

THE ORIGINS OF TOWN PLANNING IN BRITAIN

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BASIL BRINK

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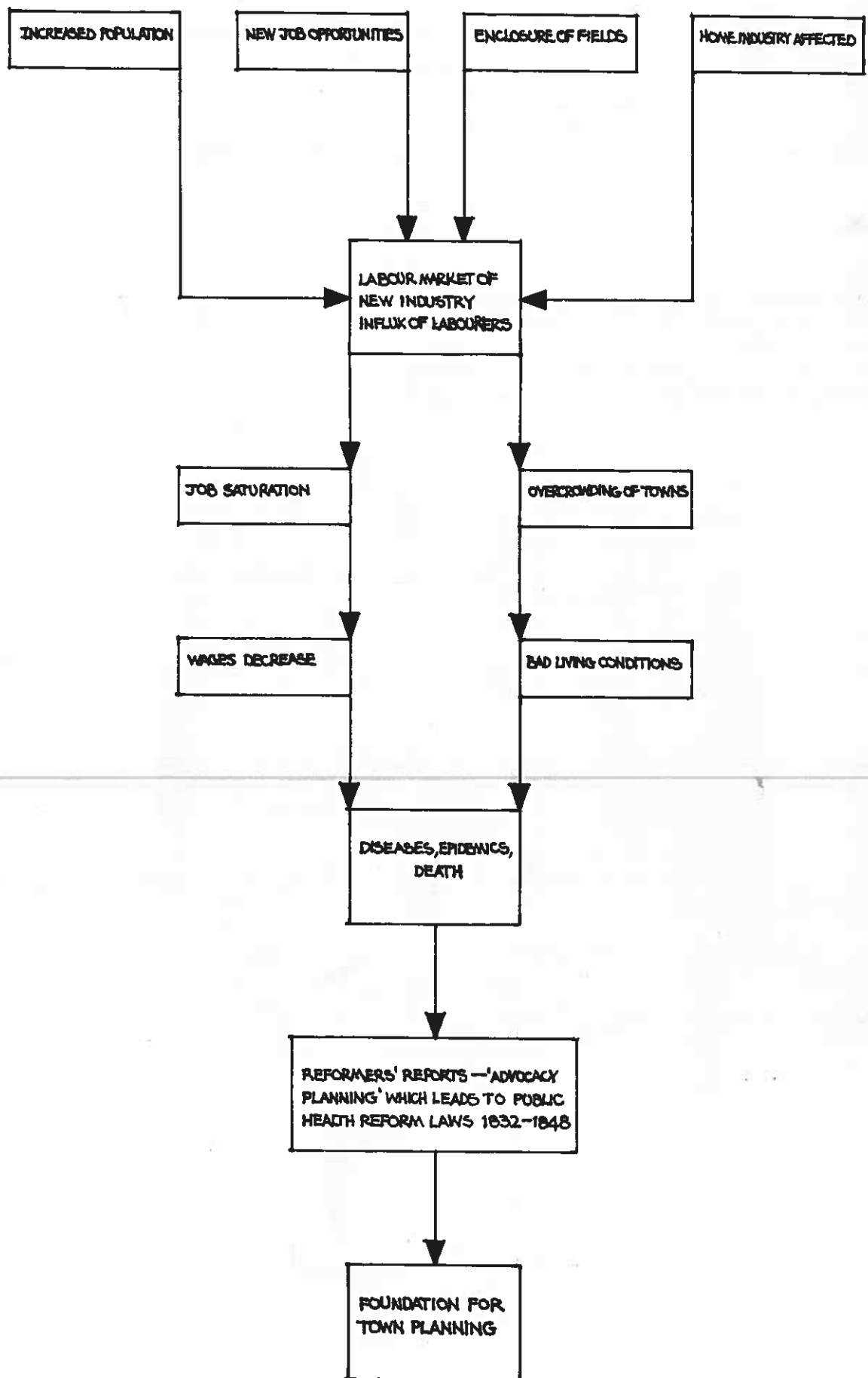
FOREWORD

In this paper emphasis has been placed to a lesser degree on the consequences of the agrarian revolution on the growth of population during the Industrial Revolution. Discovery of the potato and new farming techniques, such as strip farming and the alternating of crops, resulted in a improved production of 3 to 4 times that of before the discoveries.

The greater availability of basic, inexpensive food, such as the potato, led to improved health with consequent growth of population.

The enclosure of the fields may be seen as an important origin of town planning as the idea of control of land through land use measures came into its own there. Today the concept of land use zoning in town plans thereby farming, industrial, housing and green zones by means of legal statute is well established.

This paper concerns itself with the origin and the foundation on which the town planning of today was constructed - historic developments which were inter-related in such a way as to provide a basis for the first attempts at town planning.



What is Town Planning

In order to be able to seek the origins of modern town planning, it seems advisable first to define what is meant by the term "Town-planning".

A study of existing definitions indicates that there are about as many definitions as there are town planners. In general it may be stated that town planning is an ever-changing, dynamic concept, constantly adjusting itself to meet the social and political needs of a changing society. Recently, concepts such as user-participation have gained increasing favour with townplanners, so that the "planned incongruence" we see and experience in our environment may be eliminated.

Yehezkel Dror defines planning, in its more general sense as ... "the process of preparing a set of decisions for action in the future, directed to achieving goals by preferable means".
Faludi states that planning may be defined as an "intelligent mode of problem solving". 1)

Le Corbusier says that, "Townplanning, the social matrix par excellence, is the true expression of the material and spiritual conditions of an epoch".

The 1933 Athens Charter insists that industrial sectors should be separated from the living quarters by verdant zones (art. 47), and that living quarters occupy the best sites with respect to topography, climatic conditions, orientation for sun and available green space (art 23). 2)

Why this concern for sun, green space and separation from industry? It is hoped that this paper will indicate how first efforts at town planning originated in Britain at the time of the Industrial Revolution in the form of sanitary Reform Laws, where concern for the underprivileged, at times altruistic, but also for selfish economic reasons, emerged in the form of propaganda, journals, reports and laws, thereby anticipating the procedure of town planning as we know it today.

1) Faludi A., Planningtheorie p.1.4

2) Corbusier Le, Concerning Town Planning p.59

Redistribution of the population in Britain during the 18th and 19th centuries

Introduction

During the last part of the 18th century and the beginning of the 19th century great changes took place in the spread and the number of the population in Great Britain.

The population increased considerably and redistributed itself geographically, creating certain centres of very high density. This is graphically illustrated by the maps of the population distribution in England since 1750.

See illustration 1
illustration 2

".....the factory system gave rise to mighty centres of population... (e.g. Warwickshire and Staffordshire both contiguous to the mining and metal working Birmingham districts.)". 1)

The question arises as to what caused this rather rapid redistribution of the population. Several factors, all of them not equally important, contributed to this phenomenon.

The pressure of a steadily increasing population on limited land led to the expansion of existing settlements and the creation of new centres of industry. On the one hand the news of the benefits, wealth, improved conditions and wages caused by industrialization as well as the repeal of the forced settling laws, attracted the labourer to seek his fortune there, thus leading to a large concentration and later overcrowding of people in certain areas.

On the other hand people were compelled to leave their traditional agrarian abodes by factors such as the enclosure of fields, division of the common and the engrossing of land.

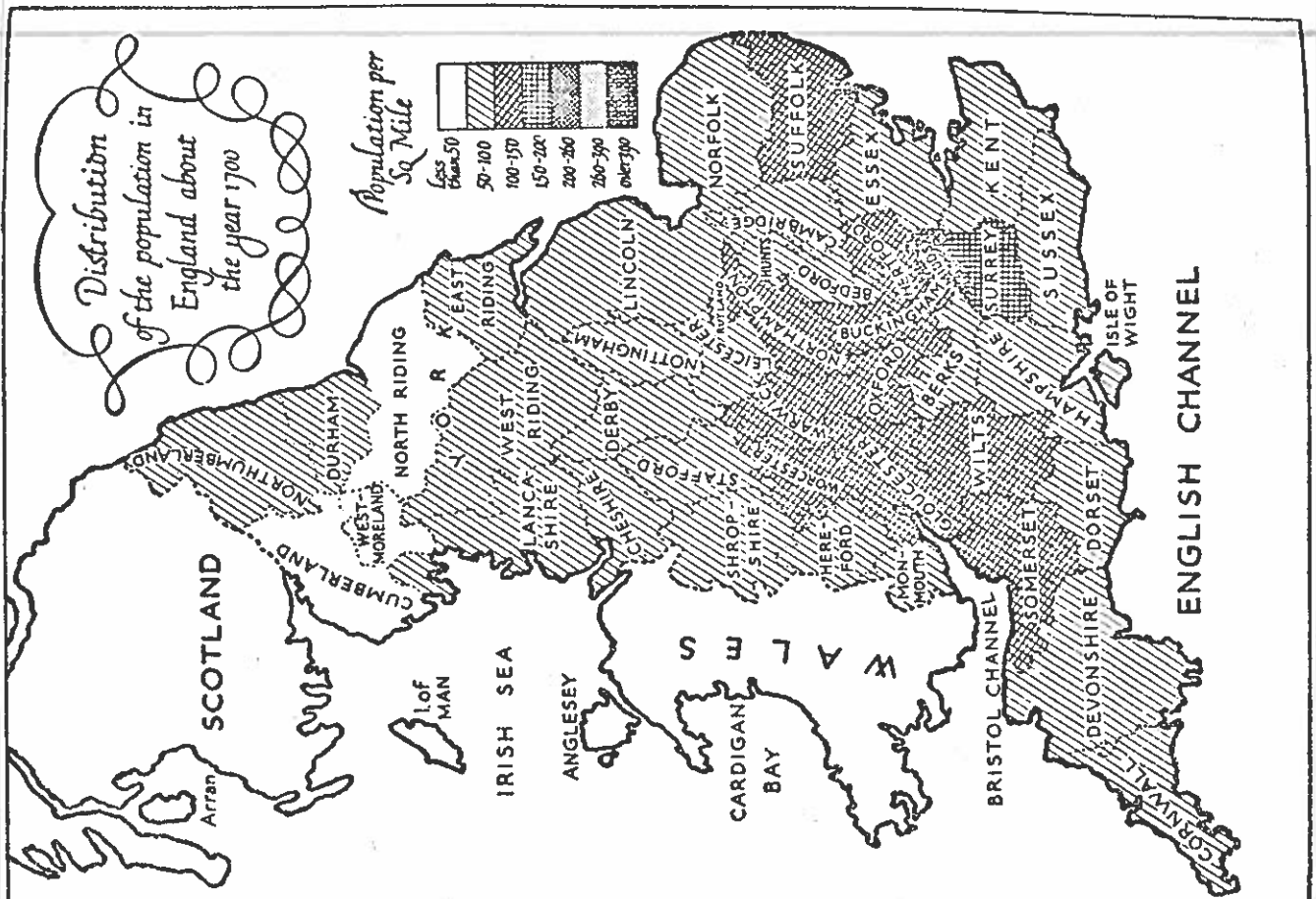
This repellent force became stronger after several severe crop failures with their resulting famines. The Irish were induced to emigrate to England after several potato crop failures which resulted in severe famines.

People who, in addition to a meagre living off the land, depended on receiving out-door relief, had to leave the land after the institution of the New Poor Law in 1834 which did away with relief outside the workhouse.

