool of semi-redundant labour. Poor relief kept it alive until 1834, and after that railway construction began to suck up the pool in the most congested areas.

ALTERNATIVE EMPLOYMENTS

By the later 18th Century rural wages were already reflecting the labour demand from nearby industry or mining. By 1830, writes Professor Ashton, "earnings of farm labourers and builders moved up and down with those of the factory operatives" (*Industrial Revolution*, p. 126), and by 1850 Caird found that weekly money wages in agriculture were 37 per cent higher in the North of England than in the South. His dividing line sagged southwards between Chester and the Wash. In short agriculture had to offer better wages where it competed with other heavy manual operations.

MONEY WAGES AND THE COST OF LIVING

On the basis of 1790=100 the index of average agricultural money wages, with some allowance for extra earnings in harvest, approached 200 by 1805-10. The fall began after 1813, becoming increasingly rapid and carrying the index down to about 140 by 1822. It then ranged between 130 and 150, finishing in 1850 some 30 points above the level of 1790. The Silberling Cost-of-Living Index follows roughly the same trend, though the short-run fluctuations are more violent, and the fall after 1813 is steeper. The relative position of the two curves after the Napoleonic Wars suggests that the labourer's real wage was somewhat better than in 1790, but as we have seen average money wages are very misleading and there are many imponderable factors. So, in a passage redolent of caution, Clapham¹ concluded of the labourer in 1824 that assuming equal regularity of work his potential standard of comfort was "probably a trifle better than it had been in 1794," but "there were important areas in which it was definitely worse."

Labour in the "Good Years," 1850-74

With the middle years of the 19th Century the most painful

¹Ibid., Vol. I, p. 131.

phase of adjustment to new economic conditions seemed over. We have seen that the death of Chartism in 1848 marked the end of the "Hungry Forties." In a few industries—boot- and shoe-making, carpet-weaving and some light-metal trades—the change to large-scale mechanical production was still to come, yet over a very wide range the representative unit was already considerable and technical change had apparently passed the revolutionary stage. In general the country was settling down under Free Trade in the comfortable prospect of permanent world leadership. These twenty-five years of internal stability, expanding markets, and buoyant prices have earned the title of the "Good Years."

PRICES AND WAGES

That statisticians' abstract, the average wage-earner, drew roughly 50 per cent more cash in 1875 than he had done in 1850, but much of the gain came in the boom of the early 1870's. There were, of course, considerable trade variations either side of this average, and the average assumes constant employment. Meanwhile prices also moved up, but the tendency of several important items of food to follow the upward trend had been checked by free trade and cheapening transport. Accordingly, on balance, real wages improved for men in constant employment. Wood's real wage index moves as follows:—

1850—100	1870—118
1855—95	1873—128
1860—117	1875—135
1868—110	

Subsequent statistical research has shed some doubt on the detailed accuracy of these figures, but not on the general trend they display, and the extension of "self-help" through the agency of Friendly Societies and Savings Banks in this period supports the view of real progress in the workers condition.¹

UNEMPLOYMENT

After the 1850's trade union records provide an increasing volume of data on unemployment, though even for the 1870's complete series are rare, and they reflect only obliquely the incidence of unemployment among the hosts of non trade

¹For the place of Savings Banks in Social history, see H. O. Horne: *A History of Savings Banks*.

unionists. This imperfect material suggests a relatively high unemployment rate in many of the Good Years, especially 1856-8 for which Dr. Rostow calculates an unemployment figure of $7\frac{1}{2}$ per cent (*British Economy of the Nineteenth Century*, p. 48), whilst the Cotton Famine produced an almost complete stoppage in Lancashire in the early 1860's. In his evidence before a Royal Commission in 1888 Alfred Marshall maintained that unemployment in those "depressed" days was generally no worse than it had been in earlier decades. In short the Good Years were not good for everybody, and the general condition of the workers was less favourable than the real wage figures suggest.

Labour in the "Great Depression"

"Although the Great Depression years had their share of unemployment, the period would not have been thus named if labour's viewpoint alone were considered." (Rostow.¹) Dr. Rostow interprets this period from the mid-1870's to the late 1890's as one in which additional doses of capital were applied to an economy receiving relatively smaller increments of labour, with the result that the marginal return to labour rose faster than that to capital. Apart from this internal condition it is clear that the net barter terms of trade were now moving in Britain's favour, so that each ton of railway metal sent out paid for a little more wheat than previously.

REAL WAGES

Under the first impact of depression in 1874 most industries suffered some fall in money wages, but generally the fall cut away only a fraction of the gains since 1850. The building trades, boosted by heavy internal capital investment, lost practically nothing, but coal-miners in the mid-1880's were receiving some 15 per cent less than in the mid-'70's.

Money wages steadied in the 1880's after this initial shock, and generally were reviving again by the early '90's. Meanwhile the cost of living had fallen sharply, and labour as a whole finished the period with appreciably better real wages than those of the '70's, assuming equal employment.

¹*British Economy of the Nineteenth Century*, p. 92.

Average unemployment over any substantial period was not significantly higher in the Great Depression than in any earlier quarter century for which records exist, but there were some very black years and some unfortunate trades. In 1879 trade union unemployment reached nearly 11 per cent, and, to take an extreme figure for one trade, the Boilermakers and Shipbuilders in 1886 had 22 per cent of their members on out-of-work pay. So improved real wages did not allay discontent, and the amplitude of fluctuations in employment reinforced the arguments of the early Socialists that private ownership was incompatible with maximum well-being.

HOURS OF WORK

Dr. Bowley¹ quotes an estimate by a contemporary statistician, Giffen, that between 1836 and 1886 in textiles, engineering and building, a working week of six days of 11 or 11½ hours had given place to one of five and a half days of 10 hours. Continuous trade union pressure was required to establish early finishing on Saturdays, and the emergence of the "Saturday afternoon off" is reflected in the history of organized sport. The Football Association was formed in 1863, and from 1871 the masses followed their favourite teams in the "Cup." (On the place of organized sport in this phase of our social history, see G. Chapman: *Culture and Survival*.) In most industries, though not in shopkeeping, decisive cuts in hours came in the early 1870's, after which the working week remained more or less stationary until 1919-20 when the pre-breakfast period was eliminated and a week of 44 or 48 hours became general.

THE INTENSITY OF LABOUR

Against these statistical facts Marxist historians urge the growing intensity of toil, which, they maintain, was a vital element in rising output per operative. The problem involves considerations partly psychological in nature. Very clearly machinery ended some brutally heavy jobs, such as that of the "bottom-sawyer" in the old saw pits of the days before the circular saw. Against this we may doubt whether, in return

¹*Wages and Income Since 1860*, pp. 25-6.

for so moderate a wage, any earlier age imposed quite the same intense responsibility as that borne by the driver of the train roaring North with the Queen to Balmoral. Similarly it is argued that as machinery speeded up so new strains were imposed on those whose work it ostensibly lightened. Evidence on the physical condition of the people is scanty, but there is at least some ground for the belief that it was deteriorating under late 19th Century industrial conditions. (See, for example, the opinion of the Poor Law Commissioners in 1909 in their Majority Report, pp. 219-20).

Labour in the Early 1900's

THE CHANGING ENVIRONMENT

By about 1900 the condition of the working-classes was undergoing almost constant investigation, ranging from the private inquiries of Booth and Rowntree in London and York respectively, to official committees and commissions on the alleged physical deterioration and on the causes of pauperism. Disquieting facts were revealed about housing and about the large numbers living at or below the "poverty line" (summarized in Bowley.¹)

Simultaneously, as we saw in Chapter 6, trade unionism was altering in character and extending its hold on unskilled labour. Collective bargaining was becoming more general, and there were unmistakable signs of solidarity in the ranks of labour.

Partly in response to both these developments the State was bending in the direction of collectivist legislation. The Labour Exchanges marked the beginning of a publicly organized labour market; Trade Boards revived the ancient interest of the State in wage determination; National Insurance implied the recognition of unemployment as something beyond the control of the individual worker. (See below, Chapter 11.)

WAGE MOVEMENTS

In the late 1890's both prices and money wages rose. On the base 1914 = 100 the average industrial money wage climbed from 83 in 1896 to 94 in 1900, from which it continued on a bumpy plateau and experienced no further decisive rise until 1912-14.

¹*Wages and Income Since 1860*, Chapter IV.

The cost of living rose more steadily, so that at some periods, for example 1904-6 and 1911-13, the "average wage-earner" was a few points worse off in real wages than in 1899-1900, and coal-miners, whose money wage was tied fairly closely to the price of coal, sagged badly below the general trend. Similarly whilst average unemployment was not formidable, there were bad spells, 7 or 8 per cent in 1907-8, and unfortunate industries, the Boilermakers with over 20 per cent off work in 1909. These unsatisfactory features made for generally uneasy industrial relations, and labour disputes reached a peak in 1911-12 when, in the blazing summer of 1911, first the railwaymen and then the miners resolved on strike action. More working days were lost by industrial disputes in 1912 than in any other year for which records exist down to 1921.

THE TERMS OF TRADE, OVERSEAS INVESTMENT AND WAGES

The early 1900's saw intense overseas investment. Instead of bringing home the yield on old investment in the form of consumable goods, Britain in this phase seems to have reinvested the money abroad in fresh capital undertakings. The broad impression is that of a country practising national abstinence for the sake of the future. The situation is reflected in the net barter terms of trade which were unfavourable relative to the years immediately before 1900 (F. W. Taussig: "Great Britain's Foreign Trade Terms," in *Economic Journal*, 1925), and possibly also in some change in the distribution of the national dividend in favour of the capital-owning groups (Bowley¹). The exact repercussions on real wages are uncertain. Clapham was content to leave it that "there might have been earlier improvement, and more improvement, in real wages had there been less export of capital,"² but in some industries, notably building, the general slackness could be fairly directly associated with the emphasis on external rather than internal capital development.

Labour after 1918

UNEMPLOYMENT AND LOST TIME

The war and post-war years were marked by a great

¹*Wages and Income Since 1860*, p. 92.

²*An Economic History of Modern Britain*, Vol. III, p. 477.

redistribution of labour. In general the old staple industries, especially those catering for export markets, declined relatively and sometimes absolutely as employers of labour. Simultaneously a group of expanding industries, building, road transport, the distributive trades, vehicle building and light engineering at large became increasingly prominent among the occupational groups.

Neither the expansion of these secondary industries, nor the more efficient organization of the labour market under the new Ministry of Labour, was able to maintain anything approaching full employment. On the whole 1920 was a tolerably good year, but unemployment was mounting in early 1921 and during the coal strike in the spring upwards of one-quarter of all insured workers were registered as unemployed. The figure remained over 15 per cent until early 1922 when it gradually turned down to reach an uneasy keel of 9 per cent to 12 per cent. The collapse of the General Strike in 1926 was followed by a reduction in time lost through industrial disputes, but from 1923 to 1929 Britain appeared to house a hard core of about a million surplus men, "the intractable million" (Pigou¹). There was movement in and out, and the incidence was unevenly spread over industries and consequently over districts, yet the total volume changed little and Britain faced the world slump of 1929-31 with a heavy load. In those two years unemployment topped 20 per cent and only by 1937 had it again fallen to the 10 per cent of the later 1920's.

WAGES AND THE COST OF LIVING

With one worker in ten "on the dole" real wages are an imperfect guide to the general material conditions of the working population. During the 1914 War money wages soared, but scarcely fast enough to keep abreast of prices. Both mounted further to the winter of 1920 so that in October, 1920, the cost-of-living index had moved up to 276 (1914=100) and average money wages to 270. By early 1921 both were turning down, wages rather more slowly than costs, and by late 1922 both were in the region of 170-80. A Wage Census of 1924 compared the position then with that of 1914. Comparing like

¹*Aspects of British Economic History*, p. 43.

with like, the worker in 1924 was not decisively better off than in 1914, though both unskilled labour and women had improved a little. On the other hand the transference to better-paid trades had produced an improvement in average earnings, so that average real wages of fully-employed labour were about 10 per cent better than in 1914.

The later 1920's saw little decisive change in money wages, whilst the cost of living fell appreciably. Then, as depression became intense, both turned down, costs faster than wages and by 1931-33 the real wage index (1914=100) stood at about 130, but the improvement was poor comfort in a nation with two million unemployed. In the slow recovery from the slump, costs and money wages rose nearly *pari passu* so that real wages underwent no significant change until the immediate pre-1939 rearmament boom.

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CHAPTER 9

POPULATION AND LABOUR SUPPLY

THE study of population cuts across several sciences, and the finer points in its controversial problems involve considerable knowledge of statistical method and sociology. There remains, however, a wide field in which economic historians may walk with tolerable assurance, and in two matters, the economic implications of population changes and the rôle of labour in production, they are on their proper ground.

The Growth of Population

THE INCREASE SINCE 1700

As the first official British Census was not taken until 1801, speculation on the size, composition and distribution of the population in the 18th Century is based on more or less well-informed estimates. It seems likely that the England and Wales of 1700 had a population of between $5\frac{1}{2}$ and 6 millions which, by 1750, had not risen to much more than $6\frac{1}{2}$ millions. Then came a great bound forward, giving a total of nearly $9\frac{1}{2}$ millions in 1802. For Scotland the increase over the same period was of the same order, from an estimated million in 1700 to rather over $1\frac{1}{2}$ millions in 1801, and, as in England, the main expansion seems to have taken place after the middle of the century.

From 1801 the evidence is progressively more abundant and reliable, and the growth can be traced in the decennial census reports down to 1931. By 1851 the total for the United Kingdom approached 21 millions; by 1871, 26 millions; by 1901, 37 millions, and by 1931, 46 millions.

At some periods in the early 18th Century the rate of increase fell very low, indeed it is likely that the very high mortality rates in the 1720's may have resulted in a temporary decrease in the total population. By the mid-18th Century the rate of increase seems to have risen to the order of 6 or 7 per cent per

decade, and a further advance apparently took place about 1780. From then to the 1820's the rate was double that of the mid-18th Century, and in the intercensal period 1821-31 the increase for England and Wales was upwards of 16 per cent. Though that high rate of increase was not maintained, no intercensal decade down to the 1914 War witnessed an increase of less than 10 per cent.

EXPLANATIONS OF THE INCREASE AFTER 1750

Population growth depends on two factors:—

- (a) The balance between emigration and immigration.
- (b) The "natural increase," i.e. the balance between births and deaths.

In a later section we shall examine emigration in some detail. Suffice it here to say that in those decades down to the 1914 War for which reliable information is available the rate of actual increase was always less than the rate of natural increase, indicating an excess of emigration over immigration.

Attention therefore focuses on the relationship between births and deaths, and opinion on this has veered considerably. According to the traditional view, conditions in the later 18th Century made for early marriage, which in turn made for large families. In support of this view it was argued that the decline in long apprenticeship removed a ban on early marriage, that the opportunities for child employment in mills destroyed a restraint which the cost of maintaining children had hitherto imposed, and that the Speenhamland system of Poor Relief placed a premium on large families. So those early 19th Century writers who feared overpopulation advocated the limitation of families either by later marriage or by prudential measures after marriage.

