

400 SANITARY EVOLUTION OF LONDON

In 1889 Dr. N. Vinen died after thirty-four years' service as Medical Officer of Health for St. Olave, Southwark.*

In 1895 Dr. J. S. Bristowe passed away after forty years of service as Medical Officer of Health for Camberwell.

And there are still in the service men whose labours have extended over prolonged periods. Such men as these, and others of them who gave their best to the service of the community, have indeed a claim to the lasting gratitude of the citizens of London.

* In his last report he recorded the death of J. Munro, who had been Inspector of Nuisances for thirty-three years, so for that long period they had worked together.

CHAPTER VII

1901-1906

ONCE more the census placed on record the actual population of the great metropolis, no longer divided, so far as local government was concerned, into parishes and districts, but now into a smaller number of municipal boroughs. The figures of this census are the last available for reliable deductions as to numerous important matters forming part of that comprehensive subject, the sanitary evolution of London.

The enumerated population of London had reached the great number of 4,536,541, and showed an increase of 308,224 during the ten years 1891 to 1901. The rate of increase, however, continued to show a decline, having fallen from 10·4 to 7·3 per cent. during the intercensal period.

The same movement of the population noted in previous censuses was recorded in this one.

In the City of London and six of the central metropolitan boroughs the enumerated population showed an actual decline of over 67,000 in the ten years, notwithstanding that the recorded excess of births over deaths in that period amounted approximately to 70,000.

In all the other boroughs there had been increases. In the Eastern group the increases had been very small, with the exception of Stepney, where, owing to the immigration of aliens, the population had increased 13,484. In the Northern group the greatest increase had been in Hackney (19,666). In the Western group Fulham showed the highest

increase, namely, 45,500; whilst on the south side of the river, Wandsworth had increased 76,500, and several others showed large increases.

Outside the boundaries of the county the "outer ring" had attained to a population of 2,044,553 persons—an increase of 639,000.

If the metropolis and this "outer ring" were regarded as one city—and in many matters it is hard to consider them apart—the total population in 1901 was 6,581,372.

The information as to the birthplaces of the people showed that of the 4,536,541 persons, 3,016,580 were natives of London. The proportion of natives of London had increased; the proportion from the rest of the United Kingdom had decreased; whilst there had been an increase of 40,000 foreigners, the number having considerably more than doubled since 1881. Of every 1,000 inhabitants, 668 were born in London, and 332 elsewhere, as against 653 and 347 respectively in 1891.

Once again the arrivals and departures by the gates of life and death were recorded. In the ten years from the 1st of April, 1891, to the 31st of March, 1901, 1,329,428 births had been registered, and 838,454 deaths. The excess of births over deaths, therefore, was 490,974; and as the increase of population was 309,228, it followed that 181,746 persons had migrated. As the migration had only been 114,000 in 1891, it was manifest that migration to outside the County of London was increasing.

The total number of inhabited houses was 571,768, as against 547,146 in 1891; but owing to a variation in the manner of collecting the information, the figures have little value for comparative purposes.

The accurate figures given of the population of London enabled the death-rate to be calculated on facts instead of upon estimates.

The death-rate was 17.1 per 1,000 living in 1901, a decrease from 18.6 in the previous year, and from 21.0 in 1891.

But to be set against this was the portentous fact that the birth-rate had declined from 31.8 per 1,000 in 1891 to

29.0 per 1,000 persons living in 1901, the lowest recorded in London since civil registration began.

The public health of London was now altogether on a better level than it had been before, but in the course of the year 1901 some cases of smallpox appeared in various parts of London, and in 1902 there was the most severe outbreak of it—with the possible exception of 1884-5—since 1871, nearly 9,000 cases being admitted to the hospitals of the Metropolitan Asylums Board between September, 1901, and July, 1902. Ninety-three patients were removed to hospital in one day, and on one day (March 11th) 1,604 cases were under treatment. Over 1,300 persons died of it in the year.

The cost of disease to the community has often been referred to in previous chapters. The Metropolitan Asylums Board stated that so far as it was concerned, the cost for 1901-2 might be put at £500,000—equal to about a three-penny rate—a sum which was wholly apart from loss of wages to the individual, and various other expenses, and apart from the charge upon the rates of those who were pauperised by the death of the breadwinner of the family.

1903 was "a year of comparatively very slight prevalence of infectious disorders."

In 1904 there was "a marked absence of undue activity amongst the infectious diseases of the metropolis."

And 1905 was the healthiest year in the records of London since registration, the death-rate being 15.1 per 1,000.

In the five years which have passed since the census of 1901, Parliament has passed three Acts of the utmost consequence to the sanitary condition of the people of London, marking, in their respective spheres, definite stages in the sanitary evolution of the metropolis.

The sanitary evils to which many of the people were subject might, as has already been stated, be roughly divided into two classes—those of their dwellings at night, and those of their workplaces in the day.

"The Factory and Workshop Act" of 1901 dealt with the latter. It was the amendment and final codification of

a mass of piecemeal legislation which had been spread over a period of years.

In 1878, previous enactments on the subject had been consolidated into one Act. That Act was amended in 1883, 1891, and 1895. All were now finally embodied in this Act of 1901 with several additions and amendments. Additional sanitary provisions were made as to the ventilation of factories and workshops, and as to the drainage of floors. Bakehouses came within the scope of the Act, and the law was made much more stringent as to them. After January 1, 1904, it would be unlawful to use any underground bakehouse unless certified by the Borough Council to be suitable.

A register of workshops was to be kept, and the Medical Officer of Health was, in his annual report, to report specifically on the administration of the Act in workshops and workplaces—a direction which ensured publicity as to the action of the local authorities. The powers of the sanitary authorities were extended by the Act, and certain duties necessary for efficient administration imposed upon them.

The Act also ensured the inspection of dwelling-houses where there were outworkers.

The work imposed on the Sanitary Authorities was very considerable as a very large number of premises came under their supervision, and every workroom in each workshop had to be measured in order that its cubic space might be ascertained; and when the subsequent routine inspection of the premises, and of outworkers' premises, remedying of defects and other duties, were taken into consideration, the magnitude of the work, and the necessity of an adequate staff of officers, were evident.