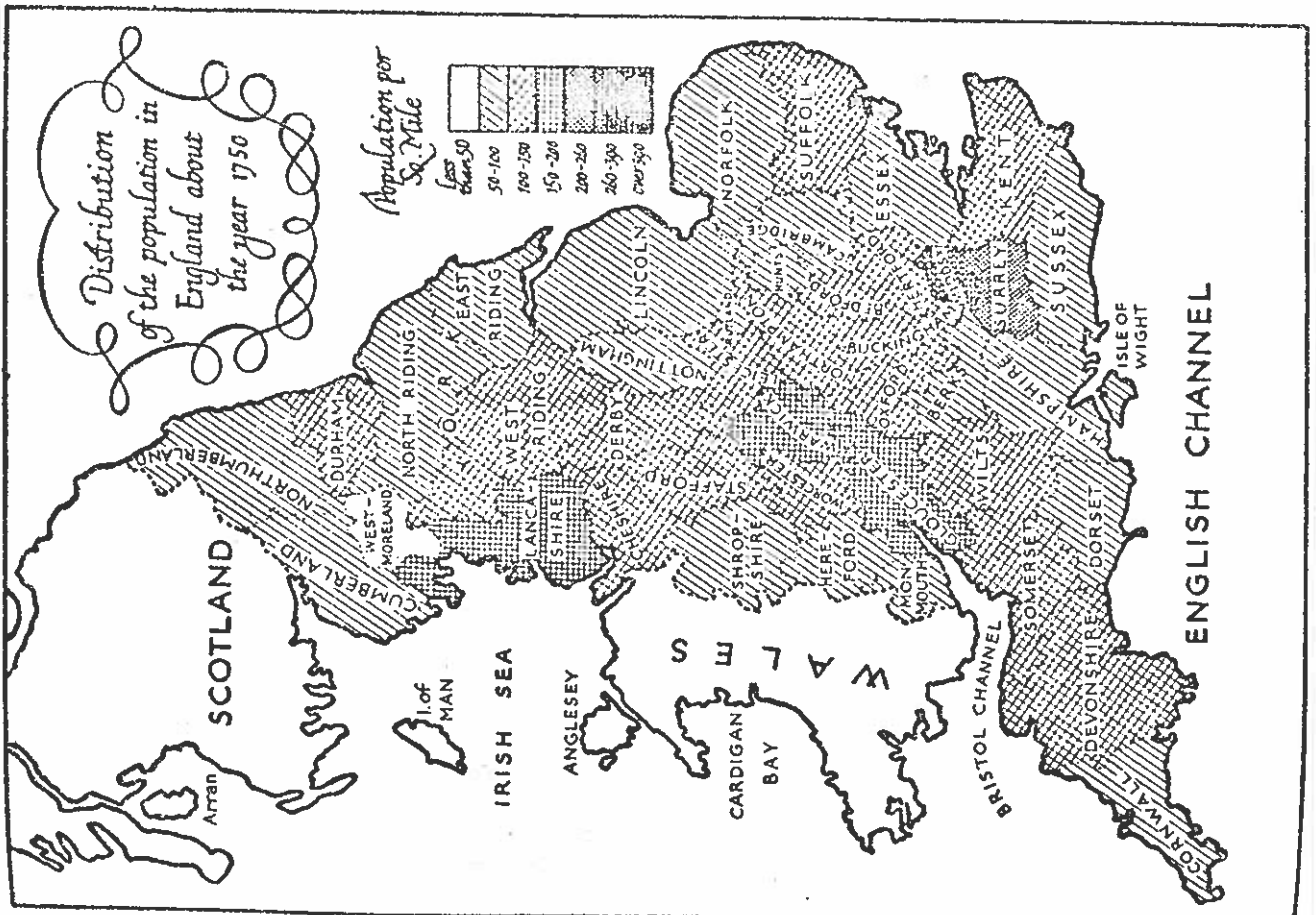
The domestic industry which offered a living to many was adversely affected by the invention of new machines which revolutionized the textile industries.

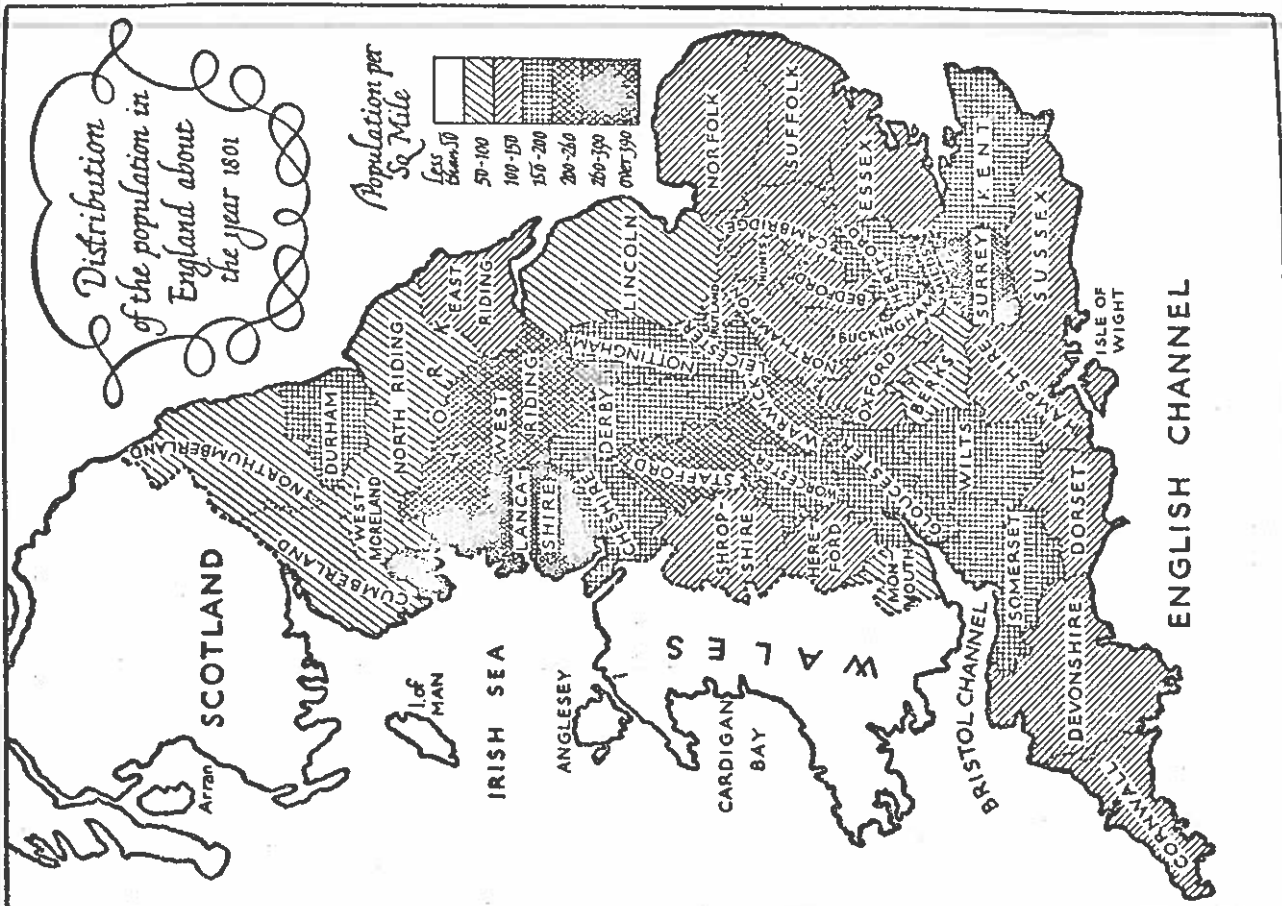
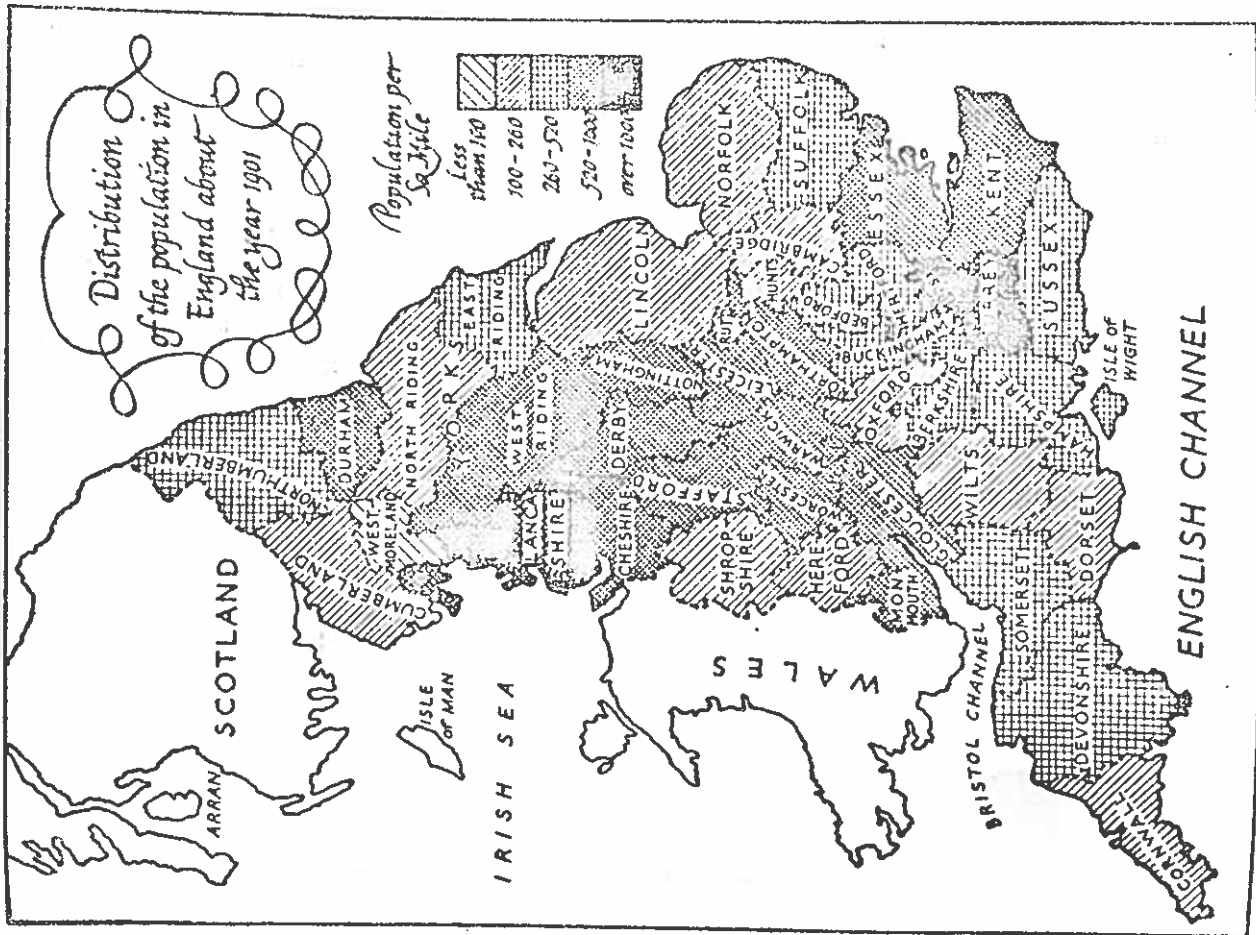
The resulting unemployment of artisans whose craft was replaced by machines, swelled the numbers of an already large unstable body of itinerant unemployed workers, consisting of: soldiers returning from the Napoleonic wars, paupers, small farmers done out of their land, farm labourers whose labour became superfluous, cottagers pushed off the common as well as flotsam and jetsam (e.g. beggars). They were all attracted by the new and 'wonderful' world of machines where fortunes could be made, or more realistically, by the opportunity to sell their labour to stave off destitution and starvation.

1) Mantoux P., The Industrial Revolution in the 18th Century p.355



FROM MANTOUX (1928)





Increase of the Population

During the late 18th century the population of Great Britain started to increase; the increase being even more rapid between the years 1800 and 1830. From 1700 when the population figured 5½ million it went up to 6½ million in 1750, 9 million in 1801 (when the first census was taken) and 14 million in 1831. 2)

See illustration ③

From 1800 to 1830 the population of England and Wales increased by 55% or 5,004,000 and the population of Scotland by 47%.

The population of London increased by 63% and the populations of cities such as Leed, Birmingham, Liverpool and Manchester doubled.

See illustration ④

The overall growth in population depends on the relationship between birth and death rates. Between the years 1750 and 1830 a falling death rate and a rising birth rate, except between 1816 and 1830 when the birth rate fell, made for an overall increase in population in England.