The precise effect of these conditions on marriage and families cannot be assessed. It is now known, for example, that counties where the Speenhamland system was general did not experience a greater rate of increase than those where it was exceptional (Griffith¹). We cannot say for certain that the early factories provided more opportunity for child labour than

¹*Population Problems of the Age of Malthus*, p. 156-7.

the traditional cottage industries. On the other hand, there is now abundant evidence of the saving of life by progress in medicine and hygiene. Dr. Buer's book¹ abounds with instances of 18th Century improvements in town drainage and water-supply, of new hospitals and dispensaries, of new techniques in midwifery, of a more "scientific" attitude among doctors, of the attack on disease by the twin methods of disinfection and segregation, and, at the very end of the century, of the early stages in the attack on smallpox. Housing in the new towns was crude by our standards, but the new houses were of brick and mortar, offering less harbourage for pests; cheap cotton underwear made for greater personal cleanliness; the agrarian revolution of the later 18th Century provided fresher meat and better grains. So Mr. Griffith, after acknowledging the importance of buoyant birth rates, ends his book thus—"The really important factor, however, is the fall in the death rate."

Nevertheless, it remains true that throughout the critical period of war and industrialization, 1750 to 1830, the crude birth rate was remarkably high and steady, and if we could relate the number of births to the number of women of child-bearing age it is likely that the buoyancy would appear even more remarkable. So Professor Marshall writes²: "The Malthusians were absolutely right to regard the birth rate as the key to the situation." Whether, in the general absence of contraceptive devices, industrialization is inevitably accompanied by a sudden increase in population, we cannot say. Nor, when they do coincide, can we safely say which is cause and which effect. The experience of Ireland in this period, when population rose without industrialization, is a valuable warning against hasty assumptions.

The Malthusian Attitude

For centuries before 1800 most people had believed in the wisdom of creating a great population. The dictum "People

¹*Health, Wealth and Population in the Early Days of the Industrial Revolution*

²"The Population Problem during the Industrial Revolution," in *Economic History Supplement to Economic Journal*, 1929, p. 456.

is Riches " had coloured mercantilist thought, and especially in the later 18th Century alarm and despondency had been created by statements that the population was in fact declining. Malthus denied both these beliefs, and contemporary social conditions seemed to justify his attitude. In the early 1800's widespread distress, the product of war and fast change, gave point to the argument that there were already too many people, and the decennial censuses after 1801 proved to the satisfaction of everybody except Cobbett that the population was growing fast.

Malthus maintained that a thriving people tended to multiply faster than the means of subsistence, and that unless humanity provided its own restraints Nature would step in and cut away the increase by disease, war or famine. Hence aids to large families were impolitic and by the time of his Second Edition (1803) he was advocating that young people should be induced to exercise " a restraint from marriage, from prudential motives, with a conduct strictly moral during the period of restraint." Birth control, advocated by his later disciples, has no place in the original teaching of Malthus.

To the Britain of 1800 it must have seemed that food production could be extended only under conditions of diminishing returns. The recent expansion in the arable acreage, as we saw in Chapter 3, had pushed wheat cultivation on to marginal land. The political situation in Europe precluded the possibility of fresh sources of food there, and the exploitation of the " new " continents could not be undertaken in any foreseeable future with the transport and technical equipment then available.

The later 19th Century avoided the impasse which Malthus foresaw by the extension of cultivation to these new continents and by a system of international division of labour. In the short run the steamship, the railway and the reaper provided a solution. There are now suspicions that the solution was ephemeral. Food production, it now appears, was extended by skimming the cream off the virgin soils of the prairies and by upsetting the régime of Nature, and the results can to-day be traced in decreasing yields and world-wide soil erosion. Another technical revolution, founded this time on soil conservation,

is essential; otherwise, in the long run, humanity will suffer the Malthusian doom.

The Distribution of Population

AGE DISTRIBUTION

The effect of the buoyancy of birth rates and the saving of infant lives in the decades about 1800 was responsible for a substantial proportional increase in the younger age groups in the population. An analysis of figures in the General Report to the 1871 Census (England and Wales, General Report, Appendix A) gives the following age group percentages.

Age Group	1801	1811	1821	1831	1841	1851	1861	1871
0 — 10	24½	26½	27½	25¾	25	25	25	25½
10 — 20	20	20	21	21¾	20¾	20½	20	20
20 — 60	46½	45½	44	45	46	48	47¾	47

The relatively high proportion of juveniles and the relatively small proportion of adults in the population about 1821 may provide some clue to the prevalence of child employment in factories and to the importance of family earnings. Similarly it will be noted that the restrictions on child labour under the Factory Acts coincide with an increase in the proportional strength of the adult population, and that the proportion of the population in the ages of maximum industrial productivity was high throughout the "Good Years" of mid-Victorian prosperity.

For reasons not yet fully understood, reproduction rates in Britain started to fall after a high peak in the early 1870's, and as this fall was accompanied by a greater expectation of life the age-composition of the population eventually changed decisively. From the 45½ per cent of 1871 the 0-20 age groups had fallen by 1901 to 42½, and between 1921 and 1931 fell even more steeply from 37½ to 32¾. If that trend continues the population will ultimately suffer absolute decline: meanwhile it is ageing. (For a succinct analysis of present population trends see M. Abrams: *The Population of Great Britain.*)

OCCUPATIONAL DISTRIBUTION

(a) *Early 19th Century.* The Industrial Revolution has been

somewhat glibly defined as the transition of Britain from a predominantly agricultural to a predominantly industrial nation. Writing his *Progress of the Nation* in the 1840's, Porter regarded the decrease in the relative number of families engaged in agricultural pursuits as the most notable change in occupational distribution in the preceding generation. He reckoned that the proportion of families so employed had fallen from 35 $\frac{1}{4}$ per cent in 1811 to below 26 per cent in 1841. Exact comparisons are in fact impossible as the schedules of occupations used in the census returns varied from time to time, but the 1851 Census, the most complete to that date, showed that one male in five above the age of ten was still engaged in some branch of agriculture. No other single occupation in 1851 approached the 1 $\frac{3}{4}$ million operatives engaged in agriculture. Measured simply by human power, domestic service ranked second with rather more than a million, nine-tenths female. The cotton industry, where mechanized factory production had gone further than elsewhere, had just over half a million, about equally split between the sexes. The building trades came fourth with 450,000, nearly all male. There were still more carters and coachmen than railway workers, and more shoemakers than coal-miners. (For the figures and some comments on them, see Clapham.¹)

(b) *From 1851 to 1914.* It is clear that those industries most characteristic of the Industrial Revolution did not, even in 1851, directly dominate the labour market. None the less, the difficult evidence of the earlier censuses, taken with that of 1851, reveals some important trends, the outcome of which became evident as the 19th Century went on. Of the adult males in 1881 less than one in six earned his living directly from agriculture, in 1911 less than one in twenty. Hitherto, as we shall see in a later section in this chapter, migration had skimmed away the natural increase in rural areas, but with the agricultural depression after the mid-1870's an absolute decline set in, so that from 1871 to 1901 the number of agricultural labourers declined absolutely by one-fifth, and neither the small revival from then to 1911 nor the expansion of market-

¹*An Economic History of Modern Britain*, Vol. II, Chapter 2.

gardening sufficed to restore the adult male agricultural population to the 1871 level. Emigration and industrial transference worked hard on the rural countryside in the later Victorian years.

Transference to some employments was easy. The railways had acquired some ex-agricultural workers, and by 1911 they had half a million operatives. Coal-mining expanded by 100 per cent from 1881 to 1911, a wide group labelled " manufacture of metals " by 1911 exceeded agriculture, the building and allied trades had a big expansion in the 1890's and by 1911 approached a total strength of a million. The textile trades had grown less slowly than total population, yet cotton alone in 1911 had some 650,000 operatives. In mainly female occupations " personal service " still predominated, with some two and a half million in 1911, though female domestic servants had declined since 1891—a sign of the shape of things to come. Another significant pointer was the invasion of commerce by the girl clerk. From a mere 7,000 in 1881 " female commercial or business clerks " rose by 1911 to 150,000, reflecting, no doubt, the growing use of telephone and typewriter and the dexterity of females in handling them.

(c) *After 1918.* Some of these pre-1914 trends continued strongly in the 1918–39 inter-war period. Agriculture suffered further absolute loss, and by 1931 was somewhat less important as an employer than the building group. The rise in employment in public administration and the distributive trades, considerable in the early 1900's, became, as some thought, a disquieting aspect of national employment in the inter-war period. Similarly the newer industries, electricity, motor vehicles and light engineering in general, rose steeply from small pre-1914 foundations. In other respects pre-1914 trends were reversed. A great group of great industries, regarded before 1914 as the very basis of Britain's industrial power, suffered relative and absolute decline. *The Ministry of Labour Gazette* for December, 1938, showed that since 1923 coal and cotton had both lost 40 per cent of their labour force, wool and worsted one-third, iron and steel nearly one-fifth. It is evident that this major industrial transference was a sign of Britain's changing external economic relationships, for the movement

was predominantly from the old export industries towards those catering mainly for domestic requirements. (For a study of occupational distribution in this phase, see A. M. Carr-Saunders and D. Caradog Jones: *Social Structure of England and Wales*.)

GEOGRAPHICAL DISTRIBUTION

At the opening of the 18th Century the most densely peopled regions of England and Wales formed an irregular oblong, with Kent, Somerset, Worcestershire and Norfolk at the corners. London alone ranked as a great town by modern standards with a population in 1700 of rather over half a million. To the north and the west densities generally fell, Central and North Wales, the North Riding and the Lakeland counties probably averaged fewer than 50 persons to the square mile. England as a whole probably averaged about 100 to the square mile, Wales 45, and Scotland 35. (For a map showing the distribution of the population in 1700, see H. C. Darby: *Historical Geography of England*, p. 524.)

It is a commonplace of economic history that with the Industrial Revolution the weight of population tended to "shift" to the Midlands and North. This development was already apparent in the 1801 Census. Outside the metropolitan area the great densities were found in Lancashire, the West Riding, Staffordshire and Warwickshire. Notable increases had occurred in most north-midland counties and in Durham, but no conspicuous concentration as yet appeared in South Wales. The fact that these new areas of concentration coincide roughly with coalfields must not mislead us into supposing that coal in 1800 exercised any great direct "pull." As we saw in Chapter 2, a wide range of expanding industries were still largely independent of coal, and it would be more generally accurate to associate these late 18th Century concentrations of population with the marked localization of particular expanding industries, especially textiles.

In 1801 over three-quarters of the population of England and Wales was still rural, and most contemporary writers, Malthus, Cobbett and Young, thought primarily, and correctly, in terms of a nation of countrymen. London in 1801 was fast

approaching a million inhabitants, still standing far above any other town. The next in order of size, Manchester, Liverpool and Birmingham, were only in the 70,000 to 90,000 class, no more than twice the size of Bath or Norwich.

Indeed, until the second quarter of the 19th Century industrialization did not necessarily mean urbanization. But in that phase industrial workers were, in Ruskin's phrase, "thrown back in continually closer crowds upon the city gates," so most English industrial towns and Glasgow experienced their maximum rate of growth in the 1820's and 1830's, and by 1851 roughly one-half of the population was urban. It is no accident that this was the period of cholera epidemics, a sinister rise in death rates, and a growing agitation for Public Health legislation.

Down to 1914 the pattern continued to develop as great towns and colliery districts grew and the countryside marked time. Thereafter an important change in balance occurred with the so-called "Southward Drift." (See Report of the Royal Commission on the Distribution of the Industrial Population, 1940.) With growing use of electricity and road transport, the coalfields and railways are no longer dominant factors in the geographical location of industry, and it is broadly true that from 1918 to the later 1930's new industries tended deliberately to avoid the old industrial regions of North England, South Wales and Central Scotland. So whilst portions of these became "Depressed Areas" the proportion of total employment provided by London and the South and Midlands of England rose from 46½ per cent in 1923 to 54 per cent in 1938. London itself, which had steadily maintained its share of population throughout the 19th Century, provided an attractive market and a more optimistic environment than the depressed heavy industrial regions, and but for the check imposed by considerations of strategy and government action in recent years this southward drift must ultimately have produced a radical reorientation of British industry.

The Supply of Labour to Industry

INTERNAL MIGRATION

There are good grounds for the view that periodic labour

shortage retarded industrial expansion down to, and perhaps in, the 18th Century, notwithstanding the fact that expanding industries offered relatively attractive wages. It is likely that the system of bondage in the Scottish and the long labour contracts in the Northumbrian coalfields arose from this difficulty of replacing labour. The relative immobility of labour before the modern industrial age arose mainly from lack of transport, ignorance of opportunities and strong parochialism. The traditional view of the immobilizing effects of the Settlement Laws, though backed by the weighty opinion of Adam Smith, is questioned by recent investigators. "Such evidence as is now available suggests that the number of persons removed (i.e. returned home under the Settlement Laws) was not large enough to have much effect on the mobility of labour." (D. Marshall: "The Old Poor Law," in *Economic History Review*, 1937, p. 39.) There were plenty of loopholes through which compulsory removal could be evaded, and those responsible for administering the system seem to have tempered the letter of the law with plain commonsense. In any event, there were important modifications of the system in 1795 after which nobody could be forcibly returned to his native place unless he actually became a charge on the local poor rate.

As the 1851 Census recorded birthplaces it provides the first complete picture of internal migration. The outstanding feature is the enormous movement into the towns in the previous generation. In Manchester, Bradford and Glasgow, natives made up little more than a quarter, and in Liverpool appreciably less than a quarter, of the total population. In the average town, as Dr. Redford demonstrates,¹ the bulk of the immigrants came from the neighbouring countryside. Internal migration in the first half of the 19th Century, and probably afterwards, was essentially short-distance, and the townward movement assumed a wave-like design with people moving short stages in response to the pull of employment and higher wages.

There are, however, some important exceptions to these generalizations. Skilled specialist labour always moved more

¹*Labour Migration in England, 1800-1850*, especially Chapter IV.

freely, so the movement of trained engineers, millwrights and founders was determined by the openings for their particular skill rather than by mere distance. The main long-distance movement of non-specialist labour within the British Isles was predominantly Celtic. Agriculture and industry in the Scottish Lowlands attracted labour direct from the Highlands, and Scottish harvesters worked their way down as far as the South of England. As we have seen, the population of Ireland rose fast in the later 18th Century, helped no doubt by the relative infrequency of famines in that period, so that what had been an erratic stream of vagrants and seasonal harvesters became a flood of permanent migrants escaping from the land-hunger of Ireland. The impact was naturally greatest in the West Coast ports to which the passage from Ireland cost only a few shillings, but Irishmen were conspicuous in London, in the Dundee textile industries, and in gangs of "navvies" everywhere.

In the generation after 1851 the set of internal migration was still from country to town, so that even in its "Golden Age" the countryside continued to lose its younger sons. This skimming off of the younger males inevitably reacted unfavourably on rural birth rates, and the changing pattern in the later 19th Century is increasingly complicated by differential birth rates and emigration. With the depression of the late 1870's onwards industry no longer had the same universal attraction to labour; indeed in the 1880's some Northern towns suffered an adverse balance of migration. The very rapid increase in population in the colliery districts was almost certainly due to the relatively high birth rates which much more than offset their bad mortality record. Indeed, Dr. Cairncross¹ writes that on balance the triumph of the North of England over the South in the 19th Century was caused "mainly by superior fertility, and not, as we used to be taught, by attracting migrants." Obviously, this is another problem of population history on which the final word has yet to be written.