The records show that at the end of 1904, 34,488 workshops in London were under the supervision of the local authorities. The necessity of inspection was demonstrated by the fact that 18,922 conditions required remedying.

Improvement was testified to by the Medical Officers of Health, overcrowding was diminished, and it was further stated that "employers are found to co-operate willingly with the local authorities in the remedy of faulty conditions."

Altogether, then, when a comparison is made between the

conditions of the factories and workshops, and workplaces in which the people worked in the middle of the last century and now, the contrast is remarkable. The worst of the evils have been swept away, and healthy conditions of work have taken their place.

And the limitations put upon the labour of children and young persons and women have all been to the good of those subjected to them. And the public health of London, so far as this very large and very valuable portion of the population is concerned, has been immensely the gainer.

The second of the three Acts since 1900, which had a vital bearing on the sanitary condition of the people of London, was "The Metropolis Water Act" of 1902.

That the water supply should be under the control and management of the municipality had long been advocated, but though hundreds of County and Municipal Authorities in Great Britain—many of them not the hundredth part of the size of London—had a Municipal Water Supply, that great boon was denied to London. The reform was vigorously pressed by the central representative body of London—the London County Council—and after several Royal Commissions of Inquiry, Parliament dealt with the subject in 1902. But the manner of dealing with it was unfortunate and retrograde.

A new public Board—the Metropolitan Water Board—was established for the purpose of acquiring, by purchase, for the inhabitants of London, and of certain areas outside London, the undertakings of the eight Metropolitan Water Companies, and for managing and carrying on the supply of water. The great bulk of the purchase money was to be provided by the ratepayers of London, and the great bulk of the debt to be a charge on the rateable property of London.

The Board was to consist of 66 members, 14 of whom were to be nominated by the London County Council, 31 by the Metropolitan Borough Councils and the City Corporation, and the remaining 21 by the authorities of localities outside London hitherto supplied by the Companies.

The Board, therefore, was not a representative body

directly elected by the ratepayers or electors of London, but was constructed, on the discredited precedent of the Metropolitan Board of Works, of delegated instead of elected members; and though the people of London were emancipated from the control of trading Water Companies, they got in their place a body over which they can exercise no direct, and therefore very little actual, control.

The new Board was constituted in the spring of 1903, and took over the undertakings of the Water Companies on the 24th of June, 1904, at the cost to the ratepayers of London of not much less than £40,000,000, a sum immensely higher than that at which they could have been acquired many years before.

And inasmuch as the Board can call upon the ratepayers of London to make good any deficiency of income resulting from their management, the unsatisfactory result is the establishment in London of a new indirectly-elected public body vested with enormous financial powers affecting the interests of the ratepayers of London, and yet but little responsible to public control.

The third of the three important Acts, the Education London Act, was passed in 1903, and carried in its bosom possibilities of the most far-reaching benefits to the health and physical welfare of future generations.

By this Act the London School Board was abolished, and its duties transferred to the London County Council, which was constituted the Education Authority for London.

Though, indirectly, the schools of the Board were having considerable effect upon the physical well-being of the rising generation, it cannot be said that the School Board had utilised its vast opportunities for improving the general health. By instruction, by influence, it might have done so much, might have moulded the physical future of generations. But education was always much more in the minds of the Board than health, though the two might well have been considered together, and without health education is of little use.

The Board in their "Final Report" endeavoured to offer an explanation of their inaction.

"It has always been a question how far the Board are authorised to spend public money on the medical care of children. On the one hand suggestions have been made for the inspection of their teeth, and the treatment of cases of anæmic condition and arrested development. On the other hand a legal opinion has been expressed that the Board are not entitled to do anything, or to take any measures except such as spring from the fact that the attendance of the children is compulsory. On this account it has been thought right to take action only in those cases in which on account of contagious disease, it is necessary to exclude children from school."*

Even the sanitary condition of the schools does not appear to have been well looked after.

In January, 1890, one of the Committees submitted a report to the Board, on which the resolution was passed—

"That the Committee be authorised to thoroughly examine the whole of the drainage of any school of the Board where they may think it necessary," &c.

The drainage was subsequently examined. In 181 schools the drainage was all right. In 292 of the schools re-drainage was required. For how long that fertile source of disease had been scattering its evil germs among the tens of thousands of children attending these insanitary schools, no information is available.

In 1890, just twenty years after its formation, the Board appointed a Medical Officer, and he gave only a portion of his time to the work.

"Before 1891 there was no attempt on the part of the Board to prevent the spread of infectious diseases by precautionary measures being adopted in the school."†

In 1895 the Medical Officer of Health for Paddington wrote:—

"School teachers should be required to inform the Sanitary Authority of any special amount of illness which may occur among the scholars. Half a school may be away through

* Final Report of the School Board for London, p. 326.

† See Report of Medical Officer of the late School Board for 1903-4.

sickness if the disease be not a notified one, but no information of such fact comes to the Sanitary Authority."

And in 1896 he wrote :—

"The past year had emphasised the need of definite instructions to school teachers to keep the Medical Officers of Health informed of the existence of infectious disease among their pupils. It is surmised that there were upwards of 2,000 cases of measles in the parish in the earlier part of the year."

And "measles is the most fatal disease of childhood."

In evening schools "efforts were made between 1899 and 1903 to teach the simple laws of health. . . . Prior to 1898 gymnastics were taught in only a few schools." *

In 1902 the Medical Officer resigned, and a new one was appointed who should give his whole time to the work. His first report (1903) is enlightening as to the methods of the School Board in matters pertaining to the health of the children attending the schools."

He wrote :—

"The maintenance of sanitary conditions as regards heating, lighting, ventilation, and cleanliness both of the buildings and persons of the pupils, the detection of early cases of illness . . . ill-health from many causes, school habits, and school work in their influence on health . . . these . . . come under the daily work of the teacher, and there is no requirement that any knowledge of such matters should be possessed by him. It is left to his own common-sense, and he muddles through. The definite requirement of hygienic knowledge as part of the equipment of every teacher is a necessity if a great part of the work of this department is not to be useless in result." †

And in his Report of the following year he wrote :—

"The provision of medical oversight for school life is rapidly becoming a necessity. Five-sixths of the population spend a seventh part of their lives under the exceedingly artificial conditions of the schools, and during the plastic period of life. Their chief function in the earlier part of that

* Final Report, p. 297.