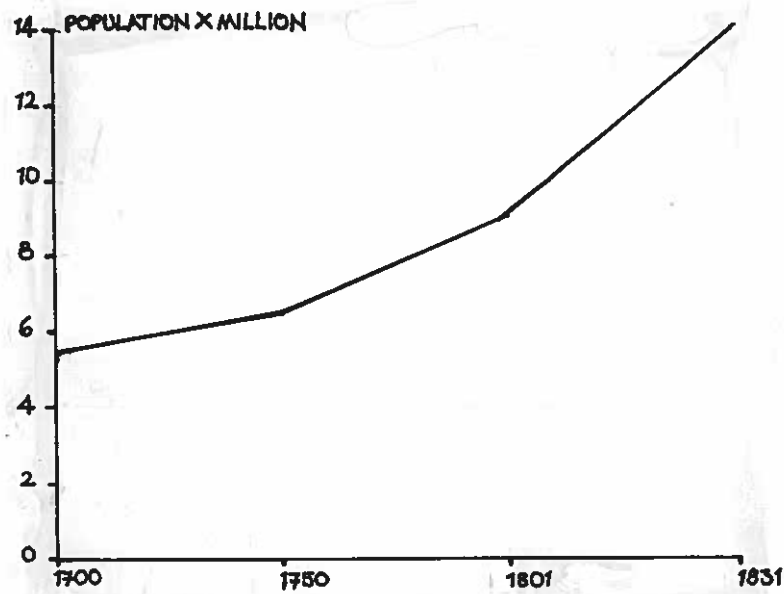
The birth rate was affected by fertility, marriage age, demands for child labour and the fall in neonatal mortality due to advances made in medicine. The fall in the death rate was produced by factors such as medical advances and the 18th century, improvements in agriculture.

The rise of the death rate just before 1830 was probably due to overcrowding, malnutrition and industrial disease in the newly expanded towns. Child mortality was checked by small pox vaccinations, as discovered by William Jenner, and the instituting of childrens' hospitals and dispensaries.

Free vaccination of children from the beginning of the 19th century helped to keep one of the three main mortal diseases.(small pox, typhus, and dysentery) in the community, down.

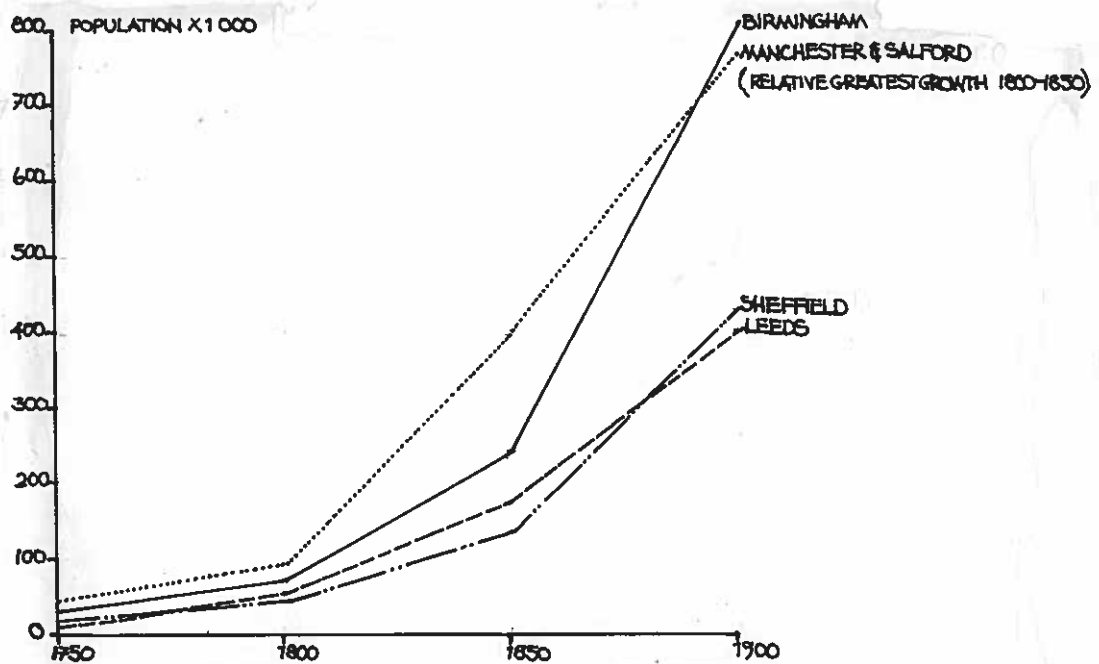
Even at this time it was realised that these diseases occurred more often and spread more rapidly in conditions of poor personal hygiene and sanitation, as may be seen from various reports dealt with in Part C of this paper.

2) Benevelo L. The Origins of Modern Town Planning p.1



INCREASE OF POPULATION IN BRITAIN SINCE 1700 FROM BENVOLO (19)

③



INCREASE OF POPULATION SINCE 1750 IN MAJOR INDUSTRIALISING CITIES OF BRITAIN FROM ANGENT (1973)

④

The Attraction of Industry in the new Cities

Labourers who migrated in England, did not migrate very far. They only moved to the nearest industrial areas from where they had received news of higher wages.

In general industrial wages were higher than agricultural wages and even though, towards the 1800's agricultural wages did rise, industrial wages rose even more. Thus it is understandable why industry had such an attraction for country folk.

This did not last very long, for the great influx of workers into the industrial labour market led to a disastrous fall in wages. The English weavers were the first to feel its effect.

The sole reason for this fall in wages was the overcrowding of the labour market. Among the new-comers were country labourers who were willing to comply with the conditions laid down by the manufacturers.

In the years following the invention of the spinning jenny, a new class of men emerged, as in general, every man who owned some capital, however small, became a cotton spinner, seeing that it was there that money could be made.

News of fortunes being made on the cotton fields spread rapidly - the names of men like Arkwright, Robert Owen, the Peel family, Joshua Fielden and many others spring to mind. 3)

When the antiquated forced settlement laws of the 17th century were relaxed, the labourer who formerly had to make a living in the parish where he was settled or receive the relief of charity, was now free to move to areas where he could find work. Full scale production on modern lines in the factory system could thus make optimal use of a free movement - circulation in the labour market, concentrating it in some areas and dispersing it in others.

This short distance migration from hamlet and village to industrial town gave rise to a longer distance migration, the main reason being the attractive English wages, both in the 'abandoned' villages and the industrial towns.

The Irish famines of 1782 - 84 and 1821 - 23 caused a large number of Irish to emigrate to England to seek a livelihood. 4)

They swelled the numbers of paupers in England and caused the overcrowding of certain districts where conditions were bad; housing inadequate and water supplies, drainage and refuse removal inefficient, in several cities such as Manchester, Glasgow and Birmingham.

Here they found conditions better than in their home country as far as housing, income and availability of food and work was concerned.

They too, were willing to work for any kind of wage, thus further overcrowding the labour market and decreasing wages.

Bad harvests in 1836 in Scotland led to a similar emigration from the Scottish Highlands to the industrial areas of England.

3) Mantoux P., The Industrial Revolution of the 18th Century p.370-371

4) Ashton T.S., The Industrial Revolution p. 99

Enclosure of the Fields

The traditional open field system was an obstacle in the way of improvement and the implementation of new methods which revolutionized agriculture. Enclosure meant that the land could be used more economically and that progress could be made.

See illustration ⑤

The small farmer had no power against the rich gentry and commissioners in their employ, who implemented the redivision of the land in their favour. The yeomen had to accept the land given to him, and carry out the fencing of it, which left him poorer than before.

The cottager who lived on the common was robbed of everything. The possessing classes felt magnanimous about it for they maintained that the poor had lost nothing because they had had no right to the common land.

Farm labourers too were hit by enclosure, for the larger farms and modern agricultural methods did away with the need for a large number of farm hands - thus contributing to the depopulation of the villages.

The migration went from the rural parishes to the market towns to the industrial centres where men, cut off from their traditional occupations, could find employment. Manufacturers could offer them a living they could no longer earn on the land.

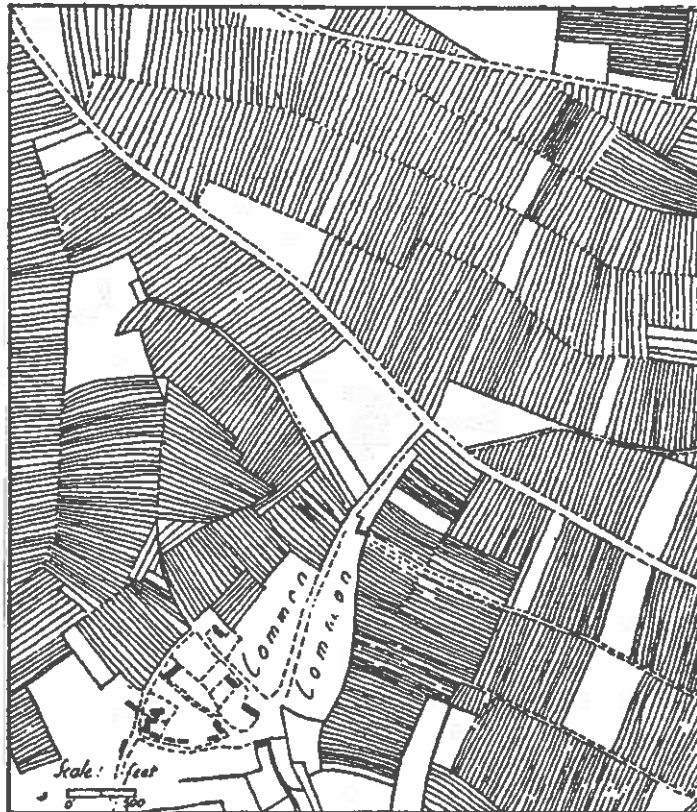
Thus a steady movement of landworkers to the industrial towns such as Manchester and Birmingham was established.

A petition of a rural parish in Northamptonshire describes the local peasantry as "driven from necessity and want of employ, in vast crowds, into manufacturing towns, where the very nature of their employment over the loom and the forge, may waste their strength and consequently debilitate their posterity". 5)

Enclosure and engrossing of the farms placed at the disposal of industry resources in labour and energy that made it possible for the factory system to develop.

Small yeomen and farmers, with some capital, came to the cities to 'try their luck' and many ended up sharing the fate of the labourers who could afford nothing other than their labour.

The blow thus dealt to the peasantry by enclosure, engrossing and division of the common land broke the bond of labour on the land and industrial work. Deprived of his field and the use of the common, the peasant was forced to give up whatever independence he had and accept the wages in the employers' workshops.



The village of Balscott (Oxfordshire) in 1768, with the common land farmed in small strips (from T. Sharp, *English Panorama*).



The same village, after the enclosure of the common land (from Sharp).

FROM BENEVOLO (63)

5

The Effects of Machinery on the Domestic Industry

An alternative to the loss of work on the land due to enclosure, in industrial work done in the home of the worker, presented itself. Thus emerged a domestic system of manufacture which operated on a system of scattering workshops in the villages; thereby having a close alliance between the cottage industry and the cultivation of small holdings.

This family organization whereby the whole process of cloth manufacture was done by the same family with the help of hired hands, proved to be too static and unproductive to keep up with expanding markets. Traders began to provide individual families with raw materials for spinning or weaving, taking the finished product in return, paying the workers on a piece-work basis, while entrusting various manufacturing processes to workers specializing in those fields. 6)

Until 1764 when Hargreaves invented a new spinning machine - the spinning jenny - spinners could hardly manage to keep weavers supplied who had the use of the fly shuttle. These two instruments revolutionized the domestic industry.

In 1771 Arkwright invented a spinning frame to be operated by water (the water frame) and in 1775 Crompton experimented with a more developed machine, a cross between the jenny and the water frame, by which manpower, formerly required and which proved to be a disadvantage, could be avoided.

Until Cartwright invented the first mechanical loom in 1784 more was being spun than woven. Soon afterwards Watt's steam engine, which replaced water power with steam power, equalised this relationship.

The weaving industry was subsequently forced to abandon its former scattered organisation and concentrate in large workshops where the necessary energy; water and coal were available.

Iron production was greatly accelerated by the inventions of Darby and Cort, which enabled the industry to meet the increased demands of the new mechanized world.

The fall in wages was started by the overcrowding of the labour market and was accelerated by the advent of machinery in industry. Cartwright's invention broke the pride of the wool combers by lowering the monetary value of their recognised technical skill. The shearing machine had a similar effect on the woollen shearers.

Periodic industrial crises in England, due partly to waves of over-supply and saturated markets, caused further decreases in wages as well as the laying-off of workers.

The handloomweavers were the first victims and had to be content with a 4-day week in 1837. During the winter of 1837-38 in Manchester an unprecedented number of weavers were out of work; and most applicants for relief were unemployed able-bodied men. 7)

In 1837 the ironworkers in Birmingham were badly affected by unemployment, but the government through its laissez-faire policy, did nothing and by 1842 all industry was in a critical state.

A direct result of unemployment was the appalling conditions in which the poor lived in overcrowded badly built districts of the great industrial cities. As economic crises, overcrowding of the labour market and mechanization of the industry further swelled the numbers of the unemployed, conditions grew worse until it could no longer be overlooked and reforms could no longer be postponed.