THE ORGANIZATION OF THE LABOUR MARKET

Official control of the market for independent labour lapsed

¹ "Internal Migration in Victorian England," in the *Manchester School*, 1949.

with the general decay of the Elizabethan labour code (see below, p. 191) and did not revive until the 20th Century. In the interval proprietors in expanding or migrating industries made private arrangements to attract labour in the kind and quantity needed. Professor Ashton quotes examples (*Iron and Steel in the Industrial Revolution*, Chapter VIII (ii)) revealing a surprising degree of fluidity in the 18th Century labour market for skilled metal workers. Coalbrookdale seems to have been a centre of dispersion for skilled founders, some of whom moved thence to Carron, and there are known 18th Century instances of the seduction of skilled workers by one master from another.¹ All such fluidity among trained workers must have been an important factor in the dispersion of new techniques. Similarly it is known that early textile mill-owners employed itinerant agents to recruit labour, but there is no means of estimating the extent to which labour movements were so stimulated. Many men must have moved in response to rumour or gossip or out of sheer desperation. In the transition from farm work to factory we may reasonably regard canal or railway construction as an intermediate stage. It provided local employment, bringing men together in gangs where rumours of "good jobs" in Leeds or Manchester would circulate with the ale.

But through the 18th and early 19th Centuries the Poor Law administration constituted an organized labour market for a small section of the population, and, in the absence of any wider organization, factory owners turned to the Poor Law officers for part of their labour supply. Hence most early textile mills had their quota of pauper "apprentices." David Dale, starting the New Lanark mills in 1783, introduced children from the poor-houses of Glasgow and Edinburgh. Oldknow took pauper children from London to his Mellor mill (near Stockport) and, by contemporary standards, treated them well. (G. Unwin: *Samuel Oldknow and the Arkwrights*, pp. 173-4.) The Smalleys of Holywell in Flintshire had three hundred such apprentices in 1795. Mill-owners liked them. They were easily moulded into routine, they were cheap, they

¹See also F. A. Jones: "Enticement of Scottish Artificers to Russia and Denmark in 1784 and 1786," in *Scottish Historical Review*, Vol. XVIII.

could not run away. (On pauper apprenticeship, see M. D. George : *London Life in the Eighteenth Century*, Chap. V, and Redford : op. cit., Chapter II.)

For a short period after 1835 the newly-appointed Poor Law Commissioners attempted to organize home migration of adult labour alongside their emigration activities. Migration offices were set up in Leeds and Manchester and in two years over 4,000 persons were moved, mainly from East Anglia, to these northern textile centres, an interesting forerunner of the organized industrial transferences of our own generation, but a very tiny fraction of the total intake of the textile districts in the 1830's.

Henceforth for sixty years, save in exceptional times such as the Cotton Famine, public authorities left the labour market to its fate, and in the more general prosperity after the middle of the 19th Century it is likely that something approaching equilibrium was attained. The long painful extinguishing of the hand-loom weavers was virtually over. Other handicrafts were still to be crushed by machinery, but these transitions caused only local and reasonably short dislocation. In the 1850's and 1860's industry generally was buoyant. Labour was in a fluid phase between the old rigidity of the apprenticeship system and the new rigidity of modern trade unionism. In these conditions technological unemployment was not likely to be prolonged, and if it was, emigration offered an escape.

By the end of the 19th Century two forces combined to reverse this *laissez-faire* attitude towards the labour market. In bad years in the 1880's and 1890's unemployment rose to the region of 10 per cent and in particular industries much higher. Secondly, the interpretation of unemployment was changing. From the view that unemployment denoted weakness of character, advanced opinion was coming to regard it as "A Problem of Industry" (the sub-title of Lord Beveridge's *Unemployment*, published in 1909). Accordingly demand grew for a publicly organized labour market. There were foreign precedents and some voluntary attempts in Britain, and statutory recognition of the need came in 1902 with a permissive

Act applying only to London. Then the Poor Law Commission, in one of its few unanimous findings, added its support, and another Act of 1909 extended the system of Labour Exchanges to the whole country under the direction of the Labour Department of the Board of Trade. By the outbreak of the 1914 War they were filling a million vacancies a year and after 1919, under the guidance of the new Ministry of Labour, they became the normal method of labour recruitment over an increasing part of the field of employment.

Emigration

FORCES MAKING FOR EMIGRATION

The rational man's decision to emigrate will normally depend on a comparison of the social and economic conditions in the native land with those in the new land. Such decisions are, in practice, weighed by imponderable factors: restlessness, frustration, love of adventure; and consequently defy simple analysis in terms of wages and prices. Furthermore, the factors have changed both in kind and importance, so no generalization can be universally applicable. It is, however, broadly true that emigration from 19th Century Britain was prompted by economic rather than political or religious motives, powerful as these may have been in some Continental countries. As a basis for discussion these motives may conveniently be split into two groups: those of a centrifugal nature, springing from the unattractiveness of the native land; and those of a centripetal nature, arising from the attractiveness of the new land.

The second of these could come only with knowledge, but the former was self-evident in all times of hardship. Hence the first great outward movement of the 19th Century, beginning in the 1830's and culminating in a great peak in 1847-54, consisted mainly of labourers from the Highlands and Ireland, and resulted from an unhappy combination of poor soil, large families, lack of social insurance, insecurity of tenure, and crop failures. In the intercensal period 1841-51 over a million and a quarter people left Ireland alone.

"When the storm clouds of 1848 had rolled away a period

of prosperity was ushered in which had a vital influence in lessening the stream of emigration from the British Isles." (Carrothers.¹) Despite improved transport facilities the lull continued, with some short breaks, until the later 1870's. It was clearly associated with the generally good level of employment in Britain, the rising real wages and the capacity of British industry to absorb new labour, and rather less clearly with the political instability of the United States in the 1860's.

The peak of prosperity had been passed by 1875, but emigration remained low until 1880, a reminder of the lag between the change in conditions and the decision to move. Then began the second great 19th Century outflow, averaging 300,000 to 400,000 a year in the 1880's, falling a little in the late 90's, and rising to the half-million mark in the years leading up to 1914.

At particular times, as during the "gold rushes" about 1850, the centripetal pull of a new land is easily traced, and it is tolerably safe generalization that the volume of immigration into the United States moved upwards and downwards with business activity there. The attraction of cheap or free land in North America must have been a constant lure to men of yeoman or peasant stock who were prepared and able to withstand the rigours of frontier life, yet sheer penury forced a great proportion of migrants to seek immediate employment on the eastern seaboard, which became a permanent home for some and a stepping-stone for others.

Down to the 20th Century the United States regularly absorbed over half of the annual outflow from Britain. The Irish had no reason to love the British flag, and went instinctively to a land boasting its tolerance and freedom from tyranny and offering work for unskilled labour of all races in railroad and property building and in heavy industry. In the last decade of the 19th Century only 28 per cent of the emigrants from Britain went to places within the Empire, yet in the following twelve years the proportion rose to 63 per cent and in 1913 it touched a record of 78 per cent. In part this change in direction reflected the competition of cheap South-east European labour in the

¹*Emigration from the British Isles*, p. 207.

United States, in part the active propaganda of particular Dominions, and in part the rebirth of imperial consciousness symbolized by Kipling and Chamberlain.

THE ORGANIZATION OF EMIGRATION

Probably 95 per cent of this great 19th Century outpouring of British humanity was spontaneous and unorganized. It constitutes an integral part of 19th Century *laissez-faire* which permitted goods, money and men to move more freely than in any other major epoch of world history. None the less there were some attempts at officially sponsored emigration and settlement. Until the middle of the century convicts were shipped to Australia and Tasmania, the State made small grants to assist the settlement of distressed hand-loom weavers in Canada in the 1820's, and the Poor Law authorities repeatedly urged emigration as at least a temporary relief to the pauper problem.

But until the 1830's no positive coherent theory of emigration and settlement was devised. Then a group of Radical Imperialists, headed by E. G. Wakefield, advanced a project involving subsidized passages for selected emigrants and organized settlement in the new countries. The method was inappropriate for handling mass movements, but it was applied with apparent success in the colonizing of New Zealand and parts of Australia under the auspices of the Colonial Land and Emigration Commissioners, set up in 1840.

Throughout the later 19th Century some guidance was given to the outward stream by this body and other Government agencies which followed it, and some financial assistance was provided to small groups by trade unions and other voluntary organizations. But until the 1920's assistance from public funds played no significant part in emigration as a whole. After the 1914 War the trend towards imperial development, clearly apparent before 1914, was sharply intensified. The United States began imposing restrictions on entry, and simultaneously in the Empire Settlement Act, 1922, the British and Dominions Governments offered financial assistance to selected emigrants from Britain to Empire countries. The scheme operated for six years until, in

1929, all the new countries sank into the world depression, and from 1931 onwards, for the first time since statistics were recorded, Britain had a net inward balance of migration.

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CHAPTER 10

FINANCIAL INSTITUTIONS

THE Bank of England, because of its central position in world finance over most of our period, provides an obvious starting-point for this Chapter. From the Bank we shall then fan out into English and Scottish commercial banking and finally pass to international capital movements and the mechanisms of international finance.

The Bank of England

THE 18TH CENTURY

By the middle of the 18th Century the Bank of England was already a well-established and esteemed institution. Its origin in 1694 and its early growth were alike conditioned by the needs of the State ; it performed an intimate rôle in national finance, yet it was not a State bank. It had some private accounts, including those of some of the great trading companies, but it made, in this period, no attempt to attract private customers, and its main 18th Century functions may be summarized as the issuing of notes and the management of Government accounts.

In return for special assistance to the State the Bank had secured in 1697 a monopoly of the joint-stock issue of notes in England, and under a subsequent Act in 1708 no other English banking establishment might have more than six partners. The joint result was that the Bank remained down to 1826 the only joint-stock bank in England, and as the note issue of the London private banks fell into desuetude its notes came to provide both the bulk of London's paper currency and the greater part of the cash reserves of the other London banks. As these London banks entered increasingly into business with provincial bankers who relied on London for reinforcements for their local cash reserves, it followed that by spontaneous growth the Bank tended to become the ultimate base of the

country's entire banking structure which, in the final analysis, rested on the gold backing of the Bank's note issue.

THE NAPOLEONIC WARS

These wars, more costly than any before, exposed the banking system to new strains. In law the Bank was not permitted to make loans to the Government without Parliamentary approval, though in practice it had developed the custom of making short-term advances in anticipation of the collection of revenue. On the outbreak of war in 1793 this legal restraint was abrogated, and for the next four years the cost of the war was met very considerably by loans from the Bank, which, simultaneously, was making financial advances to Britain's Continental allies.

These foreign commitments, together with illegal exports of gold to France, reacted unfavourably on the Bank's gold reserve. Even so, that reserve might well have stood the strain but for difficult internal conditions. Owing to irregularity in the course of trade, arising from war, traders required long credits which the Bank was expected to provide by discounting bills. Under the Usury Laws the Bank was not permitted to lift its Rate above 5 per cent. Consequently its only safeguard against heavy demands for discounting was to introduce a system of rationing and a quantitative check of this sort was imposed on traders in 1795. Within a year the country's internal condition deteriorated with rumours of an invasion from France. Timid people began to withdraw gold from their banks, faith in public credit was shrinking fast, so in February, 1797, the Government relieved the Bank of its liability to pay gold against its notes and lifted a twenty year old ban on small notes.

The ensuing period of inconvertible currency, lasting legally to the four years of grace allowed by the Resumption Act of 1819, was, as we saw in Chapter 7, one of high prices. Whether these high prices were the outcome of the activities of the Bank, or of the private bankers, or of the Government, or whether they sprang from a combination of war conditions, was keenly debated then and is still uncertain. Modern research tends to the view that the Bank, freed in 1797 from

undue concern about its gold reserve, exercised its discretionary powers of note issue and discounting with considerable prudence, but lacked any consistent policy. Professor Silberling argues that Ricardo, the rising star of economics in 1809, tilted unfairly at the Bank, "ignoring the rest of the credit mechanism . . . and giving little regard to the non-commercial factors." ("Financial and Monetary Policy during the Napoleonic Wars," in *Quarterly Journal of Economics*, 1924, p. 422.) And against the opinion of Andreades,¹ who spoke of the Act of 1819 as "ending a liberty which had degenerated into a licence," must be set the more recent investigations of Clapham² which illustrate the prudent stability of the Bank, and the view of Professor Ashton that "the responsibility for inflation . . . lay with the Government." (*Industrial Revolution*, p. 150.) The lack of agreement among modern writers can best be seen in the historical chapters of Professor Viner's *Studies in the Theory of International Trade*, where the view is advanced that the Bank could have regulated the country's total note issue and volume of discounts, and that its failure to do so indicates a neglect of "what we should to-day term the obligations of a central bank." (Chapter III, especially pp. 154-70.)

THE POSITION OF THE BANK IN THE 1820'S AND 1830'S

"The years 1825 and 1826 brought a crisis, new banking laws, and a new phase in the history of the Bank." (Clapham.³) The crisis, developing in the later months of 1825 and surpassing in severity any experienced in Britain since the South Sea Bubble, inevitably focused attention on the nation's credit system. The outcome can be traced partly in new laws and partly in Bank of England action. Cash payments had been resumed in the early 1820's, and Parliament followed this in 1825 by prohibiting the issue of notes below £5 in England and Wales; Scotland escaped as a result of the protests of "Malachi Malagrowther" (the pseudonym of Sir Walter Scott). In 1826 and 1833, as we shall see later in this chapter, joint-stock banking was allowed in England, though without the

¹*History of the Bank of England*, p. 242.

²*The Bank of England* (2 Vols.).

³*Ibid.*, Vol. II, p. 80.

right of issue in London. In the same year the Bank was specifically authorized to "empower agents to carry on banking business in any place in England," and by 1830 had eleven provincial branch offices. So, in Clapham's language, "the era of Reform had proved almost as creative in the world of banking as in that of politics."¹

Meanwhile, views were developing on the proper relationship between the Bank and the nation's credit mechanisms, a relationship on which at least one Governor of the Bank, Horsley Palmer, had decided opinions. In the 1830's the Bank strove, though with indifferent success, to implement his creed in a fixed ratio between the metal reserve and total liabilities in notes and desposits. Under Section 7 of the Bank Charter Act of 1833 the Bank was permitted to raise its rate of discount on short-period bills above the maximum of 5 per cent set by the usury laws, and "the practice of using the Bank of England's discount rate as an instrument of monetary regulation may be said to start from the Bank Charter Act of 1833 . . ." though "the idea was thirty years older." (R. G. Hawtrey : *A Century of Bank Rate*, p. 3.) In the 1830's the Bank entered into a series of agreements with "client" banks in the provinces, giving them favourable rediscount facilities, whilst, in accordance with Palmer's advice, restricting its own public discount activities mainly to times of abnormal strain.