† First Report of Medical Officer for year ended March 25, 1903, p. 24.

period is to grow, and it is necessary that they should not only do this, but do it under favourable circumstances for development." *

Soon after the transfer of the administration of the Education Acts to the London County Council, the medical work of the late School Board was amalgamated with that of the London County Council. The change is one which is likely to be of the greatest benefit to the children in the schools, and through them, as times go on, to the population of London as a whole. The great value of health will receive greater recognition than it has done hitherto, whilst greater facilities for instruction in health matters, and better physical training, cannot fail to have the most beneficial effect. The vast field for this work is evident when it is called to mind that nearly half a million of children are in average attendance at the London County Council Schools.

Three other matters legislated upon by Parliament claim mention.

In 1902 the Midwives Act was passed. It provided for the constitution of a Central Midwives Board with power to frame rules for the registration of midwives and for regulating and supervising the practice of midwives. After the 1st of April, 1905, no person might use the title of midwife without being certified under the Act. The London County Council was constituted the local supervising authority for London, and under its supervision much good has already been done.

Also in 1902 the Cremation Act, which empowered burial authorities to provide and maintain crematoria, and empowered the Secretary of State to make regulations as to the conditions under which cremation might take place.

And to complete the tale of sanitary legislation since 1900, a few reforms were secured by sections in the annual General Powers Acts which the London County Council obtained from Parliament. Among these was one rather important one.

* Second Annual Report to March 25, 1904.

In 1894 the duty of supervising and regulating the common lodging-houses in London, which hitherto had been performed by the Commissioner of Police, was transferred to the London County Council. In that year 654 such houses were on the register, and the authorised number of lodgers was close upon 30,000 persons. In 1902 the Council obtained powers for the annual licensing of such houses. These larger powers enabled the Council to improve the sanitary condition of many of these houses. The supervision of these houses has been most satisfactorily carried out, and has been of immense value in securing sanitary abodes for the miserable people who frequent them, and in diminishing what would otherwise doubtless often be a source of infection to the community.

The sanitary evolution of London having begun a little before the middle of the nineteenth century, the figures of the censuses of 1851 and 1901 afford the means for measuring many of the great changes which have taken place in the intervening period.

And a comparison of the state of those things which most affect the public health at these two dates enables a reliable deduction to be drawn as to whether there has been evolution to a higher level of public health, or a retrogression; and, if the former, the progress which that evolution has made.

In 1851 the population of London was 2,362,236. In 1901 it had reached 4,536,541. And when to this is added the fact that all through the intervening years so enormous a mass of people has been cooped up in an area of 117 square miles, and that at the present time there are over 4,500,000 within that small area, the multiplicity of the matters decisively influencing their health and physical well being, and the vastness of the issues at stake, come into vivid light.

As has been often said, the very basis or foundation of the sanitation of a city is an efficient system of drainage. Without it sanitation is impossible.

What the main drainage of London was up to 1858 has been described in the earlier chapters of this book. In effect,

nothing less than an entire system had then to be designed and constructed to provide London with this first essential. This was done, and the result was of immediate and enormous benefit to London, and ever since then the maintenance and extension and improvement of this work has received the solicitous attention of the Central Authority. Originally designed for 3,500,000 people, it had, as London grew, to be considerably enlarged and extended, and as some of the districts outside the boundaries of London were allowed by Parliament to drain into the London sewers, still larger works had to be constructed. And now the system serves a resident population of, in round figures, 5,500,000 people spread over an area of about 140 square miles. It comprises close upon 90 miles of great intercepting and out-fall sewers, 176 miles of main sewers, and 26 miles of large relief sewers, constructed for the special purpose of conveying storm-water away.

This, however, was but part of the provision which had to be made. During the *régime* of the Metropolitan Board of Works, more than 1,100 miles of new sewers were laid by Vestries and District Boards in their respective districts, and since the creation of the London County Council of 1888, further additions of 1,516 miles have been made, making a total of over 2,600 miles.

All this work was essential to enable a proper system of house drainage to be carried out, and as the drainage of houses into the local sewers was compulsory, the general system of drainage was thus rounded off or completed.

The change effected thereby in the conditions of life in London has been remarkable. There are no longer open ditch-sewers polluting the air with their pestilential abominations; no longer streets without sewers, and houses without the possibility of drainage.

In the Report of the County Council for 1902-3, prepared by the Clerk of the Council, there is given a calculation of what these works annually accomplish.

"The flow of sewage during the year, namely 87,556 million gallons, represents a canal 24 feet wide with a depth of 9 feet, running day and night at the rate of 2 feet per

second; or it may be considered as equivalent to a lake of 44 square miles, or about one-third of the area of the county of London, with a depth of $11\frac{1}{2}$ feet."

To the efficiency and thoroughness of the present system is primarily due the greatly improved condition of the public health of London as compared with 1855.

Water was another of the absolute necessities of existence and of sanitation. An ample supply of good water is essential for health; and the numerous outbreaks of typhoid fever which in recent years have occurred in England with a heavy death roll, testify to the dangers incurred by bad water, and the necessity for the utmost care being taken to secure its being pure and uncontaminated.

The supply of water in the eighteen-fifties had been very limited in quantity, and, with the exception of that supplied by one company, abominable in quality. And progress to a better state of things was slow. Improvements were made most unwillingly and haltingly by the Water Companies, and only under Parliament's reluctant compulsion, whilst the inaction of most, and the obstruction of some, of the Vestries and District Boards, and the hostility of "owners" of houses to being put to expense for water fittings, still further impeded reform, and perpetuated the evils inflicted upon the inhabitants of London—suffering, disease, and death.

The "slaughter wells" and the sewer-ditches were, however, filled up and those evil sources of supply ended. And a supply of water was gradually extended to the streets which were without any, and an increased supply to others which had but little; but it was not until 1899, the very end of the century, that the County of London was, for the first time, receiving a constant supply in accordance with the provisions of the Metropolis Water Act of 1871. And by slow degrees the sources of defilement of the water were reduced, and a larger proportion of the dirt ingredients filtered out, until at last some of the worst evils connected with the supply were rectified. And in 1891 it was enacted by Parliament* that a dwelling-

* In the Public Health (London) Act.

house without a proper and sufficient supply should be a "nuisance" liable to be dealt with summarily.