6) Benevelo L. The Origins of Modern Town Planning p.3

7) Rösenblatt F.F. The Social and Economic Aspects of the Charterist Movement p. 59

Conditions in the Industrial Towns

Introduction

Much has been written about the appalling living conditions of the towns and cities in England during the Industrial Revolution. Oliver Twist will always be a symbol of those 'who asked for more'.

In this chapter the rise of Manchester as a great industrial city will be briefly outlined as an example of the rise of industrial centres in Britain at the time of the Industrial Revolution. Housing conditions and conditions in the factories will be surveyed to indicate the background against which the populace in general and concerned individuals in particular agitated to gain reform of these conditions.

The mood of the people is expressed in the following poem (1831) by Ebenezer Elliot - author of the Anti-Corn-Law Rhymes:

Child, is thy father dead? -
 Father is gone :
Why did they tax his bread? -
 God's will be done -
Mother has sold her bed,
 Better to die than wed;
Where shall she lay her head? -
 Home so has none. 1)

1) Ibid p. 59

Manchester

In Roman times Manchester was known as Mancunium, and being situated on the banks of the river Irwell, not far from the river's junction with the Mersey, it became a centre of local trade. The weaving of cloth and woollen goods (cottons) a speciality of the district, made Manchester a prosperous town towards the end of the Middle Ages. A church from the early 14th century and the Chetham Hospital building with its fine 15th century library, are still standing today.

Although spoken of as "a town well inhabited" in Shakespeare's Henry VIII, it was in fact no more than a prosperous village. In 1727 Defoe referred to Manchester as one of the greatest, if not the greatest mere village in England. The population at this time was no more than 10,000 people. 2)

With the appearance of the cotton industry in the 17th century, Manchester became the market for an industrial area extending for about 15 miles around the little town. A main cause for the industrial success of Manchester, was the rapid flow of streams into the natural depression in which it lies - this assured an adequate water supply for the processes required in the preparation of the cottons. These cottons were exported to Africa and the American colonies via the merchants of Liverpool.

See illustration ⑥

The population of Manchester was growing steadily - by 1753 the inhabitants petitioned for the building of a third church, as the existing churches were not large enough. In 1757 a town census put the population at 20,000. The built-up area was extremely small - a few narrow lanes connected to the two main streets, Cannon Street and Chester Road, both leading to the one existing bridge over the river Irwell.

The cutting of two canals - the Worsley Canal completed in 1761 (for supply of cheap coal) and the Mersey Canal (for easier, regular trade with Liverpool), contributed a great deal to Manchester's growth.

In 1773 a new census, organised by J. Whitaker, showed that the population was 27,000 - this being before Manchester had a single spinning mill. In 1786 Manchester got its first spinning mill (Arkwright) and from then on about ten new mills were built on average every three years. In the same period (from 1786 to 1801) the population effectively doubled, from 47,000 in 1786 to 95,000 in 1801. From 1757 to 1801 the population had therefore increased fourfold.

See illustration ⑦

See illustration ⑧

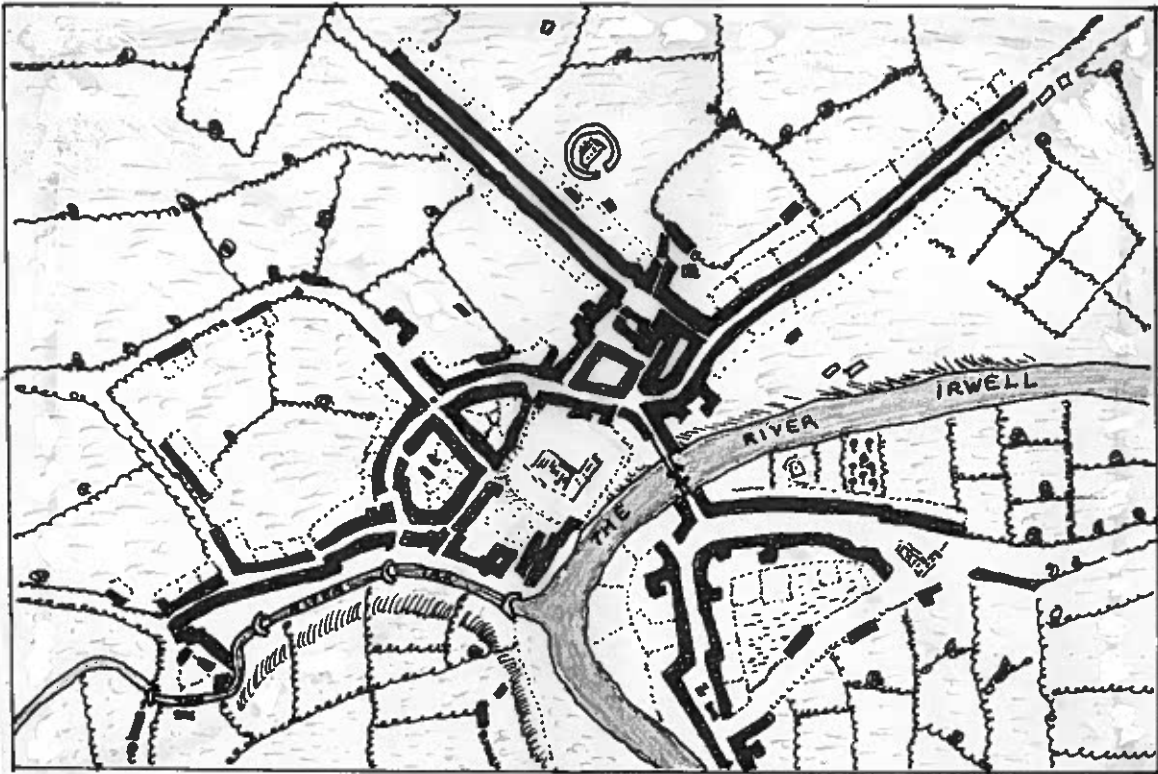
Close to fifty new spinning mills, rows and rows of working class dwellings had been built with haste in high densities (mechanical slums). The streets were dark and damp and fevers were rife.

The centre of the town was improved with wide streets and high, brick houses. The flight of the wealthy 'cotton lords' to the outlying districts of Manchester began as early as 1795 - fine villas standing in their own gardens arose to the south-east of the town. The 'natural social order which existed in medieval Manchester, was succeeded by an 'artificial' social order based on financial income - the rich residing in splendid villas, the poor in slums close to spinning mills. 3)

The stage had been set by 1800 for the social inequality, misery, disease and death which was to follow.

2) Mantoux P. The Industrial Revolution of the 18th Century p.356

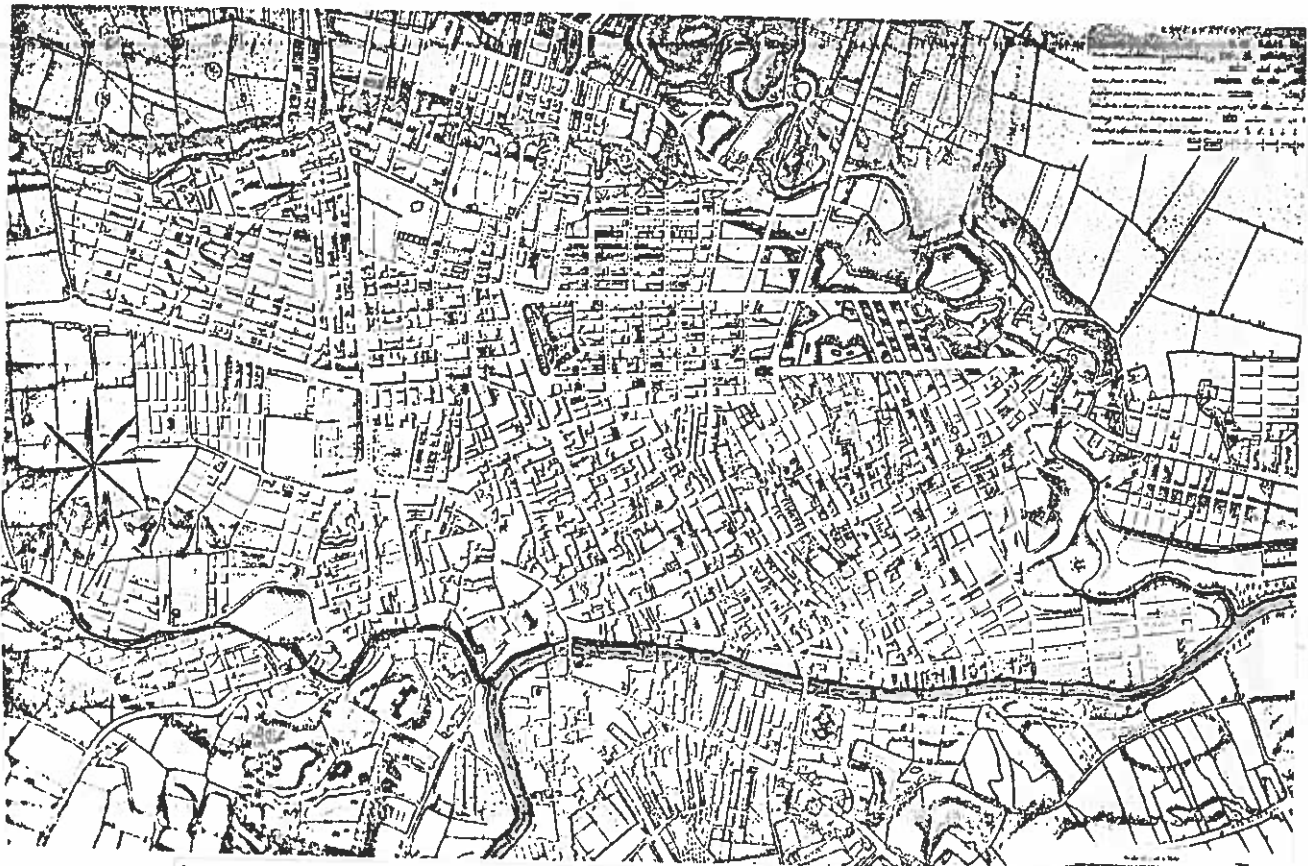
3) Briggs ASA. The Age of Improvement p.64



PLAN OF MANCHESTER AND SALFORD TAKEN ABOUT 1650

FROM GUTKIND (1971)

6



Section of a plan of Manchester in 1793 by Laurant, showing the high building density, and the contrast between the maze of medieval and the more regular layout of later streets.

FROM GUTKIND (1971)

7

In 1808 a visitor remarked: "The town is abominably filthy; the steam engine is pestiferous, the dyehouses noisome and offensive, and the water of the river as black as ink or a Stygian lake".

St. Peter's Field, Manchester 1819 - 16th August.

Thousands of workers of Manchester and surrounding cotton districts gather peacefully to listen to Orator Hunt. Magistrates order yeomanry to arrest Hunt, but they cannot - Magistrates call in cavalry to disperse the crowd - a struggle follows, the cavalry use their sabres freely - eleven people killed and 400 wounded.

In this way a modern on the spot newsman would possibly have cabled a message through to his head office about the events of the 'Peterloo' Massacre, as it subsequently became known.

This massacre indicates the extent of the class cleavage which existed in Manchester at the time, which led in this case to rioting and death. 4)

By the 1840's warehouses had become the main feature of Manchester, a handbook of 1842 stating, "Within the last four years Mosley Street contained only private dwelling houses; it is now a street of warehouses". 5)

Estimates by the Manchester Statistical Society about 1835 indicated that 17% of families in Manchester were Irish, and that 12% of the population were living in cellars.

In 1837 Nassau W. Senior in his "Letters on the Factory Act" testified that he had found a street in Manchester which followed the course of a ditch, as deeper cellars could be built in this way without incurring digging costs. He adds that no a single house of that street had escaped cholera.

From 1830 - 1836 54,000 cases were given medical aid in dispensaries in Manchester; this figure increased dramatically by 200% in the period 1837 to 1841 (a period when food was expensive) when dispensaries were consulted 169,000 times.

A picture of overcrowding is given by the Manchester commissioner of police's statement that he had seen a room which was devoid of any furniture and in which three men and two women slept on the floor using bricks for pillows.

Although concern for the conditions of the working class had been shown as early as 1790 by Dr John Ferriar (see Reports), it would seem that in general the more wealthy bourgeoisie thought only of themselves and their prosperity.