The broad picture of this phase shows the Bank developing from what had been primarily a "Bank of London" into something more truly a "Bank of England." Through its branches and contacts with other banks it was becoming more directly aware of the needs and views of industrialists in the Midlands and North, and, as evidence before the several Parliamentary inquiries indicates, there was a growing alertness towards the problems of credit regulation without, as yet, any consistent positive policy. (See Viner.²)

THE CURRENCY AND BANKING CONTROVERSY

The turbulence of credit and violent fluctuations in the gold

¹Ibid., p. 141.

²*Studies in the Theory of International Trade*, p. 254.

reserve between 1837 and 1839 proved that regulation was not conspicuously successful when the nation's economy was subject to abnormal strain. Contemporary controversy, stimulated by these events, tended to divide into two schools of thought, popularly labelled "Currency" and "Banking." (For a succinct account of their ancestry, see A. E. Feaveryear : *The Pound Sterling*, pp. 240-53.) Since the Report of the Bullion Committee in 1810 most people had accepted the thesis that the value of money was determined mainly by the quantity of it in circulation, and the Currency School based their case largely on a narrow interpretation of this Quantity Theory. To them paper had been employed in currency simply as a cheap substitute for metal, and its volume must be constantly and directly related to that of the metal stocks in the banking system. Two difficulties arose. In the first place the issue of notes was still undertaken by many independent institutions. The obvious answer was to eliminate all note issues except that of the Bank which could be subject to quantitative regulation. The second difficulty arose from the definition of money. If, as many believed, money meant notes and coin only, it followed that the management of note issue must be separated from that of other liabilities. So the Bank must be split into "a Bank of issue . . . entrusted with the creation of the circulating medium," and "a Bank of Deposit . . . concerned only with the use, distribution or application of that circulating medium." (S. J. Loyd, later Lord Overstone, quoted in Feaveryear.¹)

Criticism of this came from Thomas Tooke, the historian of prices, and James Wilson, founder of *The Economist*. They held that since notes formed only part of the total volume of credit paper, any attempt to regulate prices by control of notes only was bound to fail; indeed, Tooke abandoned entirely the idea of artificial control of note issue save that notes should remain convertible into coin on demand. With this limitation banks should be free to issue notes according to the state of trade; if they issued too many, notes would tend to return to the bank concerned for conversion, and this reflux would give the banker adequate warning.

¹*The Pound Sterling* p. 245

THE BANK CHARTER ACT, 1844

We now know that "there was a strong currency party in the Parlour" of the Bank. (Clapham.¹) Cotton, the Bank's Governor from 1842 to 1845, was generally sympathetic to Loyd's theories, and is believed to have exercised a profound influence over Peel. Accordingly the 1844 Act, aptly called a "Bank Note Act" rather than a "Bank Act," reflected Currency principles, though with a difference. Whilst the pure Currency theory regarded notes as little more than specie certificates, the Act enabled the Bank to issue notes up to the value of its bullion reserve plus a "fiduciary issue" of £14 millions, covered by securities only. From 1844, therefore, the volume of Bank of England notes could vary only as the bullion varied, unless Parliament authorized a suspension of the Act or an increase in the fiduciary issue. Simultaneously the Bank was split into two departments so that the management of note issue was distinct from other business.

The awkward problem of the note-issuing capacity of other banks was tackled by various clauses which prevented any increase of existing note issues and provided that, if any note-issuing bank ceased to issue, the Bank might be authorized to increase its issue by up to two-thirds of the discontinued issue.

THE BANK AND THE CRISES OF THE MID-19TH CENTURY

Those who believed that this Act would effectually prevent the recurrence of financial crises were profoundly mistaken. The Banking Department of the Bank, encouraged by the Government, immediately went into the discounting business at competitive rates, and, as some think, "in the events leading up to the crisis of 1847 the Bank itself was at fault." (C. R. Fay: *Great Britain from Adam Smith to the Present Day*, p. 104.) Recent research tends to the view that the Bank was rather swept along in a stream of events. Mr. Morgan shows ("Railway Investment and Bank of England Policy," in *Economic History Supplement to Economic Journal*, 1940,) that the reduction in interest rates after 1844

¹*The Bank of England*, Vol. II, p. 182.

was "a function of the great influx of bullion to the Bank, which in turn was caused by the very favourable balance of trade in 1842 and 1843," and he concludes that "the change in Bank of England policy was not important." Clapham¹ argues that "corn and railways" were "at the back of the crisis," and that in so far as the Bank's discount policy was responsible for the "rough water of 1846-8" the blame lies squarely on "a great minister who had exhorted the Bank to compete."

The moral, however, was that the Bank had let the drain of gold go too far before taking defensive action; henceforth the Banking Department must act in a keener sense of national responsibility than a purely commercial bank.

The crises of 1857 and 1866 drove home the lesson. That of 1857 came from America, almost without warning. As in 1847 the Bank was authorized to issue notes beyond the limits set by the Bank Charter Act to enable it to discount freely and meet the calls of harassed banks and bill-brokers. To safeguard its Reserve the Bank raised its Rate to 10 per cent, and though the actual financial crisis passed quickly it left a legacy of strained relations between the Bank and the discount houses which had come crying to it in time of need, relations exacerbated by the Bank's decision in 1858 not to provide regular rediscount facilities to the discount houses. Partly because of this the greatest of them, Overend, Gurney & Co., embarked on a hazardous policy which brought it to disaster in 1866. The resulting crisis was essentially domestic and the strain on the Bank's gold reserve was primarily internal (Hawtrey: *A Century of Bank Rate*, p. 85), yet its repercussions were felt in every land where Overends did business, and the liquidation of assets all over the world occupied accountants for a generation to come. The remedies conformed to the now familiar prescription of temporary suspension of the 1844 Act and a Bank Rate of 10 per cent.

In these times of crisis the public demanded coin or Bank of England notes. Many believed that the 1844 Act set unduly rigid limits to the Bank's power to issue and that what Bagehot called an "expansive clause" should be inserted in it. Excess

¹Ibid., pp. 192 and 199-213.

issues under the Act involved authority from the Chancellor of the Exchequer, and the "Chancellor's Letters" of 1847, 1857 and 1866 tended, as some thought, to give an exaggerated impression of the severity of the crises. Yet after 1866 there was no Chancellor's Letter until 1914, the Bank Charter Act stood unmodified until 1928, and total bank-note circulation showed no material change from 1866 to 1914. For though note issue had, as the framers of the 1844 Act intended, become gradually concentrated in the hands of the Bank, yet decade by decade the note became decreasingly important in the nation's economy which came to rely on the cheque as the normal instrument for internal transactions. (Feaveryear¹ and below, p. 179.)

THE BANK IN THE LATER 19TH CENTURY

By the later 19th Century the Bank could no longer claim leadership as a function of mere size. Its deposits had become insignificant alongside those of the commercial banks, and the discount market, supplied with immense funds by other institutions, was for long periods relatively independent of the Bank. In the early 1890's, writes Mr. Sayers²: "the Bank frequently found its rate entirely out of touch with the market" and "found itself powerless, in the ordinary course of events, to exercise control adequate for the protection of the gold reserve."

The history of the Bank in this period therefore focuses largely on the various devices it employed to make its Rate effective as a safeguard of its Reserve with the ultimate object of maintaining the convertibility of the pound. The rigorous limitation of discounts begun in 1858 seems in practice to have softened by the time Bagehot wrote his *Lombard Street* (1873), and the official discount policy was modified after 1878, yet Clapham's examination of these changes scarcely points to the deliberate creation of a positive control over the money market by these means. It is true that the volume of discounting did show a secular rise from the very low level of the middle 1880's, but it is clear from Clapham's "inside"

¹*The Pound Sterling*, p. 289.

²*Bank of England Operations, 1890-1914*, p. 4.

investigations that a desire to increase its own business and revenue was not absent from the Court's mind in determining its discount policy.

The Bank had, however, two other groups of devices at its disposal. As early as 1847 it had occasionally taken surplus funds off the market by borrowing on securities, and in the critical 1870's and 80's, when its ability to control the market was in greatest doubt, hardly a year passed in which "no market borrowing was done, and in several the borrowings were repeated and complex." (Clapham.¹) In brief, the Bank was developing the use of what are now called "open market operations" with a view to controlling a bigger share of the country's loanable capital. As violent movements in the Bank Rate were distasteful to domestic traders, the Bank also devised an alternative method of safeguarding the Reserve by direct operations on the gold market, either by buying gold above the price fixed under the 1844 Act, or by giving facilities to gold importers.

In the crisis threatened by the difficulties of Baring Brothers in 1890 the Bank showed clear signs of moral leadership in the City. In that threatened by a drain of gold to America in 1907 its firm use of the Bank Rate quickly restored the Reserve and averted any real stringency in Britain. The Bank had in fact assumed the rôle proper to a central bank. Dr. Feaveryear² says it had "shouldered its responsibilities without making a public parade of the fact. . . . To this is partly due the freedom from severe panic after 1866." A more critical summary is that "the Bank had, in an extremely hesitating and not very consistent manner, solved its problem of controlling Market Rate by adopting a number of devices . . . yet the solution of this problem was piecemeal rather than systematic, and in many ways it was unsatisfactory." (Sayers.³)

Private Banking in London and the Provinces

THE LONDON PRIVATE BANKS

As banking began as a side-line to other occupations, the

¹*The Bank of England*, Vol. II, p. 297.

²*The Pound Sterling*, p. 288.

³*Bank of England Operations, 1890-1914*, pp. 128-9.

first London bankers were scribes, goldsmiths, merchants and similar traders accustomed to handling coin and negotiating credit transactions. By the late 17th Century the banking function was becoming distinct and specialized. Bankers were increasingly involved in sustaining the rising balloon of Government and commercial credit, and we are told that in the financial stringency of 1665-6 "the whole credit of the kingdom had fallen into the hands of two or three bankers." (A. Bryant: *Samuel Pepys, The Man in the Making*, p. 288.)

By the mid-18th Century the greatest of these London banking houses, the Hoares with their sign of the Golden Bottle, and the Childs with theirs of "Ye Marygold," had become what a later age would have called "merchant bankers." Their activities included dealing in foreign exchange and bullion, participating in Government loans, and guaranteeing—or "accepting"—bills of exchange drawn by their customer traders. By the end of that century they had abandoned note issue, and, at least in the internal economy of the country, their main business had become the handling of deposits and bills of exchange on behalf of provincial customers. As they in turn either held Bank of England notes as a reserve, or kept an account at the Bank, they thus formed an intermediate layer in the financial structure for which the Bank's gold reserve provided the metal foundation. (On their personal qualities and social prestige, see E. Halévy: *A History of the English People*, Pelican Edition, Vol. 2, pp. 187-8.)

THE COUNTRY BANKS

In this context "country" means "English provincial." Country banking began, as a rule, as an offshoot of trading or manufacturing, and though there are a few examples from the early 18th Century, the country banker was not common until after 1760, when the rising tempo of economic activity bred a greater need for cash and credit and for facilities for the transfer of funds and remittances. So the late 18th Century country bankers traced their descent to ironmasters and mercers, grain merchants and cattle drovers. As in London private banking, Quaker influence was strong, especially in the North where "Jonathans"—the notes of Jonathan Backhouse

of Darlington—became proverbial as emblems of reliability. (M. Phillips: *Banking in Northumberland, Durham and N. Yorks*, p. 58.) Because 18th Century Britain suffered a chronic shortage of small circulating medium such notes provided, in many areas, the main form of currency for local traders and farmers down to the 1830's. On the other hand there were important industrial regions, notably Lancashire, where, at any rate by 1800, the local banks had "little concern with notes; they were essentially dealers in coin and bills." (Ashton.¹) In these regions local traders had probably been bitten by country bank failures, and suspected all notes save those of the Bank of England.

Because country banks were essentially local, their fortunes were tied up with those of localized industries. They were highly susceptible to variations in the economic weather; in good times they spread and flourished, in bad they shrank and failed. So in 1772, 1793, 1814-17 and 1825, the number fell sharply, but country banking was remarkably resilient, and the recovery in numbers in almost every post-crisis phase indicates the urgency of the need for the services they offered.

For though they were unstable, though they possibly abused their freedom of note issue after 1797, they provided a financial mechanism indispensable to the economic expansion of Britain from 1760 to 1830. Financially the Britain of that period was unbalanced. Landowners and farmers had surplus funds in the form of cash and bills which they deposited with their local banks. Hence bankers in predominantly agricultural districts had surplus funds. On the other hand, manufacturers and traders in predominantly industrial districts needed more working capital than their local banks could supply from their own resources, and needed some mechanism whereby the bills they drew and received could be smoothly handled. Accordingly two groups of country bankers, existing fundamentally for different reasons, both looked to London and maintained regular connexions with London private bankers and bill-brokers. By the opening years of the 19th Century bill-broking

¹¹ "The Bill of Exchange and Private Banks in Lancashire, 1790-1830," in *Economic History Review*, 1945, p. 28.

was becoming a profession distinct from banking, though inevitably closely related to it. The greatest of these early 19th Century bill-brokers, Thomas Richardson, handled bills worth as much as £7 millions a year. His firm, Richardson, Overend and Co., took in a regular flow of bills from country banks in the industrial areas and discounted them in London or sent them for discounting to East Anglia. In short, the country banks in the "Industrial Revolution" stood on the periphery of the country's domestic financial wheel, circulating funds along the spokes via London at the hub. (See King.¹)

English Joint-stock Banking

JOPLIN'S CAMPAIGN AND THE ORIGINS OF ENGLISH JOINT-STOCK BANKING

We have seen that the terms of the Bank of England's charter had the effect of creating for it a practical monopoly of joint-stock banking in England. The monopoly did not apply in Scotland where, as we see below, banking developed in chartered companies and extended partnerships which, many thought, gave Scottish banking a greater stability and value. In 1822 Thomas Joplin opened his campaign with a pamphlet contrasting English and Scottish banking, and advocating the adoption of joint-stock in England. The campaign, reinforced by a crop of private bank failures in 1825, achieved speedy success; with legal changes in 1826 there was no longer any doubt that joint-stock banking was legal outside a 65-mile radius of London; with further changes in 1833 it became legal, though without the right of note issue, in London itself.

Initial growth was rapid. A Parliamentary Inquiry of 1838 found that "these Banks are rapidly extending in all directions . . . an increased number of Branches and Agencies are spreading throughout England . . . a principle of competition exists which leads to the extinction of all Private Banks and to their conversion into Banking Companies." (Quoted in T. E. Gregory : *British Banking Statutes*, Vol. II, pp. 221-2.) By 1841 there were 115 such banking companies. Private

¹*History of the London Discount Market*, pp. 6 ff.

country banks, though still important, decreased from 554 to 321 between 1826 and 1841. Joplin himself participated in the foundation of the National Provincial in 1833 with its first public office in Gloucester ; the Midland began in Birmingham in 1836 ; the Westminster, a London bank from the start, in 1834.

In this initial stage English joint-stock banking was disintegrated and localized, and depended, as the country bankers had, on the services of bill-brokers in the London Discount Market. (King.¹) Nor, initially, was the legal status very different from that of the country bank. The legislation of 1826 facilitated the adoption of the joint-stock structure, but conferred no privilege or immunity. Creation was remarkably easy until the 1844 Joint-stock Banks Act which imposed stringent conditions but again left shareholders to risk unlimited liability. Except for note issue, that liability could be limited in banks which registered under the Banking Companies Act of 1858. Many refrained from registration in the belief that by limiting their shareholders' liability they would weaken their prestige and credit. This unlimited joint-stock banking was abruptly terminated by the object lesson provided for it when the City of Glasgow Bank failed in 1878. Parliament helped in 1879 by inventing a new principle of "reserve liability" which, in effect, limited each shareholder's liability to three or four times the value of his paid-up share, and within five years every bank of any consequence had availed itself of the provisions of the new Act.