The main cause of all the grave disadvantages the people of London had so unceasingly suffered under in this matter arose from the fact that the interests of the Water Companies and the interests of the people of London ran directly counter to each other. London, in fact, had from the very outset been at the mercy of trading companies for its supply of this necessity of life, and bitter cause, indeed, had London to rue it.

It is too soon to know what improvements will result in the supply of water to the people of London, but in the interests of the public health it is most unsatisfactory that the public should even now be debarred from that direct control which alone can secure them the fullest benefits.

In another of the numerous branches of the great subject of the public health of London—the widening of the streets and thoroughfares—the improvements made in process of years was marked, and the better provision of light and air and breathing space has been considerable.

The total gross cost of new streets and improvements carried out by the Metropolitan Board of Works had amounted to over £12,000,000,* whilst it had contributed another million and a half to the cost of smaller street improvements carried out by the "City" and other districts, which latter also expended considerable sums.

The London County Council continued the policy of the Metropolitan Board of Works, and by the year 1904-5 it had carried out, or was in process of carrying out, improvements at an estimated gross cost of over £11,000,000,† the greatest and most costly of all being the new thoroughfare—Kingsway and Aldwych—connecting Holborn with the Strand, which swept away some of the most notorious and worst slums in London.

In addition to these, many local improvements have been carried out by the "City" and by the Vestries and

* The recoupments arising from the sale of surplus lands reduced the actual or net cost to less than £8,000,000.

† Here the net cost is estimated to be about £5,500,000.

District Boards, and later by the Borough Councils. These were estimated to cost about £1,800,000. The total work accomplished, therefore, has been very considerable, but the cost has been huge; amounting in the whole to about £27,000,000.

Of greater value to the health of the people has been the increase of the number of parks and open spaces in London, not merely in preventing land being built over, but in the opportunities afforded the people, and especially the younger portion of them, for exercise.

Here considerable acquisitions have been made since the time of the Metropolitan Board of Works. Immediately after the creation of the London County Council two generous gifts were made to the citizens of London—Waterlow Park of 30 acres and Myatt's Fields—and the Council had acquired Hackney Marsh, with 337 acres; Brockwell Park, with 127 acres; and Avery Hill, 84 acres; and some distance from London, 803 acres of Hainault Forest. In addition to these several small pieces of ground were acquired and thrown open as public gardens and recreation grounds.

The "City" had also acquired, outside the County of London, Epping Forest, about 5,560 acres in extent, Burnham Beeches, 375 acres; Coulsdon Common, 347 acres; and a few small open spaces in the "City" itself.

And many acquisitions had been made by the Vestries and District Boards, and, since their supersession, by the Borough Councils.

Purity of air was another of the important elements of a satisfactory health condition.

Once that the Thames had ceased to be the main sewer of London, and once that the hundreds of thousands of cesspools were filled in and abolished, the most persistent and fruitful and worst of the causes of the impurity and unwholesomeness of the atmosphere were removed. Gradually too, but only too slowly—a slowness resulting in widespread loss of health and life—were the noxious trades in London made amenable to the law, and somewhat less noxious to those living in their immediate neighbourhood;

this, too, without that ruin to trade and manufactures which was always predicted when any effort was made to prevent the prevalence of intolerable nuisances.

The duty of administering the provisions of the law relating to the abatement of smoke nuisances rested with the police. Under their action a steady reduction had taken place in offences against the law. In 1882, 1,248 cases were reported, and there had been 162 convictions; and in 1890 the numbers had sunk to 702 reported cases and 46 convictions.

In 1891, by the Public Health London Act, the duty was transferred to the Sanitary Authorities. Considerable use has been made by them of the Act. In many cases severe penalties were imposed, and the general result has been a very satisfactory improvement. Much, however, of the fouling of the atmosphere is caused by factories outside London, and consequently outside the control of the local authorities of London.

And yet another of the great branches of the general subject of the public health is the food supply of the people. It would be difficult to give any approximate estimate even of the part which good or bad food has in its effect upon the public health, or to produce any statistics on the subject, but, undoubtedly, it is a very large part; and every now and then the outbreak of some serious illness and heavy loss of life, directly traceable to the consumption of bad food, shows how important it is to safeguard the people from such disasters.

Thus in 1901 there was an outbreak of scarlet fever, in which some 300 persons were attacked, directly traced to an infective milk supply.

Previous to the date of the Nuisances Removal Act of 1855 there was, so far as London was concerned, practically no control or supervision over the food sold to and consumed by the people. That Act contained a section providing for the inspection of food by the local sanitary authority, so the importance of securing wholesome food for the people was then recognised. Little, if any, use was made of the power thus given, and the Act was amended and extended; but even then it was almost a dead letter.

As years advanced great scientific discoveries demonstrated the fact that some of the most dangerous diseases, such as typhoid and scarlet fever, could be conveyed in food of various sorts, and opened up a new vista of dangers as to the conveyance of disease.* And the huge size of London, and the vast numbers of its population, increased enormously the difficulty of safeguarding the public from the dangers of contaminated food.

The first and greater portion of this work was done by the Corporation of the City of London. Its Committee, the Port Sanitary Authority, was able to prevent large quantities of bad meat which arrived by sea being put upon the markets; and the Corporation, which administered the principal markets of London—the cattle-markets at Deptford and Islington, the fish-market at Billingsgate, and the others at Smithfield and Leadenhall and Spitalfields—by a system of inspection, prevented large quantities of bad or diseased food being sold to the public.

In 1905, 415,000 tons of meat reached the Central Smithfield Market, of which 2,128 tons were seized as being diseased and unsound. At Billingsgate, 211,600 tons of fish were delivered, of which 674 tons were condemned. And there were 28 wharves and warehouses in the City where tinned food and tinned meat and vegetables were received. 173 tons were seized. All these places were daily inspected.