After Friedrich Engels had described the "frightful condition of the working people's quarters" to a prominent citizen of Manchester, the citizen replied; "And yet there is a great deal of money to be made here; good morning sir." 6)

See illustration 9
illustration 10

4) Briggs ASA. The Age of Improvement p.210

5) Gutkind E.A. Urban Development in Western Europe: The Netherlands and Great Britain p.344

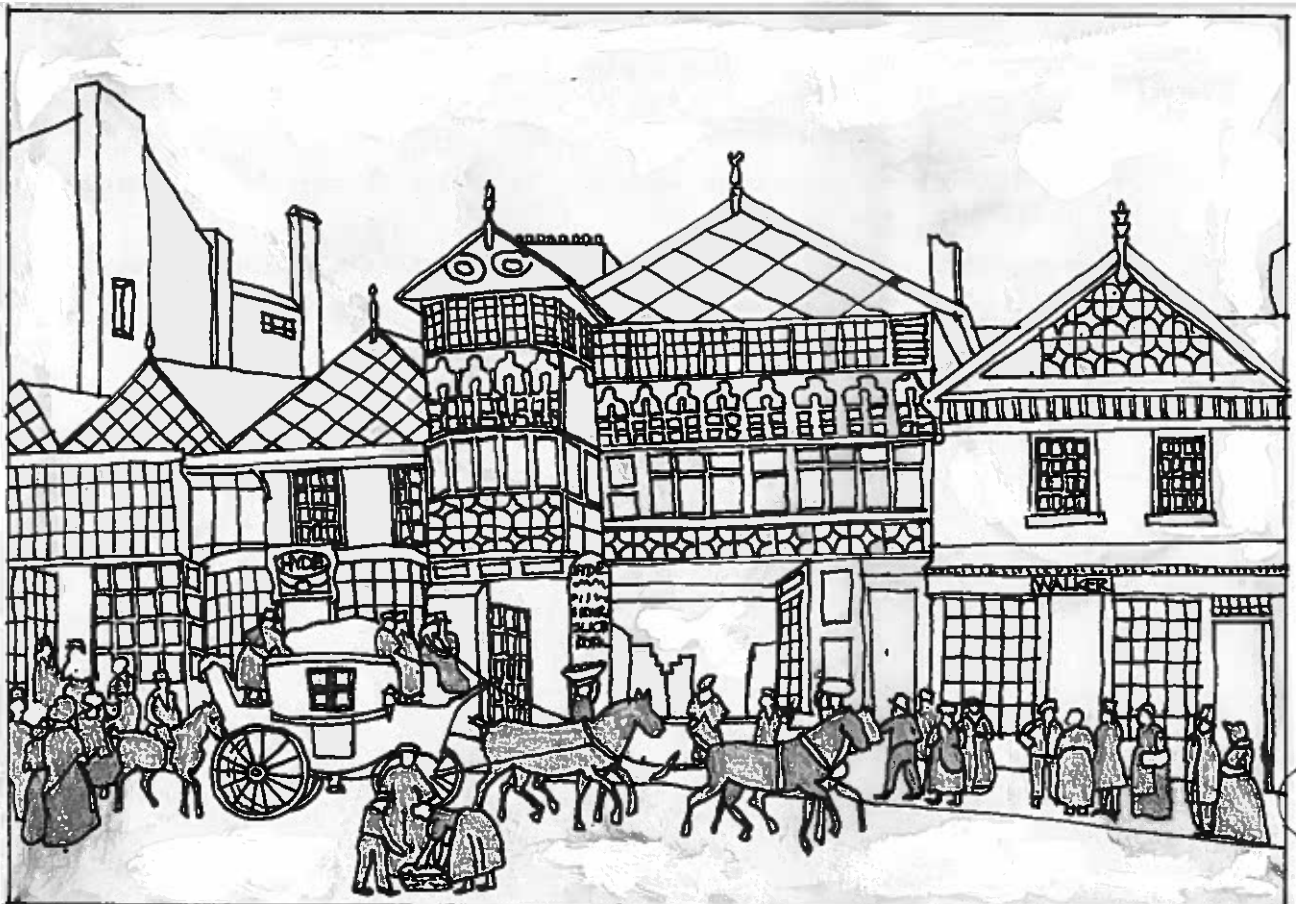
6) Ward J.T. Popular Movements p.6



Extension : ■ avant 1843, ▨ de 1843 à 1920, ░ de 1920 à 1940.
 ■ Bois et parcs. ● Etangs. ~ Canal maritime, avec bassins.
 — Autres canaux < Voies ferrées 0 1 2 3 4 5 6 7 8 9 10 km.

FROM GEORGE P. LES VILLES

8

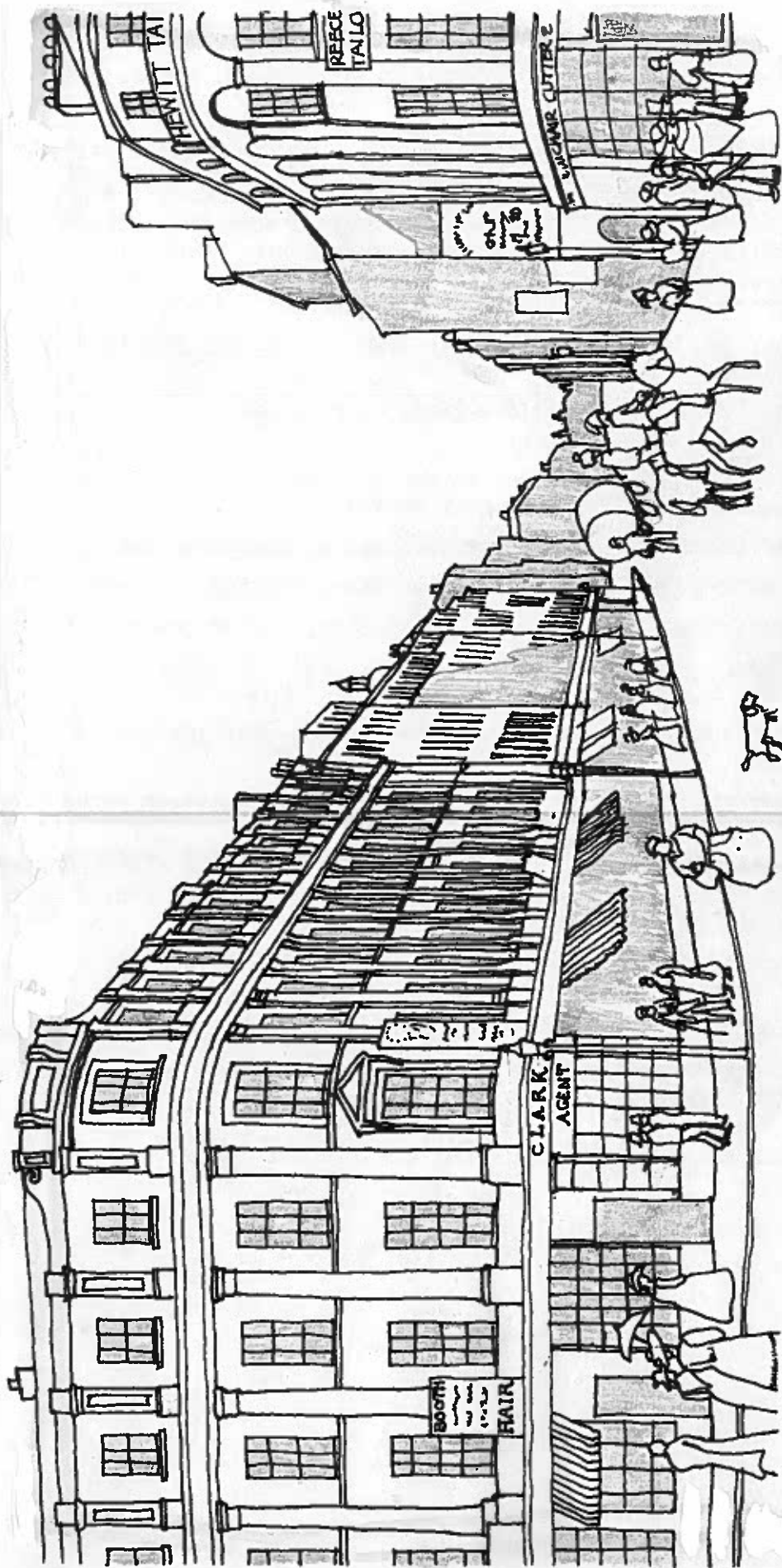


SHOPS IN MARKET STREET, MANCHESTER 1823

FROM A DRAWING BY J. RALSTON (1823)

GUTKIND (1971)

9 16



MARKET STREET, MANCHESTER, 1847

LOOKING TOWARD MARKET PLACE

FROM CHERRY (1972)



The Condition of Housing

The influx of vast numbers of workers into the cities created an unprecedented demand for housing in a new and concentrated form, expressing greatly centralized needs of a people yet without efficient means of public transport. As a result dwellings were built for rental at a phenomenal density - as cheaply and as near to the factories as possible. At first the model of the traditional farm labourer's cottage was adhered to, but later tenements on the continental model were built to increase the efficiency of land use.

See illustration ⑪

Between the years 1793 and 1848, when the sanitary reform laws started to have effect, three types of houses were predominant: These were:

- a) double storey row houses
- b) back-to-back houses especially in Leeds and
- c) tunnel backed houses. The tunnel refers to an access-way between the outhouses at the rear.

Many of the houses provided for workers by country factory owners still exist at Cromford, Mellor and Styal. Unexpectedly they have design and proportion; are not wanting in amenity and comfort. But these were put up when building materials were plentiful, wages relatively low and finance easy to come by.

Worth mentioning here is that the output of bricks, which were used extensively in construction, decreased and increased as the rate of interest rose and fell. Large imports and good harvests enabled more building activity to take place - these periods of activity occurred in 1792, 1810 and 1815. 7)

When in 1793 the import of timber from the Baltic was restricted, the price of labour of bricklayers and carpenters went up. At least 2/3 of the rent of a house consisted of interest charges and now the rates of interest were rising. Thus houses became smaller and less durable than those of the 1780's, for a dwelling that a worker could afford to rent had to become cheaper to suit the builder's pocket and make up for his loss of interest.

Houses were built with great haste and with the cheapest possible materials. They had inadequate air, lighting, were damp and often had leaking roofs. The houses were densely packed to save building space, materials and labour.

See illustration ⑭

When the migration to the industrial areas got underway the supply of houses dropped far behind the demand, with the result that the existing houses became overcrowded. Primitive measures for hygiene and sanitation which sufficed for a single house in the country were grossly inadequate in the new, densely packed conditions. The long rows of cottages had communal earth closets and often only a single water pump per row.