AMALGAMATIONS AND CONCENTRATION IN JOINT-STOCK BANKING

The most startling feature of English banking statistics over the past century and a quarter has been the increasing volume of business managed by a decreasing number of banking firms. (See, for example, tables in Feaveryear.²) In this sense Joplin's "pet scheme" of locally managed independent banks failed to mature. As with railways, amalgamation in joint-stock banking proceeded almost *pari passu* with formation.

¹History of the London Discount Market. p. 39.

²The Pound Sterling, p. 297.

Over the period 1826-43 there were 112 banking amalgamations, 93 of them involving the absorption of a private by a joint-stock bank, illustrating a popular belief—sometimes unjustified—that joint-stock offered greater stability and reliability. (There is a graphic account of a joint-stock bank failure involving “Miss Matty’s” fortunes in Mrs. Gaskell’s *Cranford*.)

The histories of the great joint-stock banks chronicle successive fusions and absorptions and consequent changes in titles: rapid in the early years; occasional from 1844 to the 1860’s under the restraining influence of the 1844 Joint-stock Banks Act; then almost continuous again to the 1930’s, partly under the stimulus of the new limitations on shareholders’ liability, partly from the urge to limit competition. The result was that by the 1930’s private and independent provincial banking in England had all but disappeared, and nine-tenths of English internal commercial banking was handled by the “Big Five”—the Midland, Barclays, Lloyds, Westminster and the National Provincial.

Meanwhile the geographical pattern of banking changed. Amalgamation was accompanied by a growth of branch banking, arising in part from the taking over of existing local banks and in part from a positive policy of seeking out business by providing facilities. By the 1860’s the National Provincial and the London and County had some 120 branches each. Down to the late 1880’s the Midland had less than 30 branches; forty years later it had over 2,000. On the average, by the 1920’s England had three times as many bank offices per million of population as it had in 1890.

Secondly, the mainspring of commercial banking activity shifted decisively to London. As note issuing declined in importance the handicap of a London office disappeared. So the National Provincial renounced note issuing in 1866 and at once converted its hitherto private London office into a public banking establishment. In 1884 Lloyds, and in 1891 the Birmingham and Midland, acquired existing London banks and shifted their headquarters to London.

This focusing on London was strengthened by the admission of joint-stock banks to the Clearing House in 1854. From that

point member banks kept accounts with the Bank of England and settled their differences by cheque. The use of cheques in the provinces dates from the same period. So long as the Clearing House remained an exclusive preserve of the London private bankers it was useless to draw a cheque on a bank in Hull to send to a creditor in Gloucester, because his banker there might have no means of collecting. So until provincial banking became integrated through the joint-stock banks and the Clearing House the inland bill of exchange remained the normal method of making payments over long distances. In the 1840's inland bills were passing from hand to hand; "there was no purpose of money except wages to which bills were not applicable in the provinces." (Clapham.¹) By the 1870's they were common enough, but circulated less freely and "instead of discounting a bill, the banker would make an advance on security taken, or on personal credit, against which cheques could be drawn."²

For as banks increased in size and became less dependent on the economic well-being of particular districts, they became better able to provide accommodation to business men. In the small local bank liquidity of assets had been essential, and as we have seen the country bankers were generally unwilling to tie up any great part of their assets in advances other than readily realizable bills. The more adequate accommodation offered by the joint-stock banks of the 1860's and 1870's provides a partial explanation of the slow adoption of the company form by most British industrial firms, for the "average sober manufacturer" in the second half of the 19th Century "could always get aid from a bank."³

Scottish Banking

THE CHARTERED BANKS OF THE 18TH CENTURY

It is a commonplace of economic histories that Scotland developed its own banking system. Its continuous history begins with the foundation in 1695 of the Bank of Scotland,

¹*An Economic History of Modern Britain*, Vol. II, p. 335.

²*Ibid.*, pp. 335-6.

³*Ibid.*, p. 137.

incorporated by Parliament and assured of a twenty-one year monopoly of banking in Scotland. (See W. R. Scott: *Joint-stock Companies*, Vol. III, p. 253 ff.) By the time its monopoly had expired the Act of Union had been passed which provided, *inter alia*, for the payment to Scotland of a sum to cover the old Scottish National Debt and sundry other Government liabilities, and after a series of complex financial operations the shareholders in this "Equivalent Sum" came together to found in 1727 the Royal Bank of Scotland. The third of the early chartered banks, the British Linen, began in 1746 as a company to promote the manufacture of linen, but rapidly withdrew from trading and by the early 1760's was concentrating on banking business.

SCOTTISH COUNTRY BANKING

As in England, local needs tended to convert traders into bankers, especially as the chartered banks were reluctant to handle traders' bills, and internal movement of currency was hazardous. Accordingly by the middle years of the 18th Century local banks were appearing in Aberdeen, Glasgow, Dundee, Ayr, Perth and elsewhere, enjoying down to 1765 the right of virtually unlimited note issue. Legislation of that year required that all notes must be payable in coin on demand and of a denomination not less than £1. Scotland in the 18th Century, even more than England, suffered from acute shortage of coin, and bank notes, especially the £1 note, became so familiar that workmen were said to prefer them to guineas. In fact, Scottish notes were remarkably reliable. There was one serious failure in 1772, the Ayr Bank, but generally the local banks were well-based institutions, for unlike the English, Scots law did not prevent the rise of informal joint-stock concerns.

SCOTTISH BANKING AND THE INDUSTRIAL REVOLUTION

Scotland, measured by her liquid assets, was a poor country, able to profit from new industrial and farming techniques only by making the fullest use of all available funds. So in Scotland small depositors were encouraged, and unlike the English, Scottish bankers allowed interest on almost all balances.

Furthermore, Scotland, through the activities of its Kirk Sessions, had a long tradition of intimate parochial life, and by drawing on this intimate knowledge of their neighbours Scottish bankers were able to extend to them credit facilities of a kind almost unknown in England. The resulting system of "cash credits" originated in the Royal Bank in 1728-9 (Munro¹). Joplin, who wished to see a similar system south of the Tweed, described it thus a century later: "Any person in business by giving two sufficient securities may open an account and overdraw to the extent of the securities given. . . . Very great advances not only to mercantile men, but to all classes of persons, are made in this way." A Scottish banker similarly told a Select Committee in 1826 how "young men . . . from low situations . . . have raised themselves by becoming farmers of considerable extent, or manufacturers, in a way highly creditable to themselves and beneficial to their country." (*Select Committee on Promissory Notes*, p. 272.)

CONSOLIDATION IN SCOTTISH BANKING

By the early 19th Century Scottish banking was already concentrated mainly in the three chartered and a small group of local joint-stock banks. The absorption by the latter of private banks was proceeding fast, and with the establishment of the Commercial Bank in 1810 a vigorous branch-bank movement began. By 1826 the Commercial had thirty-one branches, the British Linen twenty-seven, the Bank of Scotland sixteen, and the National Bank, opened only in 1825, already had eight. From then to the Act of 1845 "the main features of Scottish banking were amalgamation and the growth of banks of a national scale which gradually absorbed the old local banks." (H. Hamilton: *Industrial Revolution in Scotland*, p. 278.) On the eve of that Act—the counterpart of the English banking legislation of 1844—Scotland had nineteen note-issuing banks. The effect of the Act was to restrict future note-issuing powers to the volume circulating in 1844 plus whatever could be covered by specie, but unlike England, no Scottish bank was given a privileged note-issuing position, nor was any volume of note-issuing capacity to be sacrificed by amalgamation, and

¹*The History of the Royal Bank of Scotland*, pp. 68-71.

as Scotland still had the £1 note, paper currency continued to play a much bigger part than in England.

Inevitably Scottish bankers established links with their English counterparts, and the continuing consolidation of Scottish banking after the mid-19th Century was accompanied by closer ties with London. The overt evidence dates from the 1860's when the National Bank set up a London branch, but until after 1918 the Scottish banks avoided the tentacles of the expanding English commercial banks. Then, between 1918 and 1924, four of the remaining eight Scottish banks became affiliated to English banks though retaining their legal identity. Scotsmen may derive some satisfaction from the fact that the Royal reached South, acquiring in 1930 a control over Williams Deacon, and, in 1939, over Glyn Mills.

International Movements of Capital

THE RÔLE OF LONDON

" Who hold the balance of the world ? . . .
 Jew Rothschild, and his fellow-Christian, Baring,
 Every loan
 Is not a merely speculative hit,
 But seats a nation, or upsets a throne."

(Byron : *Don Juan*, Canto XII.)

" During the 18th Century London was evolving those financial functions which were to make her pre-eminent in world finance." (C. R. Fay : *Great Britain from Adam Smith*, p.129.) It is arguable that this future was assured for London in the days of William of Orange and Queen Anne when the Bank of England was established, the National Debt regularized, and dealings in public debt and war contracts fostered the extension of the loosely associated " City " (Jenks¹). With successive decades the structure was reinforced with the rise of specialist groups frequenting coffee-houses and coalescing in 1773 to form a distinct Stock Exchange ; with the growing employment of London bankers as avenues for the internal flow of funds ; with the concentration on London of the financial activities of the great East and West India merchants and of marine insurance business ; and with the relative decline

¹*The Migration of British Capital to 1875*, p. 10.

of the Dutch and their great financial centre, Amsterdam.

Behind all this lay the rising industrial, colonial and commercial might of Britain, for, in Dr. Fay's language,¹ London in the 18th and early 19th centuries was "mainly a settling house for British business, domestic or colonial." The Napoleonic Wars crowned this 18th Century growth. They set the seal on Holland's decline, and proved to Europe that London was the safest capital in the civilized world. So Henry Hope, of the great Amsterdam merchant banking house, moved to London to escape from the French in 1794. By 1800 the Rothschilds had a representative in England, young Nathan, through whose family connexions on the Continent the British Government financed Wellington's armies. The greatest of the early 19th Century London finance houses, the Barings, had migrated from Bremen two generations earlier to blossom into the English baronetage, and Alexander Baring (1774-1848) trained with the Hopes of Amsterdam. So London, the financial centre of the world's most progressive trading nation, acquired a host of skilled financiers with strong overseas contacts. "The gaze of the money market was outward, and the movement of England followed the gaze." (Jenks.²)

Henceforth London performed two major international financial functions:—

(a) *The Financing of Trade.* Just as inland traders employed the inland bill, so international traders came to employ the "bill on London." In London a chain of specialist acceptance houses, bill-brokers, merchant bankers, combined with a swarm of branches and agencies abroad to make the trade bill on London an international currency and to create the mercantile credit mechanism on which much of the world's trade in the 19th Century relied.

(b) *International Lending.* "London likewise played a leading part in the investment markets and the capital flotations of the world. Its pre-eminence was not quite so unrivalled as in the credit system. But Great Britain was far the greatest exporter of capital, and the London Stock Exchange had much more international business than that of any other centre."

¹Great Britain from Adam Smith, p. 116.

²The Migration of British Capital to 1875, p. 24.

(R. G. Hawtrey, in *European Civilization* (ed. E. Eyre), Vol. V, p. 542.)

THE EXPORT OF CAPITAL

(a) *The First Phase.* In the 18th Century Britain was still borrowing capital. In 1761 the Dutch held £15 millions in Consols, and about one million each in the East India Company and the Bank of England. (Sir J. Sinclair: *History of Public Revenue*, 1803, Vol. III, App. p. 161.) Boulton and Fothergill borrowed in Amsterdam in 1769. There were, of course, already considerable British investments in colonial enterprises, but generally Britain had neither the available resources nor the inclination for heavy foreign investment. The resources were soon to be supplied by industrial expansion. The inclination came as the old reluctance to lose personal control of one's capital died down and as the specialist finance houses extended their London activities.

Britain appeared in this new rôle of peace-time lender after Waterloo. In the first ten years of peace the Barings lent gold to United States bankers, negotiated loans for war-distracted Europe, and with the Rothschilds and other houses furnished capital to reinforce the new republics of South America and the nationalist government of Greece. This first wave of capital export reached a peak in 1824-5 with a boom in South American mining securities, a boom which collapsed with startling rapidity on the realization that mines are not dug in a day.

Investment on the Continent and in the United States survived this set-back. Almost every European country had its factories equipped, financed and sometimes manned from Britain. Professor Jenks shows¹ how Britain's willingness to buy United States bonds enabled the Americans to balance their overseas trading. It brought to Britain in the 1820's and 1830's a great volume of American State bonds until about 1840 when a number of the governments were unable to meet their obligations and "American stocks joined those of Portugal and Mexico and Greece in the ghettos of finance."²

¹*The Migration of British Capital to 1875*, pp. 65 ff.

²*Ibid.*, p. 99.

(b) *The 1840's to 1874.* This default of the American governments together with political instability in Europe and the domestic demand for railway capital, produced a relative lull in capital exports in the 1840's. Then, from the early 1850's to the mid-1870's, Britain's overseas investments mounted at a prodigious rate. Through the joint leadership of her financial houses, railway contractors and the iron industry, Britain was prepared to equip the world with railways. (For a list of the overseas railway contracts undertaken by Thomas Brassey between 1834 and 1870, see Jenks.¹) The gold discoveries, as we saw above (p. 120), widened the world's currency base and stimulated activity everywhere. For the first time Britain turned to deliberate capital development in India and Canada, calculated to increase the outflow of goods complementary to British industrial production. Paris, Vienna, Berlin, might make some contribution, but generally the world in this phase looked to London for capital which could not be locally raised. The cosmopolitan nature of London's financial rôle is symbolized by the foreign houses which established contacts there. The Hambros came from Copenhagen after 1848, Bischoffsheim and Goldschmidt, with contacts in every leading European nation, had a London house after 1850, Speyers of New York came to London in 1862. They, like the Barings and the Rothschilds, were turning increasingly to the issuing of loans for foreign governments and railways as their main business.

(c) "*The End of an Era.*" For the two decades ending in 1874 Britain had exported an average annual surplus of capital of about £15 million and had reinvested the income abroad. By the early 1870's this had risen to an annual investment of something like £85 million. Within three years this item in the balance of payments disappeared, and in 1876, 1877 and 1878 Britain collected income from overseas property for domestic consumption. "She was at the end of an era . . . the export of a capital surplus was over." (Jenks.²) We have already considered this relative cessation of new foreign investment as a factor in the Great Depression (above, p. 124).

¹Ibid, Appendix A.

²Ibid., pp. 332-3.

Investment overseas, in effect the reinvestment of interest, began again on a fair scale in 1881, climbed to some £80 millions in 1890, and then fell off to relatively small proportions until 1903-4. (See the diagram in Clapham,¹ based on Hobson's figures.)

Because the export of capital was tied up with the demand for capital equipment it tended to fluctuate as overseas countries expanded or contracted their development plans, and throughout this period political and economic conditions in most overseas countries worked against consistent long-term development. Professor Jenks² draws attention also to the change in Britain's international position resulting from her increased purchases of food and the increased competition encountered by her exporters.