This, however, was only a portion of the food which reached London. The responsibility for inspecting food in other parts of the metropolis rested (under the Public Health (London) Act of 1891) with the various Sanitary Authorities, and the reports of the Medical Officers of Health contain accounts of inspections by them, and of the seizure of meat, fish, poultry, rabbits, tinned food, vegetables, eggs, and sweetmeats, and of prosecutions, and of a few convictions. And many other articles of food were, under

* The International Congress of Hygiene, held in Brussels in 1903, passed a resolution declaring meat to be unfit for human food when it was derived from animals attacked by bacterial anthrax, glanders, rabies, tetanus, tuberculosis, in certain cases, and several other diseases.

the Food and Drugs Act of 1875-99, also liable to inspection so as to secure that they should not be adulterated; so that theoretically, and in a very great measure actually, provision exists for protecting the people of London from adulterated articles of food, and from food unfit for human consumption.

All this is an immense advance upon the time when there were no laws against the sale of unsound or adulterated food.

But there is great room for improvement, for the inspection and means of prevention are far from adequate to secure the protection of the public from this danger; indeed, the existing system of government for dealing successfully with this most important element in the well-being of the people is very defective.

The experiences of the past sixty years or so in London have abundantly shown how great is the extent to which the public health is dependent upon the system of local government in existence at the time, and upon the administration of the laws relating to the public health by those authorities.

The considerable changes which have taken place in the fifty years since the creation of a Central Authority, the Metropolitan Board of Works, have been described.

So far as regarded the local authorities over the separate areas into which London was divided, the "City" remains practically as it was, with the exception of the addition to its sphere of action of the important duties of Port Sanitary Authority, and such further powers as the exigencies of the times required, and certain changes consequent upon the creation of the London County Council.

In the metropolis the other local sanitary authorities instead of being Vestries and District Boards—43 in number—are now Municipal Borough Councils—28 in number—with some larger powers, including wide powers of rating.

The Poor Law Guardians, also with wide powers of rating, have remained much as they were, their sphere of work being a definitely limited one.

Various Commissioners, such as the Commissioners of Baths and Washhouses, Library Commissioners, and Burial Boards, have ceased to be; their powers being now exercised by the Borough Councils.

The important changes in the local government of the metropolis have mainly been in the Central Authorities, whose sphere of duties extends over the whole area of London.

The principal Central Authority, the London County Council, which superseded the Metropolitan Board of Works in 1889, instead of being indirectly elected as was that body, is a directly elected body, elected by and representative of the whole electorate of London. Its duties and powers have undergone extension and increase; the latest material addition to them being its appointment as the Education Authority for London.

In 1867, owing to the default of the Vestries and District Boards to make provision of rate-supported hospitals for paupers suffering from infectious or contagious disease, a Central Authority—the Metropolitan Asylums Board—constituted on the indirectly elected system, with considerable powers to spend money which had to be provided out of the rates of the metropolis, was created to do that work.

In 1870 another central body was created, the London School Board, to deal with the elementary education of the children of London, and though not a health authority, its work was closely associated with the public health. It also possessed the widest powers for spending money, which had to be provided out of the rates of the metropolis. It was a directly elected body, but elected on a system peculiar to itself, and one which in great measure removed it from any financial public control.

By an Act of Parliament in 1903 the London County Council was made the Education Authority for London, and the work of the School Board was transferred to it.

To the two existing central authorities was added, in 1903, another wholly gratuitous central local authority, the Metropolitan Water Board, an indirectly elected body with ultimate rating power over the metropolis.

There is a third sphere of government in matters pertaining to the public health—namely, that occupied by the State. It is charged with many duties connected with the public health, and is in close relationship with the various central and local authorities in London. It has undergone large changes since the middle of the last century.

At that time some of the powers possessed by the State Government in health matters were exercised by one of the Secretaries of State. Others, for some years, through the General Board of Health appointed by the Government. In 1858, when that Board ceased to exist, some of its powers were transferred to the Privy Council, others lapsed to the local sanitary authorities.

So great, as time went on, was the development of local government throughout the country, and so essential was it to have some central government State supervision over the largely increased number of local sanitary authorities, that in 1871 a new Government Department, the Local Government Board, was created to perform this work. To it were transferred most of the powers in connection with sanitation and health matters possessed by the State Government, and the various authorities in London came more or less under its supervision. Since then, as the sanitary needs of the community grew, and as legislation became more voluminous, fresh duties have been constantly imposed upon that Board.

Summing up these changes, and their broad effects, it is to be said that the machinery for the administration of the sanitary laws in London is undoubtedly far more potent and effective than it has been at any previous time. Instead of the Vestries and District Boards there are now the Borough Councils; instead of the Metropolitan Board of Works there is the London County Council; instead of the Privy Council and Board of Health there is the Local Government Board, whilst the Metropolitan Asylums Board and the Water Board had no predecessors.

But on the other hand the system now in existence is very complex, and in many ways cumbersome, and in recent years there has been a most unfortunate tendency on the

part of Parliament to revert to that which was the curse of London before the Act of 1855—the multiplicity of local authorities—all of them, too, with separate rating powers.

So far, then, in the way of the machinery of local government has London come on its way to an improved condition of the public health.

And Parliament, as has been narrated, had, since 1855, multiplied the health laws, which these bodies were charged with the administration of. Then, the passing of an Act dealing with matters affecting the public health was so rare as to constitute a remarkable event. Now Acts of Parliament and "Provisional Orders" as to health matters are quite common events.

With such numerous laws covering so many phases of the public health, with so much larger and more powerful a machinery for their administration, the crucial point of all is the administration of those laws by the various authorities. It is obvious that the administration is much more searching and effective and wide-reaching than it has ever been before.

The Central Authority, the London County Council, has done great work, as has already been shown, in extending and maintaining the efficiency of the drainage system of London, in the clearance of insanitary areas, and the erection of houses for the working classes; in the acquisition of open spaces, in great street improvements, in its efforts to help towards a solution of the great housing problem by the facilities of traffic it has created by its tramways, in the inquiries it has instituted into the insanitary condition of various districts in London, in the unifying of administration by the local sanitary authorities, and in many other ways too numerous to be recited. It has, in fact, vigorously used such powers as it possessed.

The Metropolitan Asylums Board has also used its powers effectively, having erected hospitals, and having each year successfully isolated and treated many thousands of cases of infectious and contagious disease.

The Water Board is still too young to have a record.

The Poor Law Guardians had improved the workhouses

and the infirmaries, and the dispensaries were continuing to do their useful work.