See illustration ⑬

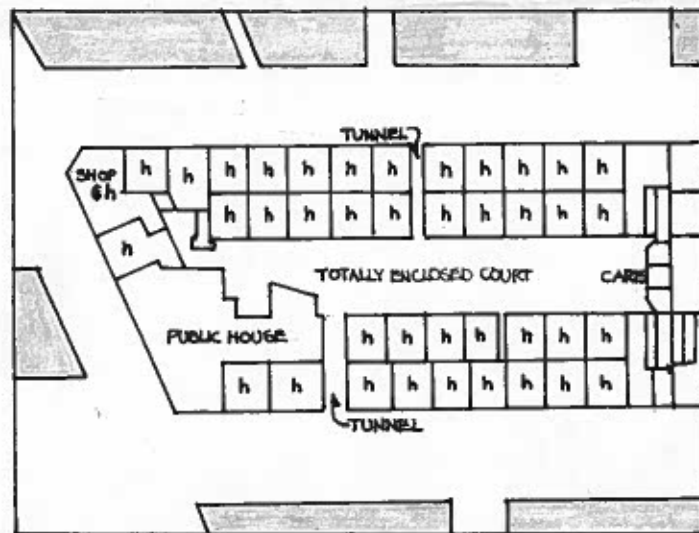
In 1843 - as an example of conditions in large cities - the superintendent of police of Glasgow reported the following:

"In the very centre of Glasgow there is an accumulated mass of squalid wretchedness There is concentrated everything that is wretched, dissolute, loathsome and pestilential. These places are filled by a population of many thousands of miserable creatures. The houses in which they live are unfit even for sties ... dunghills lie in the vicinity of the dwellings and from extremely defective sewerage, filth of every kind constantly accumulates." 8)

See illustration 15

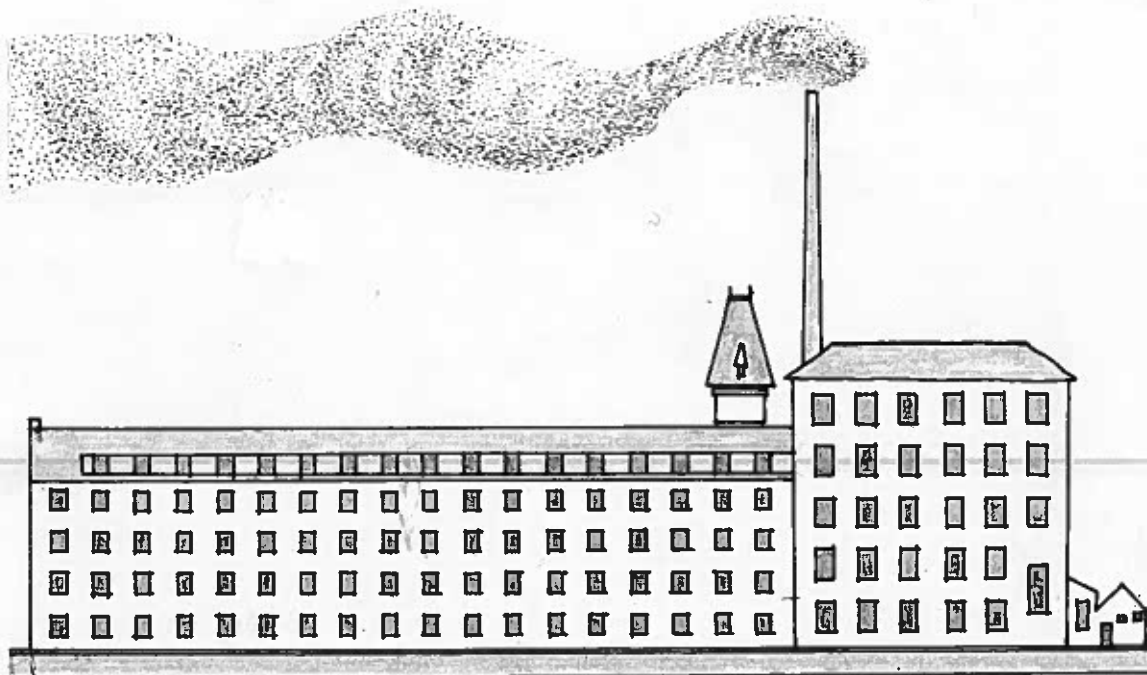
7) Ashton T.S. The Industrial Revolution p.118

8) Rosenblatt F.F. Social and Economic Aspects of the Chartist Movement p.57



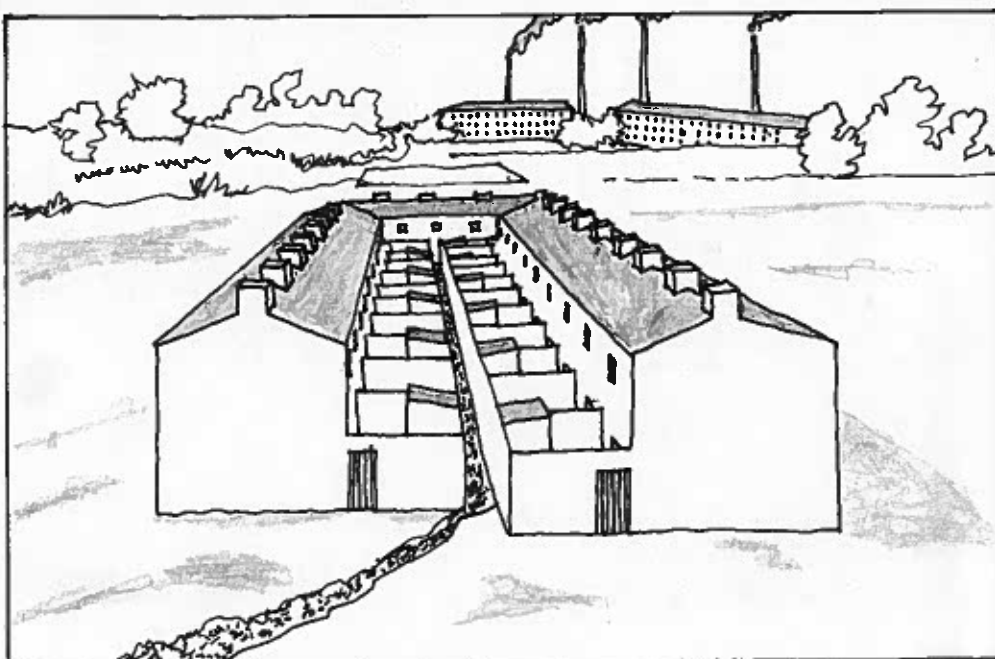
11

HOUSING IN NOTTINGHAM, FROM
THE REPORT OF THE STATE OF
LARGE TOWNS AND POPULOUS
DISTRICTS 1845 (FROM BENBOLD)



12

A TYPICAL MILL
OF THE 19TH
CENTURY
FROM BRACEGIRDLE (73)

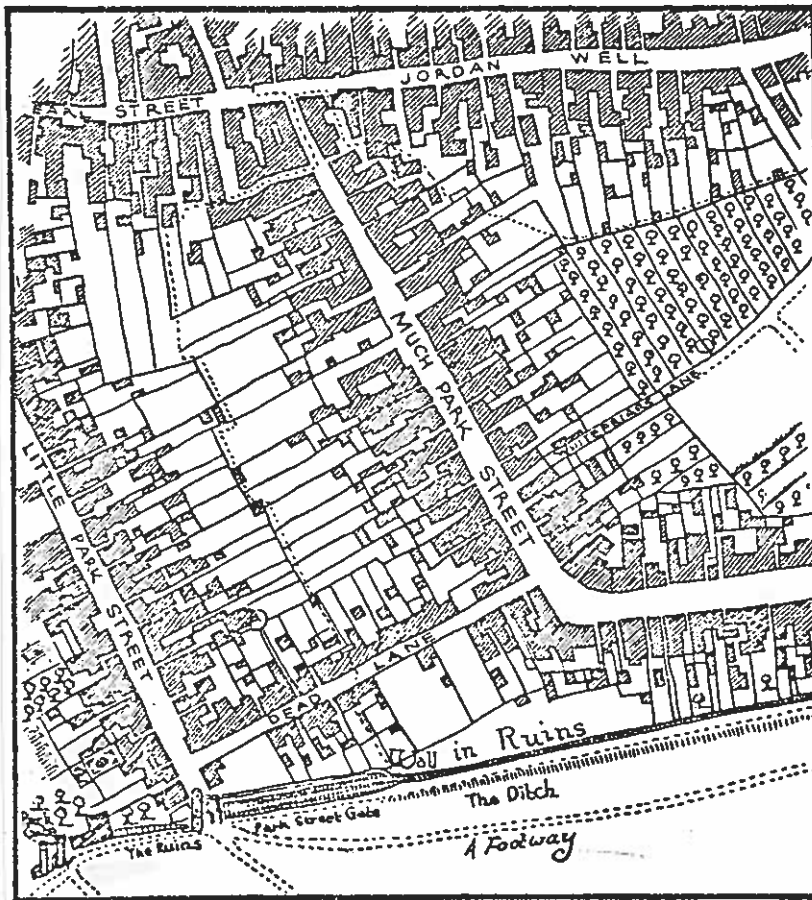


13

The Preston cottages
condemned by the Royal
Commission, 1844. Earth
closets in the back yard of
each dwelling, often
accompanied by pig-sties,
discharged into the central
drain visible here. The
brutal siting of the cottage
and the mill in the distance
are also worthy of note.

FROM PAWLEY (71)

19



The impact of the Industrial Revolution on housing conditions in Coventry.
 Left: The map of 1748 taken from Bradford's Survey, shows the still open spaces in the interior of the building blocks.

By the middle of the 18th century most of the streets had been completely built up, but the basic fabric of the street system had hardly changed since the beginning of the 17th century, or even earlier. Samuel Bradford's Survey of 1748-1749 still shows gardens at the back of numerous houses and cultivated fields surrounding the city. A century later most of the gardens had disappeared and had become narrow, overpopulated courts. This congestion was, at least partly, the result of the still existing girdle of the walls, forming a barrier to the extension of the urban area as in all fortress towns, though most of the ramparts and gates had been demolished. Another factor was that large tracts of land outside the walls were not available for building for since they were used as pastures by the freemen of the city. This changed by the middle of the 19th century, and Coventry could breathe more freely. Within 30 years, from 1801 to 1831, the number of houses rose from 2,930 to 5,865, almost double the housing accommodations without a substantial increase of the urban area.

In 1851 the population numbered 36,800. It rose to almost 70,000 in 1901, to 250,000 in 1945, and today is estimated at about 280,000. The residential suburbs have expanded, and the motor industry, production of aero engines, machine tools, and many other instruments, have made Coventry one of the leading industrial cities of Britain.

FROM GUTKIND (1971)



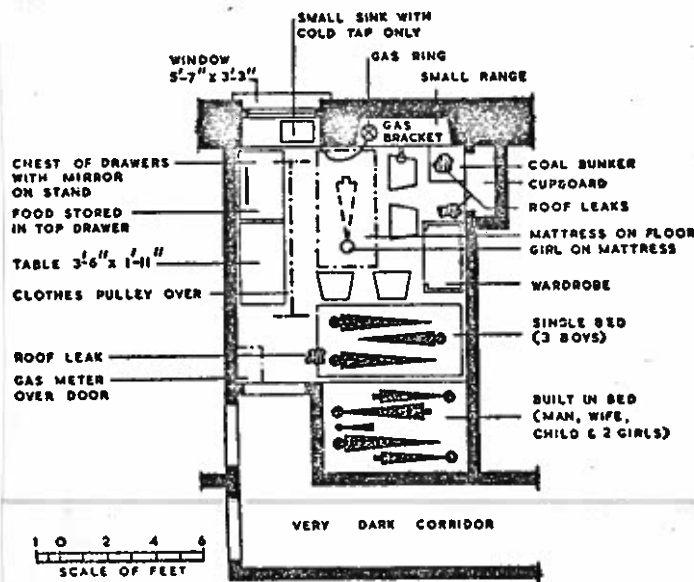
14

The map of the same area in 1881 vividly demonstrates the increased buildup of the interior with new houses and some factories (the darkened areas).

In Hansard of 1840 the following was said:

"In one case in Bolton 17 persons were found in a dwelling about five yards square.

In another 8 persons, 2 pairs of looms and 2 beds were found in a cellar; four by five yards and six feet under the ground". 9)



Glasgow, an overcrowded dwelling still in existence in 1948
(from *Journal of the Royal Institute of British Architects*, 1948).

FROM BENEVOLO (1963)

15

The Conditions in the Factories

It cost little to set up a factory - any house would do with a few mules or jennys worked by hand - the more elaborate machines such as the water frame and power loom came as soon as the first profits were made. Later came water power and steam.

These manufacturers had to make use of various kinds of people; some driven from the villages by the growth of large estates, disbanded soldiers, paupers and scum of every class and occupation. They were all unskilled, unused to collective work and had to be taught, trained and above all disciplined, for their performance had ultimately to match that of the machines in regularity and precision. By virtue of the vast size of the factories as well as the advent of machines the enforcement of strict discipline became a necessity.

The factories were usually unhealthy. Their builders cared little about health or aesthetics. Ceilings were low to economise on space, windows were small and almost always closed. In the cotton mills fluff filled the air and gave rise to serious lung diseases. In the flax spinning mills, where wet spinning was common, the air was saturated with moisture and the clothes of the workers were usually dripping wet.

See illustration (12)

Overcrowding in unventilated rooms, where the atmosphere had been further polluted by candle smoke at night, favoured the spread of a contagious disease resembling prison fever. The first cases broke out near Manchester in 1784.

Workers, men, women and children, working under these conditions, were being further exploited, the men less than the women and children. ~~Workers were literally robbed of their rest hours -~~ in some cases the clock seemed to speed up during mealtimes, while in others workers were not allowed to wear watches. 10)

The labour of women and children was preferred for they were more agile with their fingers, more passive, obedient and cheaper than men, and some times only paid in board and lodging. Here they lived under harsh conditions; discipline was cruel, hours of labour long and corporal punishment severe. Children became deformed, whole generations diseased and the level of chastity of women and girls dropped considerably.