Though new investment consisted so largely of reinvested interest, the generation after 1875 greatly redistributed its foreign holdings. Capital was withdrawn from Europe—now able to meet its own needs—and transferred to North and South America, Australia and South Africa.

(d) *The Final Boom, 1905-14.* "Before the 1914 War perhaps one-sixth of the national income was available for net capital accumulation, and of this perhaps one-half to one-third . . . was invested abroad . . . In the years between 1910 and 1913 not less than 81 per cent of all issues was on behalf of foreign debtors." (T. Balogh: *Studies in Financial Organization*, p. 248.) From a very low figure in 1901-2 the annual outflow mounted fast with a temporary check in 1908-9 to unprecedented levels in 1911-12, when nearly 30 per cent more capital was exported than in the whole decade 1890-1900. (Clapham.³) Of the huge total of £3,763 millions of British capital lying abroad in 1913 rather less than one-half was under the British flag, with Canada as the biggest single Empire debtor. Of that under foreign flags, over three-quarters was in the Americas. Very clearly British capital had played a cosmopolitan rôle. If, at some periods, it had tended to

¹*An Economic History of Modern Britain*, Vol. III, p. 25.

²*The Migration of British Capital to 1875*, pp. 329 ff.

³*An Economic History of Modern Britain*, Vol. III, p. 81.

create an economic empire, only fragments of that empire had come under British political influence.

(e) *The Inter-War Years.* After 1918 overseas borrowing in London never regained for any long period the ease or volume of the years before 1914. The failure to achieve political stability in Europe was not likely to breed confidence in the mind of the investing public which did not readily forget the losses sustained in the war years. Secondly, for much of this period overseas lending was restricted. "In fact almost throughout the post-war period there had been an effective, though not statutory and defined, control of foreign and certain home issues" (Balogh¹), and from 1936 the Treasury had the advice on general restrictions and particular applications of a Foreign Transactions (Advisory) Committee.

The lack of confidence was partially offset by internationally guaranteed loans and loans sponsored by the leading central banks, the Dawes Loan of 1924 and the Young Loan of 1930, intended to help Europe to recover. Similarly the changes in the geographical distribution of British overseas investments in this period reflect the attempts to integrate the Empire's economic life on the triple pillars of money, markets and men. Whereas in 1913 rather under one-half of these investments lay in the Empire, by 1936 its share in a somewhat reduced total had risen to 61 per cent, and within the Empire Australasia had replaced Canada as the principal debtor.

(f) *Some Effects of Foreign Investment.* Two wars, especially that of 1939-45, ate away much of these accumulated assets, and Britain's economic troubles after 1945 have been ascribed in part to this loss of income from foreign investment. At times emphasis on overseas investment led to some social hardship in Britain; we have suggested this as a factor in the stagnant real wages and neglect of housing in the early 1900's (above p. 143), and especially in the earlier 19th Century foreign investment was frowned on by many as "depriving the country of capital." Certainly if more had been kept at home, interest rates would have been lower, as they were after 1874 when the outward drain was checked. On the other

¹*Studies in Financial Organization*, p. 268.

hand it is arguable that capital went overseas for want of profitable employment at home. The boom in foreign loans of 1824-5 may well be associated with the low returns on capital at home, as evinced in the falling yield on Consols.

It is all but impossible to compare fairly average yields on foreign and domestic investment. Dr. Cairncross¹ maintains that yields on foreign investments were much the same, over a fair sample, as those on the less reliable investments at home. There were periods of serious default, especially in the 1820's and 1870's, but often defaulting bonds had hitherto paid generously and default was often only partial and temporary.

In a few instances British overseas investment had a political end, but Britain never bolstered a major country for political purposes as France bolstered Russia, and partly for this reason the British Government gave little direction or support to its bondholders.²

As we have seen, overseas lending tended to create a semi-monopolistic position for large sections of British industry and, especially in the 1860's, clearly stimulated the relatively rapid expansion of the capital goods sections. In that period, as in 1900-13, Britain as a nation was equipping the world on credit. The improved real wages of the 1880's and 1890's were the reward for the first period of abstention. Some easing of the current burden of the cost of two major wars was the reward for the second.

¹"Did Foreign Investment Pay?" in *Review of Economic Studies*, 1935-6, pp. 69 ff.

²On this aspect see especially H. Feis: *Europe, the World's Banker*.

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THE BANK OF ENGLAND IN THE LATER 19TH CENTURY
R. S. Sayers : *Bank of England Operations, 1890-1914*

PRIVATE BANKING IN LONDON AND THE PROVINCES

The history of the private banks of the 18th and early 19th centuries has not been consolidated, and must still be sought in a range of authorities falling into four groups :

(a) Original, mainly early 19th Century, sources, notably J. W. Gilbart : *Practical Treatise on Banking* ; H. Thornton : *Enquiry into the Paper Credit of Great Britain* ; Evidence before the Bullion Committee, 1810.

(b) Local banking studies, such as C. H. Cave : *History of Banking in Bristol* ; W. H. Bidwell : *Annals of an East Anglian Bank* ; L. H. Grindon : *Manchester Banks and Bankers* ; T. S. Ashton : " The Bill of Exchange and Private Banks in Lancashire, 1790-1830," in *Economic History Review*, 1945.

(c) Modern works of a more general nature, such as R. D. Richards : *Early History of Banking in England* ; W. T. C. King : *History of the London Discount Market*.

(d) The domestic histories of the joint-stock banks into which many private banks were ultimately absorbed.

ENGLISH JOINT-STOCK BANKING

The domestic histories of several of the major joint-stock banks have been published, covering approximately a century's growth. The following are representative :—

P. W. Matthews and A. W. Tooke : *History of Barclays Bank, Ltd.*

T. E. Gregory : *The Westminster Bank through a Century*, 2 Vols.

H. Withers : *National Provincial Bank*

W. F. Crick and J. E. Wadsworth : *A Hundred Years of Joint-stock Banking*

A résumé of the last three may be found in a review article by R. D. Richards, in *Economic History Supplement to Economic Journal*, 1937, pp. 430 ff.

AMALGAMATIONS AND CONCENTRATION IN JOINT-STOCK BANKING

J. Sykes : *The Amalgamation Movement in English Banking*

SCOTTISH BANKING

A. W. Kerr : *History of Banking in Scotland*

R. S. Rait : *The History of the Union Bank of Scotland*

N. Munro : *The History of the Royal Bank of Scotland*

W. Graham : *The One-pound Note in Scotland*

INTERNATIONAL MOVEMENTS OF CAPITAL

L. H. Jenks : *The Migration of British Capital to 1875*

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CHAPTER II

INDUSTRIAL AND SOCIAL LEGISLATION

" Priestley was the first (unless it was Beccaria) who taught my lips to pronounce this sacred truth : That the greatest happiness of the greatest number is the foundation of morals and legislation." (Bentham : *Works*, Bowring's Edit., Vol. X, p. 42.)

IN Chapter 5 we traced a cycle in fiscal policy. The same kind of trends are equally evident in the attitude of the State towards the economic and social life of the people, beginning with the relics of the Tudor and Stuart system of regulation, passing to the comparative *laissez-faire* of the liberal State of the 19th Century, and ending with the crescendo of positive Governmental activity since 1906.

The End of the Ancient Industrial Code

DECAY

The 18th Century statute book preserved almost intact the code of industrial law created by the Tudors and early Stuarts and received occasional extensions as late as the 1770's. Reality, however, is reflected in Goldsmith's saying that the law, like an indulgent parent, preserves the rod but seldom uses it. Laxity in enforcement arose in part from the constitutional changes of the 17th Century by which Parliament had replaced the King's Council as the dominant member of central government, and 18th Century Parliaments were unlikely to press for active restraint of private enterprise. Over the same period the chief agents of regulation, the guilds and chartered companies, had suffered decline, and the attitude of the Law Courts had passed from the critical to the hostile. From the start the Common Lawyers had tended to whittle down the application of the Statute of Artificers (1563), and by the 1750's Lord Mansfield (in *Raynard v. Chase*) spoke of it as "in restraint of Natural Right."

The neglect of the magistrates to fix wages, the decay of statutory apprenticeship, and the reluctance of the Courts to convict, all accorded with the current theories of individual freedom and insistence on the rights of property. Yet neither the decay of the code nor its piecemeal repeal in the first quarter of the 19th Century can be directly attributed to dogmatism. It is nearer the truth to say that the regulative system collapsed from within, from lack of administrative enforcement, and, at bottom, because it was inappropriate to a rapidly changing economic structure.

REPEAL

Wage-fixing had become a formality by the early 18th Century and a gap between assessed and market wages was general. This part of the code was repealed in 1813. The apprenticeship clauses formed a rallying point for skilled craftsmen (see for example a petition from Maudslay, Bramah and other engineer employers, quoted in A. Aspinall: *The Early English Trade Unions*, p. 163), and group after group petitioned Parliament for their enforcement, but as no political party was willing to back the operatives, powerful counter-petitions from the employers resulted in the repeal of these clauses in 1814. (On the circumstances of this repeal see T. K. Derry: "The Repeal of the Apprenticeship Clauses of the Statute of Apprentices," in *Economic History Review* 1931.) The Spitalfields silk, the West Riding cloth and the Scottish linen industries all had their own regulative systems, based in part on 18th Century statutes; all these were repealed in the 1820's. Yet so immature was *laissez-faire* theory in Parliamentary circles that at the same time an Act was passed regulating apprenticeship in merchant ships, and apart from Ricardo no M.P. expressed even surprise at the absence of logic.

Factory Legislation

THE CONDITION OF FACTORY OPERATIVES IN THE EARLY 19TH CENTURY

The Report of the Select Committee on Factory Children's Labour, 1831-32, provides, directly or indirectly, the raw material for some grim pictures of early 19th Century factories.

It tells how "men and women who were old at twenty, from all the industrial districts . . . passed before their rulers with their tales of weariness, misery, and diseased and twisted limbs." (Hammond.¹) It tells of children of seven working from five in the morning to eight at night with but one short break for food ; of the damp, hot, dusty atmosphere of spinning mills, and of the physical and moral deterioration which inevitably resulted.

There is some reason to suppose that the Report generalized from bad cases. The chairman of the Committee, Michael Sadler, was already deeply committed to the cause of factory regulation. Contemporary medical opinion, by no means infallible, was not unanimous in regarding factory children as more unhealthy than others, and an influential body of doctors was more alarmed at the moral than the physical dangers of factory life. It was, in fact, easy to appeal to the sickly sentiment of the Mrs. Hemans school, and in politics the ancient contempt of the Tories towards tradesmen could be worked up into a Parliamentary crusade against manufacturers. (See W. H. Hutt : "The Factory System of the Early 19th Century," in *Economica*, 1926.)

Neither these qualifications nor the shining example of a few humane factory owners can obscure the fact that the average employer was disposed to treat his factory labour as an insensible factor of production, valuable in that replacements were not always available and in any case required training. Current theory was behind him. Social theory tended to emphasize the rights of private property and play down its obligations. Economic theory defended individual freedom of contract, and, faithful to its master, held that State interference was unsound in theory and useless in practice.

EXPERIMENTS IN FACTORY LEGISLATION

For some classes of labour freedom of contract was clearly indefensible, and because no reasonable person could regard children as free labourers the first factory laws dealt exclusively with their labour. The State had always assumed some

¹Lord Shaftesbury, Pelican Edition, p. 24.

responsibility for pauper apprentices, to whom it stood *in loco parentis*, and by the Health and Morals of Apprentices Act, 1802, Parliament regulated their work in textile mills. Though its immediate effect was slight, and though it was a codicil to the Poor Law rather than a Factory Act, it created a precedent and provided the younger Peel, its promoter's son, with an *a fortiori* argument for the protection of all child labour. (Clapham.¹)

After Waterloo the movement for factory legislation gained impetus from the advocacy and example of Robert Owen, who proved at New Lanark that decent conditions were not incompatible with handsome profits, but the first true Factory Act, the Cotton Factory Act of 1819, was a poor reflection of Owen's draft bill. Its application was limited to cotton spinning, it fixed the minimum age of employment at nine years, it restricted the hours of work of children up to the age of sixteen to twelve a day exclusive of mealtimes. Compared with Owen's draft its worst omission was his proposal to appoint salaried inspectors. Instead it delegated enforcement to the magistrates and was, in fact, virtually ineffective, especially as the following year an amending act allowed longer hours to make up for time lost through breakdown, or stoppage of power supplies. In any case, compulsory registration of births was not introduced until 1837, and before that evasion of minimum age regulations was always easy.

THE ACT OF 1833

The unsatisfactory nature of this legislation was brought home to the country by Sadler's fiery letters to the *Leeds Mercury* on "Yorkshire Slavery," contrasting the country's concern over negro slaves with its apathy over factory slaves in its own towns. In Parliament the agitation for further legislation was headed first by Sadler and then by Lord Ashley (afterwards Lord Shaftesbury). In response to their pressure official inquiries were instituted, and in 1833 the Whig Government carried through "An Act to Regulate the Labour of Children and Young Persons in Mills and Factories." The title is misleading; in fact the Act related only to textile mills.

¹*An Economic History of Modern Britain*, Vol. I, p. 375.

In brief it provided that :—

- (a) No child under nine should be employed save in silk mills.
- (b) By 1835 no child under thirteen should work above an average of eight hours a day, or ten in silk mills.
- (c) No person under eighteen should work above sixty hours a week, or do any night work.
- (d) Children under thirteen employed in textile mills should attend school at least two hours per working day.
- (e) Minimum meal times and eight half-holidays a year should be allowed.
- (f) Four salaried inspectors should be appointed.

(For the text of the Act see Bland, Brown and Tawney.¹)

The significant departure from previous legislation lay in the professional peripatetic inspectors, who, contrary to gloomy forebodings, exercised their powers with a nice blend of zeal and tact.

THE "TEN HOURS" AGITATION

"Parliament say what they will,
We will have the Ten Hours Bill!"

(Song of Bradford Children, 1833.)

The 1833 Act fell short of the high hopes which attended its passing. Employers discovered that by working children in relays they could satisfy the Act and yet keep machinery and adult labour in action for long hours. A decade of complex political manœuvres and bitter public controversy led Parliament in 1844 to pass more legislation further reducing the hours of children, limiting the hours of young persons and women, and providing that the work of all protected persons should begin at the same time, thus reducing the opportunities for working children in relays. The inclusion of women in the category of protected persons and regulations for the "fencing" of machines both mark important innovations.

Parliament in 1844 rejected the Ten-hour day. In 1847 it accepted it. No new argument had been introduced in the meantime, but whilst in 1844 trade was brisk, in 1847 "so great was the depression that mill-owners found it impossible

¹*English Economic History, Select Documents*, pp. 594 ff.

to keep their mills working for so long as ten hours." (Hutchins and Harrison.¹) So after 1st May, 1848, no young person under the age of eighteen, and no woman of any age, might legally be employed in a textile mill for more than ten hours in any one day, or more than fifty-eight hours in any one week.

Like its predecessors the Ten-hour Act failed to define the working day. Two further Acts, in 1850 and 1853, were needed to achieve this object, and so make the ten-hour day a reality for all textile mill operatives except adult males.