The Metropolitan Borough Councils were grappling with their numerous duties. The perusal of the annual reports of these bodies shows their multiplicity. House-to-house inspection—the inspection of factories and workshops, and workplaces, and outworkers; of bakehouses, cowsheds, dairies, and milkshops; of food and the places where food is prepared; of offensive trades and slaughterhouses, and of houses let in lodgings; the management of baths and wash-houses, the removal of dust and filth, disinfection, proceedings under the Housing of the Working Classes Acts; measures for the prevention of disease, for the abatement of nuisances, and many other duties connected with sewerage, drainage, and paving and cleansing of streets—all and every one of which closely affect the health of the people.

The amount of work done varied considerably. In a well-administered municipality the number of Sanitary Inspectors had been increased, the number of inspections was high, and the work continuous and heavy. In some, however, the work was less satisfactorily done, and the old Vestry antipathy to the expenditure of money upon Inspectors appeared to have been handed on.

Much, nevertheless, was being done, and on the whole matters appeared to be progressing satisfactorily, and in many respects undoubtedly were doing so.

But every now and then some revelation occurred of insanitary conditions under which large numbers of the people were living which showed a grievous omission somewhere, and for which some persons were responsible.

Thus when, under the Education (London) Act of 1903, the County Council had to take over the non-provided schools in London, the schools were inspected, and it was found that their drains were generally in a very bad condition. No fewer than 342, or 78 per cent. of the school drains which were tested, were declared unsatisfactory. A most prolific source of disease and death was thus laid bare, a source which for years must have been working

grave evil—and as in these schools there were about 135,000 children in attendance, the number of persons involved in danger was enormous.

Again, some of the figures published by the Census Commissioners in 1902 disclosed a condition of things of the utmost gravity.

Similar figures in the census of 1891 had passed almost unnoticed; these of 1901 reiterated the story, and as the evils they laid bare were on a somewhat smaller scale they were hailed more as a mark of progress and improvement, than as something portentous in themselves. Yet they go down to the very roots of the sanitary condition of the people of London, and show how great is the task to be accomplished before the sanitary condition can be considered satisfactory or even safe.

They bring into sudden view the fact that the problem of the housing of the people is still unsolved.

The census of 1901 had recorded that there were 4,536,541 persons in London. It also recorded that the total number of tenements was 1,019,546. It further showed that of these tenements no fewer than 672,030 were tenements of less than five rooms; and then going into details of these 672,030 tenements it showed that—

149,524	were tenements of one room.
201,431	” ” two rooms.
181,542	” ” three ”
139,533	” ” four ”

Comparing these figures with those for 1891 it appeared that—

“A marked improvement had taken place in the manner in which persons occupying tenements of less than five rooms are housed in London. The shifting of the population in the ten years from the tenements of one or two rooms to the more ample accommodation provided in tenements of three or four rooms is conspicuous.”*

There had been a reduction in the number of one-room

* See Report of the Medical Officer of Health of the London County Council, 1902, p. 10.

tenements, which are justly regarded as the worst of all from 172,503 in 1891, to 149,524 in 1901, whilst there had been an increase in the number of two, three, and four-room tenements.

As to the numbers of persons living in these 672,030 tenements—

304,874	persons lived in tenements of one room.
701,203	” ” two rooms.
752,221	” ” three ”
691,491	” ” four ”

Total 2,449,789

Still, therefore, well over half the population of London lived in tenements of less than five rooms; whilst over 1,000,000 lived in tenements of one or two rooms—and between one- and two-room tenements there is not much to differentiate.

By further details given (as in 1891) each Sanitary Authority was “provided with the means of examining with much precision into the house accommodation of its district.”

The Medical Officer of Health for the Borough of Finsbury, utilising the figures for that Borough, deduced some most instructive conclusions as to the effect of the one-room and two-room tenements upon the death-rates.

Forty-six per cent. of the population lived in such tenements; the death-rate in one-room tenements was 38.9 per 1,000; the death-rate in two-room tenements was 22.6 per 1,000. And the number of deaths occurring in them was 63 per cent. of all the deaths in the Borough.

“The conditions of life obtaining in one-room tenements,” he added, “are such as tend towards poor physique, disease, and death. The density of population is higher, the physical restrictions are greater, and there is less fresh air and more uncleanness.”

The information thus given by the Census Commissioners as to tenements was striking enough, but of deeper interest and import even than these figures was the information as to “Overcrowding.”

The Medical Officer of Health for the London County Council, utilising the figures of the census, worked out the facts as regarded the overcrowded tenement population of London.

There were 726,096 persons living in an overcrowded state in 124,773 tenements of less than five rooms. Of these—

147,771	lived in	40,762	one-room	tenements.
296,659	"	50,304	two	" "
187,619	"	23,979	three	" "
94,047	"	9,728	four	" "
726,096		124,773		

There had been a reduction of overcrowded tenements from 145,513 in 1891, containing 829,765 persons, to 124,773 in 1901, containing 726,096 persons.

There would appear then to be some hope that the acme or climax of overcrowding has been passed. But even from the most sanguine point of view the improvement is not great, and many decades would have to elapse before "overcrowding" ceased to be a power for evil.

A few illustrations show the dreadful condition of things in this respect in certain localities.

In the Borough of Finsbury, over 35,000 persons lived in overcrowded tenements of less than five rooms; in Stepney, 99,000; in Islington, 56,000; in St. Pancras, 56,000; in Lambeth, a few short of 37,000; and in Southwark, over 46,000.

And if some of the figures about overcrowding were looked into a little more minutely it was to be seen that in St. Marylebone there were 1,020 two-room tenements inhabited by five persons each, 685 by six persons each, 366 by seven persons each, and 170 by eight persons each.

In Islington there were 1,253 such tenements with six persons each, 624 with seven persons, and 258 with eight persons.

In St. Pancras there were 1,414 two-room tenements with six persons in each, 743 with seven persons in each, and 323 with eight in each.

In Shoreditch there were 694 two-room tenements with

six persons in each, 380 with seven in each, and 155 with eight in each.

Stepney was the worst of all—with 1,126 two-room tenements with seven persons in each, 577 with eight persons in each, and 278 with nine persons in each; but this was the result of alien immigration.