Cartloads of pauper children were taken from parishes to distant cotton mills on the riverbanks to be apprenticed for periods up to 7 years.

In 1802 the Health and Morals of Apprentices Act limited the work hours of children and laid down minimum standards of hygiene. In 1819 a second act reinforced the first. 11)

10) Mantoux P. The Industrial Revolution in the 18th century p.417

11) Ashton T.S. The Industrial Revolution p.91

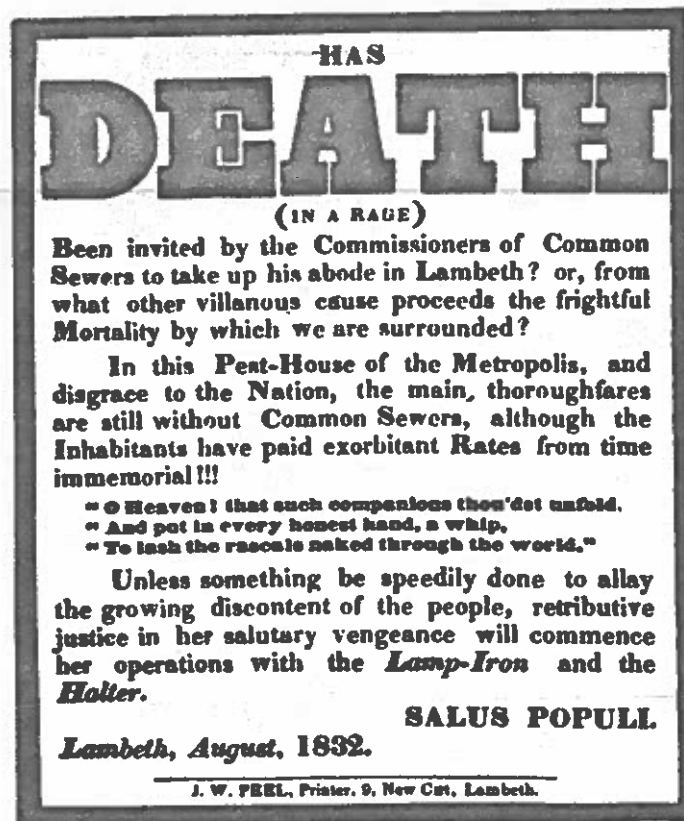
Reports on the Living, Working and Social Conditions of the Working Class

Introduction

To ensure that suburban or urban communities remain healthy in body and spirit, knowledge of town planning, architecture and sanitary engineering is necessary. Reports on the existing living, working and social conditions put into print what would otherwise have gone unsaid. Such reports came about through a concern for the lot of others, those who suffer the most in a community and are themselves powerless to improve their lot, except by physical confrontations with the authorities. (gatherings, protests and riots).

Reports which led to sanitary reform laws, with their consequent legal control of the built environment, are discussed below. It may be concluded that the pen (the report) is mightier than the sword (the riot) as the former led to far-reaching changes in legislation, which formed the basis for the development of modern town planning controls of our built environment.

See illustration (16)



A poster of 1832 illustrating the agitation about sanitary conditions in London (from L. Wright, *Clean and Decent*).

FROM BENEVOLO (1763)

(16)

The Reports

Among the early sanitary reformers were Thomas Perceval and Dr John Ferriar who influenced the foundation of the Manchester Board of Health in 1795. The Board published a report on the large cotton establishments on January 25, 1796. 1)

1 - It appears that the children and others who worked in the large cotton factories are peculiarly disposed to be affected by the contagion of fever. . . . 2 - The large factories are generally injurious to the constitution of those employed in them. . . . 3 - The untimely labour of the night, and the protracted labour of the day, with respect to children, not only tends to diminish future expectations as to the general sum of life and industry . . . but it too often gives encouragement to idleness, extravagance and profligacy in the parents. . . . 4 - It appears that the children employed in factories are debarred from all opportunities of education, and from moral or religious instruction. 5 - From the excellent regulations which subsist in several cotton factories, it appears, that many of these evils may, in a considerable degree, be obviated; we are therefore warranted by experience, and are assured we shall have the support of the liberal proprietors of these factories, in proposing an application for Parliamentary aid (if other methods appear not likely to effect the purpose) to establish a general system of laws for the wise, humane, and equal government of all such works.

Here was announced for the first time the policy and propaganda, points which were elaborated on and pursued by later reformers.

Robert Owen's report to the committee for the relief of the manufacturing poor (1817) poses the question of why there was unemployment if there was "a productive power which operated to the same effect as if (England's) population had actually increased fifteen or twenty fold." Human labour and machines were considered at the same level, with the result that the human labour could be obtained very cheaply. Owen indicated that there were three possible alternatives in the circumstance.

1. The use of mechanism should be diminished
2. A continuation of starvation of the millions of working-class people.
3. Advantageous housing of the poor and unemployed working classes should be provided, with adjustments in the labour mechanism to correspond with these classes.

Owen maintained that the third alternative was the only reasonable one, and defined his suggested reforming action as follows:

"advantageous occupation for the unemployed working classes, under an arrangement which will permit mechanical improvements to be carried out to any extent".

He goes on to describe in detail his somewhat idealistic vision of the Ideal Village . See Illustration

The two main points of his economic programme:

- a. The adaption of human (not mechanical) labour as the measuring unit of value.
- b. Creation of an internal market to increase the workers' profits, thereby enabling them to be consumers of the goods produced and not mere manipulated instruments of production.

".... the basic pattern of planning problems created by the Industrial Revolution emerged....when people began to be really affected by the sanitary conditions brought about by the disorder and overcrowding of the new suburbs.
In this way sanitary legislation was the direct fore-runner of modern town planning legislation. " - Benevelo L. 'Origins of Modern Town Planning.'

The journal "Lancet" appeared in 1823, with Dr J. Wakley as its first editor. He supported the need for health legislation in his journal, publishing such facts as the relationship of disease to bad working and social conditions.

C.T. Thackray of Leeds carried out an extensive survey of occupational disease and its resulting mortality in 1831. He noted the high incidence of respiratory disease among workers in polluted areas; and the effects of lead and silver absorbed through the skin of potters and silverers.

The stimuli to action by the government were strong from 1830 to 1838. In 1831 a cholera epidemic broke out which spread through Britain, but affected mainly the poor quarters of the towns. The government sent 2 medical officers to St Petersburg to study the disease in 1831 and that report resulted in the establishing of a Central Board of Health with local boards of health having to submit daily reports on the health of their districts. Temporary 'Cholera Acts' were passed in 1832 to strengthen the Board's position, but the board was effectively powerless to enforce individual effort.

Edwin Chadwick emerged as a public figure - a kind of advocacy planner - in 1834 when he was appointed Secretary to the Commissioners. His concern at the lack of public health administration was aroused when he worked for the Poor Law Commission - he became angered by unnecessary disease, waste and suffering.

It was also a sound economic strategy to prevent disease of the labourers, both in the loss of labour force and the burdening of the poor rates. 2)

The Commissioners sent a letter in this regard to the Home Secretary in 1838, and an inquiry by Neil Arnott, James P. Kay and Thomas Southwood Smith, was initiated. Kay had published a report in 1832 about the "Moral and Physical Conditions of the Working Classes" with reference to Manchester.

Southwood Smith published an article 'Contagion and Sanitary Laws' in 1825, studying the relationship between epidemics and bad sanitary conditions; and in 1835 his 'Philosophy of Health' was published - a report with practical ideas for preventive health and hygiene.

Arnott Smith and Kay published two reports resulting from their inquiry - 'On the Prevalence of certain Physical Causes of Fever in the Metropolis which may be prevented by proper Sanitary Measures' and the other 'On some of the Physical Causes of Sickness and Mortality to which the Poor are particularly exposed and which are capable of removal by Sanitary Regulations, exemplified in the present condition of the Bethnal Green and Whitechapel districts, as ascertained in a Personal Inspection'.

The above two reports were the first official results of inquiries directed by government agencies into the possibility of improvement of the conditions of the poorer classes.

Dr Blomfield, bishop of London in 1839, suggested that a similar survey be made in England and Wales and a resolution to this effect was passed, the inquiry being completed in 1842.

The politician R.A. Slaney set up the Select Committee on the Health of Towns in 1840 and their report, issued in 1840, recommended a general buildings act, a general sewerage act, and a Board of Health in each large town with a sanitary inspector to enforce regulations. Lord Normanby introduced three bills as a result of this report, dealing with borough improvements, urban building regulations and drainage improvement.

Lord Normanby was followed up by Sir J. Graham, who requested Chadwick to complete his report by 1842. This report had 3 volumes, the first two dealing with local reports from all over Britain, and the third Chadwick's own report: 'Report on the Sanitary Condition of the Labouring Population of Great Britain' and was published in July 1842. Chadwick stated in the preface that his main concern was the collecting of evidence of the available means to improve the poor condition of the housing and general environment of the labouring classes.

His report was motivated mainly by "economic concern for the labourer's well-being..... in general all epidemics and other infectious diseases are attended with charges, immediate and ultimate, on the poor rates".

He concluded that it therefore a "good economy on the part of the administrators of the poor-laws to incur the charges for preventing the evils".

To achieve this he proposed:

- a) the construction of a water-borne sewerage system in glazed circular bored drains.
 - b) control over water supply to prevent it being cut off by private companies when the landlord didn't pay the rates.
 - c) wider streets.
 - d) laws to control overcrowding
 - e) scientists and civil engineers should be appointed to design new local public works so that people's confidence in the works and the protection of the rate payer's money could be insured.
- 3)

In more detail Chadwick reported:

"dwelling houses with broken panes in every window frame, and filth and vermin in every nook; with walls black with smoke of foul chimneys; with corded bed-stocks for beds; without water.

"Children wrangled with one another in the streets for the offal which the well-to-do people did not allow their dogs to eat. Starving families seized the vilest substances which could protract for a few hours their miserable existence. Half-dressed wretches crowded together to save themselves from the pain of the cold. Several women were found in the middle of the day imprisoned in one bed, under one blanket, because as many others who had on their backs all the articles of clothing that belonged to the party, were out of doors.

"Consumption and ferbible diseases of a malignant and fatal character together with plagues prevailed in almost every house, and raised the mortality of the population to a point threatening almost racial extermination".

Chadwick's Report as well as the Parliamentary Reports contain a mass of evidence to this effect. 4)

3) Ibid p.11

4) Rosenblatt F.F. Social and Economic Aspects of the Chartist Movement p.64-65

This Report was the first full account of poor living condition, their effects and possible remedial measures. It is easy to see the process of contemporary planning here - statement of the problem in its social context (concern) --- development of alternative solutions to the problem ---choice of the best alternatives (possible remedial measures).

A supplementary report in 1843 described social factors concerned with the expense of burials to the poor, the lack of mortuaries and the health hazard to the family if a body was not speedily removed.

Normanby's three health bills were rejected by Graham, and Chadwick drew up a programme for the Health of Towns Commission, which would have to investigate the legislative and financial side of the proposed improvements.

Questionnaires were sent to 50 towns with the highest annual death rate and conditions in the densest populated areas were studied personally by commissioners.

In 1844 the first report of the Health of Towns Commissioners appeared; with evidence that emphasised the immediate need for improvements in sanitary engineering. A second report in 1845 contained proposals of future legislation, with an explanation by Chadwick of his recommendations on sewerage, drainage and water supply.

To win the support of a somewhat apathetic public Chadwick began a propaganda campaign with the help of the Health of Towns Association formed in 1844, whose members included Normanby, Slaney and Southwood Smith. 5)

Public lectures, pamphlet distribution, petitions and publications such as the 'Weekly Sheet of Facts and Figures' formed a part of the propaganda campaign, which has a marked similarity with the efforts of advocacy and town planners of our time when they put forward their proposals for 'the greatest happiness for the largest number'.

The Reform Laws

"The Industrial Revolution revolutionized the meaning and function of government and politics to act at the deepest level of social and economic life." 1)

A review of reform legislation between the years 1832 and 1848 portrays the way in which legislation had to meet the dire needs of the day, successfully or not so successfully on social, economic and financial level.

The Reform Bill was a political answer to the demanding voice of the working classes who wished to have a share in the planning of their future. They believed that if they could have a decisive vote in the House of Commons, their social conditions would improve.