THE EXTENSION OF FACTORY LEGISLATION TO OTHER INDUSTRIES

British factory legislation was built up piecemeal. It started with textiles because in no other industrial group was the factory so general or so conspicuous. The first extensions were to trades allied to textiles; print works, bleach and dye works, lace factories, all of which were covered by 1861.

In that year Shaftesbury induced the Government to inquire into the conditions of child labour in trades not already regulated, and attention immediately focused on the making of matches, pottery, cartridges and similar dangerous occupations. By 1867 a big group of industries, selected mainly on this test of danger, had become subject to factory regulation. Simultaneously the Workshops Regulation Act (1867) instituted the first measure of control over small undertakings, and four years later workshops came within the province of factory inspection.

Two developments of the 1870's virtually completed the foundations of the factory code. Consolidating Acts, notably that of 1878, brought together and codified the best features of the legislation of the previous half-century. The introduction of compulsory elementary education under Forster's Act of 1871, though tentative at first, inevitably eliminated in the long run the regular employment of children of school age.

THE REGULATION OF CHIMNEY-SWEEPING AND MINING

Whilst early factory legislation was concerned solely with textiles, humanitarian sentiments were aroused by revelations

¹A *History of Factory Legislation*, p. 70.

of the appalling conditions suffered by child chimney-sweeps and by children and women in mines. Legislation from 1788 sought in vain to regulate the employment of "apprentices" by sweeps, involving, after 1834, the approval of two magistrates to the contract between master and boy. (The procedure under this Act is immortalized in *Oliver Twist* where Gamfield brings Oliver before two ancient magistrates.) Yet despite persistent pressure by Ashley and constant revelations of the brutalities suffered by climbing-boys, no effective remedy was provided until 1864, when Parliament prescribed sixteen as the minimum age for a sweep's apprentice.

Regulation of mining came earlier and easier. In some mines, notably Scottish, girls and women still carried baskets of coal up steep ladders, but generally coal was raised either by the horse "gin" or, after 1815, by the new steam-engines. We do not know much of the exact extent of female underground labour before about 1840. The indications are that women were taken underground as the employees of the male miners, and that their employment was declining by 1800. Certainly by 1840 they were not employed in some major collieries, but the Commission set up that year heard "wretched accounts of overwork, nakedness and promiscuity," especially from Lancashire and East Scotland. (Clapham.¹) Children were more general in mines. Their diminutive size enabled them to pull trucks along low passages, and to crouch alongside manually-operated ventilators. The Commission's Report in 1842 "shocked both the humanity and the delicacy of Victorian England" (Hammond²), and in three months Ashley's Mines Act was passed. It struck at the root of the evil. No female of any age, and no boy below ten, might work underground. These and other less fundamental clauses were entrusted to the supervision of inspectors with powers akin to those already exercised by the inspectors of factories.

The Extension of Industrial Legislation

The legislative developments so far surveyed in this chapter were essentially empirical in character, seeking to redress

¹*An Economic History of Modern Britain*, Vol. I, p. 570.

²*Lord Shaftesbury*, Pelican Edition, p. 71.

newly revealed abuses, and sedulously avoiding direct interference with the "freedom" of adult male labour. The 19th Century produced a mass of legislation on social topics, public health, education, poor relief, and on industrial relations, trade unionism, factories and mines, yet it remained broadly faithful to basic *laissez-faire* and to Gladstonian conceptions of economy in public finance.

The rebirth of a more positive State policy began on the Continent, especially in Bismarck's Germany. It was associated in part with the neo-Hegelian doctrines of the nature of the State, taught in England by T. H. Green, whose Oxford pupils included a future Prime Minister (H. H. Asquith). Simultaneously the rise of modern Socialism reflected dissatisfaction with capitalist methods, and the existence since 1884 of manhood suffrage made the old political parties more sensitive to shifts in popular opinion. All this criticism of the liberal State forms one element in the "period of unsettlement" into which the Great Depression after 1875 precipitated Britain. (See R. C. K. Ensor: *England, 1870-1914*, especially Chapter X.) No solid positive doctrine immediately emerged; indeed, an influential writer of the 1880's, Stanley Jevons, argued for an empirical approach, judging each case strictly upon its merits, and, as Clapham¹ points out, there was little of the doctrinaire in the early growth of what critics called "State Socialism." (On the effects of the wider parliamentary franchise see A. V. Dicey: *Law and Public Opinion in England*.)

WAGE-FIXING AND CONCILIATION

The idea of wage-fixing machinery did not immediately die with the repeal of the wage clauses of the Statute of Artificers in 1813. In 1834 a Parliamentary Committee listened to proposals by Hugh Mackenzie for the establishment of a Wages Board for hand-loom weavers under the supervision of the Board of Trade (Bland, Brown and Tawney²), but the rejection of such proposals reflects the faith of 19th Century Britain in the freedom of wage contract, and, as the century progressed, the workers looked more and more to their trade

¹*An Economic History of Modern History*, Vol. III, Chapter VII.

²*English Economic History, Select Documents*, pp. 596-8.

unions to negotiate collective bargains on their behalf.

Neither trade unions nor Factory Acts provided any real protection for "unorganized workers, who, hidden away like lepers in cellars or in East End tenements, toiled all day long for a few pence." (R. J. Cruikshank : *Roaring Century*, p. 182.) These were the "sweated trades," over which public conscience was roused to a climax by the *Daily News* Sweated Industries Exhibition of 1906. The Trade Boards Act, 1909, resulted. It set up wage-fixing boards for the four worst low-wage industries, to which four more were added in 1913.

With the end of the 1914 War the whole question of industrial relations was reviewed by the Whitley Committee, which recommended an extension of the Trade Board system in industries without adequate employer and employee organizations, and the establishment of Joint Industrial Councils in those with more adequate trade organizations. The first recommendation was implemented by the Trade Boards Act, 1918, by which the Ministry of Labour could set up a Trade Board in any industry where no adequate voluntary wage-fixing machinery existed. By 1921 the wages of some million and a half workers were determined by Trade Boards.

Wages assessed by Trade Boards and ratified by the Minister of Labour were enforceable by law. After the early 1920's the fraction of the industrial field so covered showed no real tendency to increase, and for most workers wages were still fixed by collective bargains with no legal backing. Two Acts of the 1930's, therefore, mark an important departure by providing legal sanction to wages voluntarily determined in the cotton and road transport industries.

Machinery for conciliation had developed in the third quarter of the 19th Century, especially in the Nottingham hosiery trade in the 1860's under the guidance of A. J. Mundella, and the Conciliation Act of 1896 provided for the official recognition of voluntary Conciliation Boards and enabled the Board of Trade, with the consent of both parties, to promote conciliation in industrial disputes. The Joint Industrial Councils advocated by the Whitley Committee required no special legislation, though Government guidance was frequently involved in their establishment, but the Industrial Courts Act, 1919, set up a

permanent Industrial Court to which the Minister of Labour might refer disputes, and enabled him to appoint an *ad hoc* Court of Inquiry into any existing or apprehended dispute.

NATIONAL INSURANCE

The National Insurance Act, 1911, set up twin schemes of health and unemployment insurance.

(a) *Health*. Throughout the 19th Century a surprisingly large part of the working population had contributed to a variety of friendly societies. Their existence had been legally recognised since 1793, and their rules subject since 1829 to central supervision, exercised after 1846 by the Registrar of Friendly Societies. At its lowest the friendly society was little more than a burial club ; at its highest it symbolized a happy fusion of good fellowship and insurance against misfortune. By the later 19th Century its activities at almost all levels were rivalled by those of the commercial insurance companies, above all the Prudential, which in 1914 had fourteen million policies on its books.

Part 1 of the National Insurance Act built on this 19th Century growth by incorporating these existing agencies as Approved Societies in the administration of the new State-sponsored health insurance scheme. Resting on the financial basis of contributions by employer and employee, this measure secured for a large part of the working population insurance against sickness and medical treatment under the "panel" system, and remained unchanged in essentials until the introduction of the more comprehensive scheme advocated in the Beveridge Report and instituted by the National Insurance Act of 1946.

Insurance against accidents in the course of work developed from the 1880's as a liability on employers, taking on its modern form in the Workmen's Insurance Act of 1897, extended to cover most trades by 1906. This was a risk which employers could shift on to the commercial insurance companies which quickly undertook it as part of their normal business.

(b) *Unemployment*. We have already seen how early 20th Century opinion was coming to regard unemployment as a "problem of industry" against which industry might reasonably

be asked to insure. Accordingly Part II of the 1911 Act provided for compulsory insurance against unemployment in a group of industries distinguished by their liability to seasonal or cyclical unemployment, covering initially some 2¼ million operatives. Originally the scheme was actuarially sound, and in the relatively flourishing years before 1914 it had a comfortable inception.

These easy conditions continued throughout the 1914 War and immediate post-war boom in which the cover was extended to most industries, but after 1920 unforeseen strains developed. As originally conceived the scheme contemplated only short spells of unemployment, the worker's legal entitlement to benefit being limited to 15 weeks in any one year, and to meet the onset of more prolonged unemployment in 1921 the Government allowed the payment of "extended benefits" in addition to the legal entitlement. The result was rapid exhaustion of the credit balance of 1920 and a fast-mounting deficit, the occasion of some public concern leading to the setting up of the Blanesburgh Committee and new legislation in 1927. In effect this new Act eased the regulations governing the "standard" benefit, and set up a new "transitional" benefit to cover the period between the expiry of standard benefit and recourse to Poor Relief.

National financial stringency in 1931 was responsible for the introduction of a "needs test" in the assessment of transitional benefits, and as this test was administered by local authorities, friction and variations in application inevitably followed. The Unemployment Act of 1934 sought to restore order out of chaos. It re-established Unemployment Insurance proper on an actuarial basis, created Unemployment Assistance as a distinct scheme for those who could not fulfil the conditions for insurance benefits, and transferred the administration of assistance from local authorities to a new central Unemployment Assistance Board.

The Relief of the Poor

ANCIENT FOUNDATIONS

Poor Relief to the later 18th Century rested on the twin

foundations of the Elizabethan Poor Law,¹ codified in 1601, and the Settlement Act of 1662. Acts of 1723 and 1782 enabled parishes to combine for specified purposes in relation to Poor Relief, but as these were virtually abortive the onus of administration still lay on the parish under the supervision of the local magistracy and the Settlement Act sought to ensure that every pauper did return to his native parish for relief. Hence a problem of widening significance was still handled in a piecemeal parochial fashion with little or no central control and consequent wide variations in methods and standards of relief. Scotland had, as we shall see later, a different system from the English, and Ireland had virtually no system at all.

The English system inherited a sharp distinction between the impotent and the able-bodied pauper. For the former it normally provided outdoor (i.e. non-institutional) relief. To the latter it adopted a policy of deterrence, based on the belief that the able-bodied pauper was idle and therefore should be made to work. In theory the able-bodied could receive relief only in return for work undertaken in a "workhouse" maintained for that purpose, but by the later 18th Century a more generous approach was generally adopted, the Workhouse Test was falling into disuse, and the Act of 1782, commonly called Gilbert's Act, clearly contemplated outdoor relief for such poor persons "who shall be able and willing to work but who cannot get employment."

THE SPEENHAMLAND SYSTEM

The coincidence of warfare and rapid change in the structure of agriculture in the last decade of the 18th Century resulted in a wider application of this more liberal approach. The Hammonds have shown (*Village Labourer*, pp. 99-137) how the Speenhamland system was adopted as one of several possible solutions to the decline in the economic condition of labour in purely rural areas. Originating in Berkshire in 1795, it was copied in counties covering perhaps half of rural England, "particularly the counties of recent enclosure." (G. M. Trevelyan.²)

¹For the text of these Acts see Bland, Brown and Tawney: *English Economic History, Select Documents*.

²*English Social History*, p. 469.

The Speenhamland System and its variants involved a confusion of Poor Relief and wage subsidies, for in their most developed form they involved payments to labourers according to the size of the family and the current price of bread. Outside the predominantly rural counties the same confusion can be traced in help from the poor rates to abnormally large families or to families suffering sickness or misfortune.

Such general out-relief was utterly contrary to current economic doctrine, especially to the teaching of Malthus. Similarly it is unlikely that the governing classes in 1793-1820 were moved by sentimental paternalism. The truth is that doles were tolerated and extended as "an insurance against unrest." (E. Halévy: *A History of the English People*, Pelican edition, Vol. 2, p. 232.) In fact it involved no very heavy premium. From some £2 millions in the late 1780's the national cost climbed to something over £7 millions in 1813, a by no means intolerable increase in a period of rising prices and growing population, though as the cost was met entirely from local rates the geographical incidence of the burden was very uneven.

THE "NEW" POOR LAW

(a) *The Report of 1834.* Though the national cost per head of population had fallen appreciably since the post-1815 depression, the Commissioners appointed in 1832 to investigate the administration of relief made much of the financial burden. Their Report, published in 1834, displayed evidences of the influence of both Malthus and Bentham. The former, in his *Essay on Population*, in effect denied the justification of publicly provided relief. As we have seen, the traditional English system acknowledged the obligation of the State to prevent anyone from starving, and it is significant that the Commissioners advocated a return to the SPIRIT AND INTENTION (their capitals) of the Elizabethans. Fundamentally, therefore, they departed from Malthus, yet his influence can be seen in their insistence on rigorous conditions. Benthamite influence is more directly obvious in the structural changes advocated. The post-1834 administrative structure, based on a central controlling authority with locally elected

Boards of Guardians, reflects exactly Bentham's proposals for blending central bureaucracy with local democracy. (On the important contribution of Nassau Senior to the deliberations of 1832-4, see M. Bowley : *Nassau Senior*, Part II, Chapter 2.)

(b) *The Principles of 1834*. The Poor Law Amendment Act (1834) was concerned almost wholly with the setting up of a Central Commission and the grouping of parishes under Boards of Guardians. It laid down no policy, so the Commissioners and their energetic secretary, Edwin Chadwick, looked to the Report of 1834 for guidance. They found there the following principles:—

(1) National Uniformity. This provided the justification for central control, and marked a return to the strong central direction of the early Stuarts.

(2) The abolition of outdoor relief to able-bodied paupers.

(3) Each union of parishes should have a Workhouse in which such able-bodied persons should be set to work under strict discipline.

(4) The condition of the pauper should be less desirable than that of the lowest paid independent worker.

(5) In so far as institutional treatment was provided to the impotent and aged it should be distinct from the ordinary Workhouse.

EARLY APPLICATION OF THE 1834 SYSTEM

The Commissioners started with the rural areas, especially in the south of England, where they applied the new system with considerable vigour. The resulting operation, however painful in the short run, was to prove beneficial in the long, in that it forced redundant rural labour to seek alternative employment which, fortunately, railways building and manufacturing could provide. But when the Commissioners tackled the industrial towns and the North generally in 1836-7 they encountered a very different reception. Trade was already slackening off and the cost of living moving up towards the high level of 1839-40. The industrial workers had experience of concerted opposition to unpalatable measures, and "the sturdy independence of the North" was no empty phrase when it came to taking orders

from bureaucrats in Somerset House. Some northern Guardians, backed by influential manufacturers, refused to apply the Workhouse Test to able-bodied applicants, and within a short time the Commissioners had bowed to the storm by allowing outdoor relief to able-bodied persons in over one hundred Unions.