In Lambeth there were 699 tenements of two rooms with six people in each, and 322 similar tenements with seven each, and 118 with eight each.

It must have come as a revelation to many of the Borough Councils to find such a condition of things existing in their municipality.

These are the most recent reliable figures. Not much change can have taken place since then, and they may be regarded as presenting fairly well the existing condition of the housing of the people of London.

The main fact emerging from them is that a population of 726,096 persons in London are living in 124,733 overcrowded tenements of less than five rooms.

The accumulated testimony of the most experienced and capable observers during half a century is clear and precise that overcrowding is disastrous to the physical welfare of the individual. The conditions of life are not much better in one- and two-roomed tenements, and the conclusion is thus forced upon us that, speaking broadly, a fifth of the population of London are at present living in circumstances where physical well-being is impossible, and where even a moderate standard of public health is unattainable.

For some time back, fears as to the physical deterioration of certain classes of the population have found public expression, and to such a point did these misgivings come that, in 1903, a Committee was appointed by the Lord President of the Council to inquire into the subject throughout the kingdom.

The idea of physical deterioration being at work found expression sometimes in the reports of the Medical Officers of Health even far back. Thus, in 1869, the Medical Officer of Health for Paddington wrote:—

"In Paddington overcrowding in its worst forms cannot be said to exist, but there is an over-concentration of building which will some day be considered a disgrace to our civilisation. It may safely be predicted that besides a high infantile death-rate a concomitant deterioration of race will result. . . . This high (infantile) death-rate is not the only check to population. Another and more painful form of evil manifests itself in the sickly and puny race around us. Young men and young women are unable from low vitality to cope with their contemporaries in the labour market, where prolonged muscular exertion is required. We find in this class the seeds of debility and disease."

In 1871 he gave a table with particulars of five hundred heads of families of the wage-earning class engaged in industrial occupations living in tenement-houses in certain streets near the Great Western Railway terminus. "Sixty-four per cent. were born in country places. This," he added, "confirms my statement in former reports that large numbers of men born in cities have poor constitutions and deficient vital stamina, who cannot cope with their competitors from the country, nor command the best labour markets of the world. In the struggles of town-life large numbers are prematurely crushed out at early periods of their existence."

And he added: "This deterioration of race has for some time been recognised by Medical Officers of Health."

Unfortunately the conditions of life conducive to deterioration did not cease to exist in 1871, as evidenced by the figures of the censuses of 1891 and 1901, of the population living in overcrowded tenements of less than five rooms.

The Committee reported in 1904, but while both the Report and the evidence are of great interest, it cannot be said that they advanced the question much.

The Committee stated that—

"There are no sufficient 'data' at present obtainable for a comparative estimate of the health and physique of the people."

That being undoubtedly so, the best light obtainable

on the subject must be sought for in a different way. Fortunately that way exists—and it is possibly the soundest of all—the method of inference from well-established facts.

The reports of the Medical Officers of Health for London during the last half-century enable this method to be applied to London.

In cases innumerable it has been demonstrated beyond dispute that the death-rate was highest in overcrowded houses or localities, that the sick-rate was proportionately higher, that disease assumed more virulent form in them, and left the victim in a more impaired condition.

"It is almost an axiom that the greater the crowding, the greater the sickness and the higher the death-rate."

That these conditions affect the health and stamina of persons of all ages, and more especially of the children who are to constitute the new generation, is a truism, and thus the health and stamina of a large proportion of the population is, of necessity, damaged and deteriorated, and a heritage of suffering and debility passes to a succeeding generation. Were these evils mere passing events like an epidemic of cholera which sweeps away its thousands of victims and is gone, the results would not be so disastrous.

But when to these clearly proved facts is added the awful fact that these evils have been unceasingly in active operation for considerably more than half a century, that the past is still exerting a powerful and pernicious effect upon the present, and that the seeds of evil then sown are still producing a deadly crop, it is a necessary and unavoidable conclusion that there has been a considerable deterioration of race.

Counteracting these deadly forces have been those which have been described in this book:—

Efficient sewerage and drainage, water supply improved in quantity and quality, sounder food, wider thoroughfares, cleaner streets, open spaces, new dwellings, prevention of the defilement of the atmosphere, prevention of the spread of infection—all these, together with better knowledge of health matters, the vast advance in medical science, the better provision for the treatment of the sick, greater

temperance, and the great work carried on by numerous philanthropic workers and organisations, have effected vast improvement—an improvement testified to in the fall in the death-rate of London from 23·38 per 1,000 in 1851 to 17·1 in 1901 since which year it has further decreased.

Painfully and laboriously, and in the face of persistent obstruction and hostility, has the present sanitary position been attained. "Vested rights in filth and dirt" have offered a prolonged and dogged fight against reforms which curtailed their privileges. Hundreds of thousands of lives have been needlessly cast away, an uncountable number blighted and made useless by diseases which were preventable, and which were not prevented, and an incalculable injury inflicted upon the community.

And the expense to the community has been enormous. Millions upon millions of money have had to be spent to make good—so far as could be made good—the ravages of past neglect and culpable management. Millions upon drainage, upon hospitals, upon houses for the working classes, upon open spaces—tens of millions upon water supply, and most unjustifiable and regrettable of all, millions to compensate slum owners for their iniquities.

And even yet we have not arrived at our goal. What, then, are still the causes of failure? What the impediments? Where the shortcomings?

The failure is in part due to a great omission by Parliament—in part to the non-administration of existing laws by local authorities—in part to a great defect in the system of local government.

Parliament had, most unfortunately, omitted from all its enactments affecting London any provision for the supervision of the great movement in part economic, in part social, which has been going on in London for well-nigh two-thirds of a century—namely, the change of houses inhabited by one family into tenement-houses, or houses inhabited by several families.

That movement with its appalling attendant evils was allowed to go on practically unregulated, uncontrolled, and unsupervised.

The great evil of this movement was, that a house which had been structurally and sanitarily designed for one family was sanitarily unsuited for its altered career as the abode of several families. Nothing was done to obviate this evil. And so these houses became packed with people and families who had to live in one or two rooms in them without the primary necessities of a healthy existence—without ventilation—without an adequate supply of water—without facilities for cooking food—with the scantiest and filthiest sanitary accommodation—had to live under conditions which put a high premium upon dirt and insanitation, and which absolutely invited disease and death.