The Reform Bill of 1832 introduced this period of reform and strove to reconcile the new world of industry with the conservatism of the preceding ages.

1. Constituencies were redistributed to try to achieve uniformity in borough franchise.
2. A £10 household test was introduced whereby a tenant or owner of buildings with an annual rent of £10 had franchise.
3. Voters had to be registered.
4. The conduct of elections were improved.

The new law did much to eliminate the abuses of the old system but did not grant power to the working classes. Although the enrolment of voters increased by 50% (app. $\frac{1}{2}$ million voters), the £10-test effectively kept a large part of the population, mainly the working class from voting; thus using financial means to achieve sociological grouping. The landed gentry still dominated both society and politics and the middle class received the right to participate in the constitution, but were not allowed to dominate it. Thus they were only given a semblance of power.

The worst anomalies of the system were removed and the newer cities received some representation, but the South remained over-represented at the expense of the North and of London.

Polling districts reduced the cost of elections as well as the duration of the poll and the excitement that went with it.

The Bill stimulated party organisation as well as party influence, and party agents emerged. On the other hand The Bill could not cope with the ensuing corruption, seeing that it had imperfect means to enforce the law. Malpractices were common, to the extent that the Parliament of 1841 was renamed the "Bribery Parliament" and the electorate was bribed with free food, drinks and pleasure excursions. In pocket boroughs too, the old family influence remained stronger than the influence of the party.

The Bill did not fulfill the expectations of democracy held by the working classes and spontaneous protest against the Bill sprang up - the main objection being that effect of the Bill would be to consolidate all "Property" against "Poverty". 2)

Protest arose in the form of the Chartist movement; a movement originating amongst the working class when they realised that they had been hoodwinked.

1) Thomson D. Europe since Napoleon p.118

2) Rosenblatt F.F. The Social and Economic Aspects of the Chartist Movement p.37

The principles of the Chartists were embodied in the 6 Points drawn up by Lovell and Place: They demanded:

1. Universal franchise
2. Equal electoral districts
3. Removal of the property qualification
4. Payment for Members of Parliament
5. Secret ballots.
6. Yearly elections.

All of these demands, except nr.6, were met with between the years 1858 and 1918.

Since Elizabethan times poor relief was designed to supplement the too meagre wages of the labourer and accordingly all persons receiving relief were thus forced to work.

In the factory system poor relief played an important role, for the manufacturer could profit by paying a person who received poor relief much less than the ordinary worker. The system was therefore badly in need of reform.

The New Poor Law of 1834 had far reaching implications both on social and financial level. Firstly the law:

1. It established a centralized Board to supervise and control parish relief with the help of inspectors.
2. The country was divided into 600 Poor Law Unions.
3. A Board of Guardians in each Union was answerable to the Central Board, which required a minimum standard of management.
4. The "Workhouse Test" was established - only those in real need would receive relief, based on the principle of less eligibility to distinguish between the able-bodied on the one hand and the weak, diseased, poor and aged on the other.
5. Conditions in the workhouses were to be made as uncomfortable as possible to discourage people to seek relief.
6. The running of workhouses was reorganised and outdoor relief discontinued.

The New Poor Law widened the gulf between the rich and poor. William Cobbett declared, "the New Poor Law was created to rob the poor and enrich the landowner". 3)

The workhouse test also intensified the hatred against property owners. Indiscriminate use of this test intensified this hate. Formerly a great deal of able-bodied unemployed men received outdoor relief and were now destitute.

During the years after the introduction of the law there was a marked decrease in the money spent on poor relief and Poor Law Commissioners boasted that they were actually saving money. But this was a great price to pay for the worsening of social conditions and the lowering of the social welfare level.

A great price was also paid in the form of human suffering, for people only went into the workhouses when they were actually starving and had no other alternative, thus worsening the fate of the destitute. The magnitude of this is portrayed by the fact that in 1832 one in seven Englishmen were paupers. 4) In addition the stigma of the workhouse "Bastilles" made it something to be avoided. Conditions in these workhouses were so terrible, the fare so poor and discipline so strict that they were regarded as a last resort; thus resulting in half full workhouses and therefore ultimately not financially viable.

In addition the system was fitted to rural circumstances and not suited to conditions in the cities.

3) Ibid. p. 41

4) Ibid. p.41

The destitute under the New Poor Law migrated to the cities where they were willing to accept any kind of employment just as long as they had some means of sustenance. Thus the law helped to provide modern industry with a cheap labour force of men, women and children.

From a more positive angle it can be seen that the organisation of poor relief was now more democratic, centralised and efficient. Later it emerged that in reality the New Poor Law operated in much the same way as before with a large number of people receiving outdoor relief. The local authorities still implemented the law according to the particular local circumstances.

Both Public Health legislation as well as the Factory Acts of 1802, 1819, and 1831 proved that the efficient implementation of the laws correlated with the availability of a trained body of inspectors to enforce these laws.

The Whig Factory Law of 1833 restricted the working day of children and provided time for some schooling. Although it established a factory inspectorate it later proved that there were not the operators to enforce the law.

The reform laws of 1842 for the mines catered for this need as well by establishing inspectors. Social conditions for women and children were improved by prohibiting their working below surface. No payments were to be made in public houses and children younger than 15 were not allowed to use machinery.

The Factory Act of 1844 improved on the law of 1833.

1. Women were classed as young persons, thus restricting their hours of work.
2. Regulations for the fencing of machinery was introduced.
3. The law lowered the minimum age of employment from 9 to 8 but classed children as 'half timers' and placed their working hours between 5.30 am. and 8.30 pm.
4. The power of the factory inspectors were increased.

Lord Ashley's Factory Bills of 1846 and 1847 initiated further improvements. The working day of children was limited to 11 hours and from May 1848 to 10 hours. In retaliation the employers then introduced a system by which women and children had to work in relays thus making control on their hours of work exceedingly difficult. From 1850 this situation was improved by banning relay work.

As a compromise hours of work increased to 10½ hours but it was worth the protection it afforded.

From 1839 to 1849 working men's hours were by legislation decreased from 69 to 60 hours per week in various industries such as cotton, wool, and silk. After several decades of a decrease in wages, they now showed a marked increase.

General social conditions of the working class improved as attention was given to the restriction of the apprenticing of pauper children in 1844 to the extent of providing them with some education. In 1846 people who had lived in a parish for more than 5 years were legally secured against removal from the parish, and from 1847 married couples over 60 were not to be separated in the workhouses.

Consequently it is evident that legislation initiated safeguards for the interests of the workers - men, women and children. It provided the latter with shorter hours of labour and some schooling, placed the employee on a surer footing vis à vis the employer and provided the employee with a better financial position. The employer too, had to submit to much tighter control.

Sanitary reforms were not, as may be presumed, initiated by local people or local authorities, but rather by medical and other people who concerned themselves with public health. More often than not they met with official apathy of vested interests because of expenditures and parliamentary reluctance for such a task. In 1832 a Cholera Prevention Bill was passed but did not have much effect, due to the apathy of the populace and the belief that the epidemic was an "Act of God". 5)

In 1838 Edwin Chadwick, a great pioneering figure in the field of public health, stressed a basic concern, for economic reasons, for the well-being of workers, based on the principle that prevention is better (less expensive) than cure. Through his persistent work for the protection of public health as well as the dire necessity accentuated by the cholera epidemics of 1832-1833 and 1847-1848 a Bill for the Promotion of Public Health was passed in 1848 to initiate reforms in the cities.

Accordingly a Central Board of Health was established with the power to:

1. Create local boards on petition numbering 10% of the inhabitants of a district
 2. enforce local boards where the death rate was more than 23/ 1000.
- This Bill was designed to relieve the appalling conditions in the cities and fill the gap in the newer towns where little was done in the sanitary field. Up to that time public health regulations had been left up to the local authorities, but it was badly done if done at all, especially in the industrial towns where local pride and civic responsibilities were at the lowest.

In the book of L. Benevelo, "Origins of Modern Town Planning" this act is summarized with emphasis on the aspects being most important to the urban fabric.

The objects of this law are expressed as follows: 'whereas further and more effectual provision ought to be made for Improving the sanitary condition of Towns and populous places in England and Wales, and it is expedient that the Supply of Water to such Towns and Places, and the Sewerage, Drainage, cleansing and paving thereof be placed under one and the same Management and Control, subject to such general Supervision as is herein after provided . . .' (art. 1).

Each district was to have a local Board of Health, consisting of special staff and representatives of landlords and rate-payers. The following articles (12-33) deal with the methods of electing these representatives.

The Board of Health could appoint inspectors, clerks and also a doctor who might then become Officer of Health (art. 40). Local Boards were empowered to deal with:

(a) sewerage (arts. 41-54); most important of all, the law states that the local Board shall 'cause to be prepared a Map exhibiting a System of Sewerage for effectually draining their district, upon a scale to be prescribed by the Board of Health'.

Furthermore, 'all sewers, whether existing at the time when this Act is applied or made at any time thereafter (with certain exceptions) together with all Buildings, Works, Materials and Things belonging or appertaining thereto, shall . . . be entered under the Management and control of the Local Board of Health'. The compulsory purchase of the relevant possessions of the previous owners is also provided for. Each newly-built house must have its own drains and lavatory; anyone contravening this clause would have to pay a fine of up to £20, and the local Board might order the lavatory to be built at the owner's expense. Owners of new buildings also had to declare the level of their cellars or lowest floor, and the exact situation of the lavatories and cess-pools, which must be approved by the local Board; anyone not complying could be fined up to £15 and forced to carry out the relevant alterations and improvements.

(b) Refuse collection (arts. 55-57).

(c) The removal of anything likely to cause danger to health (open drains, pigsties, rubbish heaps, stagnant water in cellars etc. (arts. 58-60).

(d) Inspection of slaughter houses (arts. 61-65).

(e) Inspection of lodging houses (arts. 66-67) which must have a certain standard of cleanliness and ventilation. The use of cellars as dwelling rooms, unless they fulfilled certain conditions, was prohibited, and all occupied cellars not fulfilling these regulations were to be evacuated within a period of six months to a year.

(f) The paving and upkeep of roads (arts. 68-73).

(g) Public gardens (art. 74): 'the local Boards of Health, with the approval of the said General Board, may provide, maintain and improve premises for the Purpose of being used as public Walks or Pleasure Grounds and support or contribute towards any Premises provided for such purposes by any Person whomsoever.'

(h) the water supply (arts. 75-80).

(i) the burial of the dead (arts. 81-3).

Article 117 also states that these local Boards were to be responsible for the supervision of the State roads.

The following articles (84 onwards) are concerned with the administration and financial workings of the local Boards, and they state that the expenses incurred by the installation of the various services may be recuperated in two ways: by the payment of special district rates, to be paid by owners of property benefiting from these installations, and by 'general district rates' applicable to the whole district. When the work carried out is for the improvement of private property, its owner was to pay special 'private improvement rates'.

These new health regulations were applied successfully for 6 years. Probably as a result of its success, the Board became unpopular with certain local authorities and individuals and was disbanded in 1854, and a new Board, to be appointed every 2 years was set up in its place.

In 1847 a Waterworks Clauses Act as well as a Town Improving Act set reforms in towns on course.

and Deaths Act made it possible to do before. On the suggestion of to be specified, resulting in statistics.

In 1835 the local authorities received attention and was reformed by means of the Municipal Reform Act. It dissolved 200 old corporations and created 179 new municipal boroughs to be governed by elected councils, which meant that:

1. All rate payers had municipal franchise.
2. Council property was not to be used for individual purposes
3. All incomes went into a borough fund and surpluses were used for the public good.
4. All accounts were to be audited.

This resulted in more self-government for the people based on democratic principle. Unfortunately these councils had very limited functions and in 1848 several towns were still without local councils and in several towns where councils did exist civic improvement was still in the hands of the civic commissions.

Although further sanitary improvements were brought about, later in the 19th century, the 1840's, especially 1848, marked a turning point, a kind of sanitary reform revolution in the development of towns and cities, and it was here that the foundation of modern town planning was firmly established.

Cherry bears this out: "...when first town planning powers were provided in 1909, their general provisions followed logically on the approaches of past Public Health legislation," 5) and also:

"From about 1820 onwards the century was marked by an increasing intervention in and regulation of community affairs. This was a political phenomenon and should be seen as part of our developing democracy". 6)

5) Cherry G. Urban Change and Planning p.

6) Cherry G. The Evolution of British Town Planning p. 6

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