By 1847 over one-fifth of the Unions gave outdoor relief to almost all applicants, so the important principle of national uniformity was abandoned from the start. But where the Workhouse Test was in operation the principle of "less desirability" was enforced ruthlessly by monotony of diet and work and exclusion of all social amenities. Because the Commissioners never attempted to check out-relief to the aged and impotent, the number of paupers outside the Workhouses was always much greater than that inside, but where these non-able-bodied were admitted the Commissioners and Guardians failed dismally to provide separate treatment. So the Workhouse became "an indiscriminate common establishment, with a uniform régime for all classes alike." (Webb : *English Poor Law Policy*, p. 85.)

UNIQUE FEATURES IN SCOTLAND

As we have seen, the English Poor Law always recognized the entitlement of the valid poor man to maintenance in exchange for his labour. The Scottish system, based on a law of 1579, recognized an obligation to the impotent and aged only, entrusting administration entirely to the parishes, very few of which found it necessary to levy a rate. This system had its English admirers, on the grounds that it bred self-reliance among the poor. It was certainly cheaper than the English method. But the parochial method of relief proved incapable of coping with the trade depressions of the 19th Century, and a veering of Scottish opinion can be detected in the debates of the General Assembly which, in 1839, advocated "temporary relief in times of unusual calamity" for the able-bodied.

The Disruption of the Church precipitated change, yet, with such a background, reform in Scotland was inevitably more conservative than in England, and the Scottish Poor Law of

1845 was a pale reflection of its English equivalent of eleven years earlier. It set up a Central Board of Supervision to sanction but not compel the Union of parishes. Assessment of rates remained optional, and rural parishes clinging to the traditional system could continue to administer their poor funds through the old alliance of Kirk Session and heritors. The Act conferred on the able-bodied no legal right to demand relief, and by a test case of the late 1840's they were held to lie outside the definition of "occasional poor" to whom relief might lawfully be given.

VOLUNTARY ORGANIZATIONS AND POOR RELIEF

From time immemorial the virtue of charity has been translated into care for those who, for one reason or another, are unable to maintain a self-supporting existence, and in England down to Elizabeth's reign, and in Scotland down to the 19th Century, Poor Relief devolved largely on the Churches. The rôle of statutory Poor Relief cannot be fairly appraised unless it is remembered that such authorities as Chadwick and Senior held that it presumed the co-existence of voluntary charity; indeed, some were prepared to argue that statutory relief was designed only for those undeserving of other forms of assistance.

The Cotton Famine of the early 1860's provides the best 19th Century example of concentrated voluntary aid, beginning with local Relief Committee work in the cotton towns and working up to a nation-wide appeal through a Mansion House Fund, but year by year a great mass of hardship was averted or relieved by the activities of trade union benevolent funds, friendly societies, the Salvation Army and similar lay and ecclesiastical organizations.

ENGLISH POOR RELIEF IN THE LATE 19TH CENTURY

In this period two contrary influences bore upon the administration of Poor Relief. On the one hand the "able, zealous and somewhat doctrinaire" inspectors (Webb: *English Poor Law Policy*, p. 148) of the Local Government Board inherited from their predecessors of the old Commission a faith in the principles of 1834, and they continued to wage,

with some success, a campaign against indiscriminate outdoor relief. Though the proportion of paupers to population declined, there was no corresponding decline in cost, suggesting that the system was in fact becoming more open-handed. Several factors went to make up the second influence of which this was evidence. Especially after 1884 Parliament was more susceptible to popular opinion. By the 1890's the local Guardians were elected on a wider franchise, and, in the eyes of the inspectors, were becoming deplorably prodigal.

On balance, in the last years of the 19th Century Poor Relief was moving away from the indiscriminate deterrence of the middle decades of the century. Considerable headway was made in providing separate institutional treatment for pauper children and for the sick, a distinction was being drawn between the able-bodied pauper and the vagrant, whilst piece by piece other social services were developing and tending to overlap the traditional sphere of the Poor Law authorities.

THE ROYAL COMMISSION OF 1905-9

In short, this inquiry examined a system far removed from the principles of 1834. National uniformity had never been possible. Less desirability had been narrowed down to the treatment of vagrants. Some entirely new principles had appeared or were being formulated. For some important groups Poor Relief now attempted to restore the individual to a condition in which he could undertake a normal independent existence. The State had begun providing certain services, education, vaccination, libraries and the like, for all, irrespective of financial condition. It is not far from the truth to say that whilst in 1834 the State had accepted responsibility for keeping alive those who sought its aid, in 1900 it was moving fast towards the assumption of a positive responsibility for maintaining the minimum standards of civilized life.

Two Reports were published. Both agreed that the Guardians were unsatisfactory organs, and recommended that the administration of Poor Relief should be transferred to the normal local government bodies, and the Majority Report laid great stress on the continuing significance of voluntary relief services. The major split in the Commission came over the

fundamental nature of the pauper. The Majority broadly regarded him as one who had not shown a complete ability to maintain an independent existence, and in their analysis of the causes of pauperism attached great importance to drink as "the most potent and universal factor in bringing about pauperism." (Majority Report, p. 221.) The Minority whose Report published in convenient form proved a "best-seller," denied the existence of any intrinsic difference between the pauper and his self-supporting fellows. From this they argued that the concept of "pauper" should be abandoned, and that the functions exercised by the specific Poor Law authorities should be broken up and distributed among the appropriate functional committees of the general local authorities.

The immediate effects were indirect. In 1908 the State made its first major financial contribution towards the prevention of destitution by following the New South Wales example of establishing universal old-age pensions. Simultaneously the Labour Exchanges were coming into being to smooth the flow of labour, and, as we have seen, the 1911 Insurance Act provided a cover to a growing body of operatives against unemployment and sickness. Partly because of these considerable invasions of its field, wholesale reconstruction of Poor Relief was postponed. The break-up of the Poor Law, advocated by the Minority in 1909, was partially accomplished in 1929, and virtually completed after the 1939 War.

Public Health

It is arguable that the fatal defect of the 1834 Poor Law Report was its neglect of the causes of destitution. We have already suggested that economic change after the mid-18th Century outdistanced administrative arrangements, though in some towns "Commissioners for Paving, Lighting, Sewerage, Police, Improvement—or whatever they were locally called—together with the best of the unreformed municipalities, had done work not to be despised before 1835." (Clapham: *Economic History of Modern Britain*, Vol. I, p. 538.) Unfortunately many towns were not so blessed, and particularly in the very rapid urban expansion of the 1820's problems were

created for the handling of which local authorities did not possess the experience, the power, or the resolution. (On the state of the towns, see J. L. and B. Hammond.¹)

Congestion of population in towns aggravated the dangers of primitive burial, sanitary and water supply arrangements, and medical science had already suspected a relationship between these environmental factors and the incidence and spread of certain diseases. The Poor Law Commissioners after 1834 possessed an organization capable of collecting, tabulating and publishing facts of any subject related to pauperism, and when, in 1838, Whitechapel suffered an unusually severe attack of fever, Chadwick appointed a medical committee whose report revealed the relationship between local sanitary conditions and the cost of supporting the victims of disease. In fact an assault on the causes of destitution had begun which immediately broadened out into sanitary investigations in all big towns and a nation-wide drive for "sanitary reform."

By the mid-1840's a mass of authoritative evidence had been collected, revealing the true state of the towns. The hand of Chadwick can be detected on almost every page, and when the first Public Health Act, 1848, set up a General Board of Health, he inevitably became a foundation member along with Lords Ashley and Carlisle. The Board could establish a local sanitary authority in any area which requested it or where the death rate was abnormally high. Chadwick's bureaucratic energy in this work completed his elevation to the eminence of the best-hated man in Britain. The central authority lasted only to 1854. It fought an uphill battle in an age when *The Times* could write: "Mr. Chadwick and Dr. Southwood Smith have been deposed, and we prefer to take our chance of cholera rather than be bullied into health." In fact the General Board had mitigated the worst effects of two cholera epidemics, had provided local sanitary authorities for some two million people, and, with the 1848 Act, created a base on which a Royal Commission in 1868 and further legislation in 1871-75 were to build a great superstructure of public health services. The conversion of public opinion and

¹*The Bleak Age*, Chapter V.

local councils proved uphill work ; when Disraeli adopted "*Sanitas sanitatum et omnia sanitas*" as his party's watchword, his enemies called it a plumber's policy. (A. Maurois : *Disraeli*, Penguin Edition, p. 223.) But year by year medical science, led by such men as Lister and Koch, was evolving what may be called a "germ-theory" of disease. This and the revelations of low national physique produced by the examination of recruits for the Boer and 1914 wars intensified the Public Health movement. So the "deliberate adoption of the name 'Ministry of Health' for the reconstructed Local Government Board in 1919 marks the triumph of what Edwin Chadwick and the other reformers of early Victorian days called 'the sanitary idea'." (E. L. Hasluck : *Local Government in England*, 2nd Edition, p. 273.)

The Social Service State in the 20th Century

With the 20th Century the idea of progress came to imply the steady improvement of social conditions, and the creation of universal minimum standards of welfare became a conscious object of national policy. The previous century had made notable contributions to this end in the building and endowment of hospitals, the establishment of a national system of education, the Public Health Acts, the provision of clean water and the like, but the social reformers of the 19th Century suffered from the narrow interpretation placed upon economy in public finance. Hence in 1891 the total cost of public social services was only some £22½ million, less than 14s. per head of the population. On the eve of the 1939 War the annual cost had risen to £450 million, almost £10 per head of the population.

In part this represented increased expenditure on existing services such as education, which alone absorbed well over £100 million in 1936-7. In part the increase came from the establishment and expansion of new services, such as non-contributory old-age pensions, which in 1936-7 cost twice as much as all the public social services of 1891. These new services had filled some conspicuous gaps in social provision. Gaps still remained, as the Beveridge Report of 1942 was to show, but "on the eve of the 1939 War the British Social

Services were already an impressive national achievement." (Owen.¹)

As a basis for analysis it is proposed to consider the social services of the inter-war period under five heads.

ENVIRONMENTAL SERVICES

These make up the environmental aspects of public health, originating in the 19th Century legislation already examined and turning largely on the duties and powers conferred on local authorities for the provision of water supplies, sewerage, sanitary services, parks and playing fields, and the more recent legislation providing for positive control of the physical environment through town and country planning.

COMMUNITY SERVICES

In this group we may include all those services available to individual citizens irrespective of financial status, examples of the "universal provision" which, as we saw above, grew up in the later 19th Century alongside the Poor Law. Education is an outstanding case. The early Factory Acts stipulated that factory children should receive a minimum of schooling, and from the 1830's the State took the next logical step by making grants to voluntary schools. By 1870 the widening of the Parliamentary franchise made it politically desirable to create a literate electorate, a national system of primary schools was created, and by 1891 education at this level became free to all.

Compulsory education, with the school-leaving age advancing from ten in the 1870's to fifteen under the 1944 Education Act, removed an increasing fraction of the juvenile population from full-time employment, and in effect completed the control of child labour so tentatively begun in 1802. On the other hand, this universal primary education, followed by constantly widening technical education, provided 20th Century Britain with a more alert and technically efficient adult labour force.

In the same group we may consider the hospital and medical services publicly provided for the community. Until the reorganization of 1947-8 Britain had a complex patchwork of

¹*British Social Services*, p. 8.

hospitals, some voluntarily and some publicly maintained. Many voluntary hospitals were symbols of 18th Century philanthropy and humanitarianism and became renowned as centres of high medical skill and devotion, illustrating the vital rôle of voluntary action in the creation of Britain's social services. Publicly provided hospitals are, in general, of more recent origin. Many, until 1929, were associated with Poor Relief. Others were founded in the later 19th Century for the treatment of infectious diseases, lunacy and other specific afflictions. Partly inside and partly outside this dual system of hospitals, the State through its local authorities provided in the 20th Century a widening range of medical services available to all, dealing for example with tuberculosis, venereal diseases, maternity, infant welfare, the latter linking up with the medical inspections carried out in all publicly controlled schools.

All these community services were, as Owen points out, "essentially constructive," their purpose being "to improve individual fitness and the social adaptation of the persons with whom they deal."¹

CONTRIBUTORY SOCIAL INSURANCE

We described above (p. 200) how the mutual aid of the 19th Century, as expressed through friendly societies, was supplemented in 1911 by compulsory self-help under the National Insurance Act. The essential feature of all the insurance schemes falling in this group is the payment by the individual of some contribution, in return for which the State guarantees him freedom from poverty in certain eventualities. Because these schemes grew up piecemeal and were restricted to particular income-groups a substantial part of the population was excluded from benefit, hence the proposals in the Beveridge Report for "a Plan of Social Security" which "covers all citizens . . . all-embracing in scope of persons and of needs" (Report, p. 9), proposals which are embodied in substance in the National Insurance Act of 1946.

ASSISTANCE

Because social insurance was not all-embracing it was always necessary to supplement it by various forms of assistance and

¹*British Social Services*, p. 14.

non-contributory pensions. Many people did not qualify for unemployment or sickness insurance. Especially in the years of high unemployment in the late 1920's and early 1930's many exhausted their statutory entitlement to benefits. Accordingly, in the inter-war years old-fashioned Poor Relief was elaborated and rechristened to meet new needs and accord with new ideas. So in the financial year 1936-7 assistance to the unemployed cost the taxpayer some £42 million and non-contributory old-age pensions some £45 million.

SUBSIDIES

The modern willingness to subsidize the consumption of certain commodities stands in sharp contrast to the limited conception of national economy which, as we have seen, hampered social progress in the 19th Century. Subsidies have been increasingly employed to widen the consumption of those foods most essential to promote and safeguard health, especially in children. In 1906 the State took the first step in the creation of a policy of national nutrition by enabling local authorities to provide cheap meals for necessitous school-children. By 1939 this had been extended by the supply of cheap nourishment to expectant mothers and babies and cheap milk to all children of school age. During and after the 1939 War the Government devoted several hundred million pounds of public money to subsidizing the price of essential foodstuffs for general consumption so that none need forgo his fair share of these foods by reason of price alone.

In a rather less obvious way the same policy has been applied to housing. The 1914 War, by causing an almost complete suspension of new building, intensified the already serious problem of overcrowding. The inter-war years as a whole saw a substantial effort to solve this problem and to satisfy the rising ideals of housing accommodation and comfort. In these years some 4½ million new houses were built. Under a series of Housing Acts from 1919 onwards subsidies were given by the State towards the building of some 1½ million of these, and as a general rule the subsidy from public funds meant a difference of several shillings a week between the "economic rent" and that actually paid by the occupier.

The objective of all these services was the destruction of "the giant social evils of Want, Disease, Squalor and Ignorance." (Sir Wm. Beveridge : *Full Employment*, p. 272.) Already there is a substantial dividend in widening mental horizons, in the disappearance of some old scourges and the reduction in mortality resulting from others, in greater expectation of life and the saving of mothers and infants, in healthier children, in the extinction of utter poverty, in the reduction of malnutrition, and in a considerable rehousing of the working population. Better conditions, at home and at school, in work and out of work, in infancy and old age, form the bright marks of a period of which otherwise there is little enough to be proud.

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