Even the Sanitary Act of 1866, and its amending Act of 1874, did not deal with this crucial matter; and no legal obligation was created by Parliament to ensure that the houses undergoing such a change should be adapted to their altered circumstances.

The Sanitary Act of 1866 only in part dealt with the evils inherent in such houses. It imposed on the Sanitary Authority the duty of making regulations which prescribed a standard of the air space for each person, and thus made an effort to prevent overcrowding; it imposed upon the "owner" the duty of maintaining a certain standard of cleanliness—the rooms were to be painted or lime-whitened every year—it laid upon the tenants certain duties also as to maintaining cleanliness.

But even this imperfect legislation was completely brought to naught by the opposition of the Vestries and District Boards to such action as would have secured at any rate some degree of decent accommodation in the tenement-houses of London.

By the Public Health Act, 1891, the London County Council was empowered to make bye-laws enforcing a certain standard of sanitary accommodation in them, and did make them. But in other respects nothing was done; and so the process still goes on, large numbers of houses hitherto occupied by one family are passing into the occupation of several families devoid of the primary necessities of a healthy existence. The great movement has by no

means spent its force; for long to come houses will be going through this transition, and until legislation deals definitely with this matter the inevitable evils attendant on the change will continue.

The second main cause of failure lies at the door of the local authorities who would not and did not administer the existing laws.

The local governing authorities are now more active than they have ever been before; the amount of work done in every branch of sanitation is far greater than ever before; the number of Sanitary Inspectors has been increased from 188 in 1893 to 313 in 1904. But the regulations or bye-laws under the Act of 1891 which Parliament had imperatively directed them to make and to use as regarded the tenement-houses in London, are very far from being enforced to the extent they should be.

The total number of houses let in lodgings which were on the various registers in 1905 was 22,257.

With only a few exceptions the Borough Councils, like their predecessors the Vestries, make comparatively little use of this power, though there is a concurrent mass of testimony as to the beneficial results following its use. Stepney, under the inrush of aliens, found the benefit of exercising the power, and heads the list with 2,672 houses on the register. Kensington has 2,107; Westminster 1,641; St. Pancras 2,192; Hammersmith 2,266; and Finsbury 1,169. These amount to 12,047, or 10 per cent. of all the inhabited houses in those six boroughs. In the whole of the rest of London with 451,596 inhabited houses, only 10,207 of the houses let in lodgings are registered: so that only 2½ per cent. of the houses in them, as against 10 per cent. in the others, are registered.

It is manifest, therefore, how imperfectly the greater number of even the present local authorities perform the duty which has been imperatively imposed upon them by Parliament.

The Borough of Shoreditch, for instance, with 22,940 tenements of less than five rooms, of which 6,269 were overcrowded with 35,500 persons living in them, has only 283 of

the houses let in lodgings on the register. The Borough of Lambeth with 44,495 tenements of less than five rooms, of which 6,548 were overcrowded with 36,900 people living in them, had only 372 houses on the register. The Borough of Bermondsey with over 25,000 persons living in overcrowded tenements had only 221 houses on the register.

This, as has been explained (see p. 377), is not a matter in which the Central Authority, the London County Council, has any authority to interfere. The Borough Councils are their own masters in this matter, as were their predecessors the Vestries, and the responsibility as to administering or not administering in their areas the Act of Parliament rests entirely with them. The consequences of the non-administration of these bye-laws to the health and physical well-being of great masses of the people are disastrous.

Various legal decisions in recent years have somewhat impeded the effective administration of the bye-laws in this matter, but the real impediment is the dislike to them of the Borough Councils.

The condition of the vast tenement-house population in this great city is of such immeasurable consequence to the community at large that matters can only be allowed to continue in their present most unsatisfactory state at the most dire cost. The sooner it is thoroughly inquired into by Parliament and drastically dealt with the better; great evils will be stayed, great benefits will be secured.

The third principal cause of failure to attain a higher level of the public health in London than at present enjoyed has been the want of a real central Health Authority. The Metropolitan Board of Works was never such. The London County Council is only such in a very limited way. A real central Health Authority for London is an absolute necessity—that is the great moral to be drawn from the history of the last half-century so far as local government in health matters in London is concerned.

Disease recognises no boundaries, and in a great city like London it is essential that in so vital a matter as the public health full authority should, subject to Parliament, be vested in one supreme authority—a central authority which

shall secure uniformity of administration; a central authority which shall be able to compel a local authority in London to do that which if it neglects is a danger to the community; a central authority which, in the event of such neglect, shall be authorised itself to undertake that work; a central authority which shall be able to act at once for London as a whole in presence of any sudden or great emergency—that is absolutely essential for the sanitary safety of this great city and of the millions who live in it.

The want of such an authority has throughout the whole sanitary evolution of London been a disaster of the greatest magnitude, and is an ever-present peril to this great metropolis. The existence now of a central popularly elected representative body for the metropolis would render this reform quite a simple matter.

Further measures are also required to aid in the removal of the worst of London evils.

In 1903 a Royal Commission was appointed to inquire into the means of locomotion and transport in London. It reported in 1905, having done its work more thoroughly than even most Royal Commissions do their work.

A great portion of its report deals directly or indirectly with the sanitary condition of the people of London.

“The question of locomotion,” said the Commissioners, “affects the health, comfort, and efficiency for work of the whole community. . . .

“Witnesses who have special knowledge of the subject are of opinion that the remedy for overcrowding is to be found in the removal of the people to outside districts by providing additional facilities for locomotion, and in this opinion we agree. . . .

“We have come to the conclusion that in order to relieve overcrowding means must be provided for taking the population into and out of London, not in one or two directions but in many directions, at rapid speed, frequent intervals, and cheap rates.”

To this recommendation of the Commission it should be added that means must be devised for preventing in “outer London” a repetition of those circumstances and conditions

of life which, for more than half a century, entailed such sufferings and evils upon the people of London.

In reviewing the principal events, and studying the powerful underlying forces of the great movement of the sanitary evolution of London, the bitter experiences of the time gone by would indeed have been in vain if they did not point the way to an avoidance of past blunders and iniquities, and towards a better and happier future for the people. The lines upon which reform should move gradually become apparent as the events unroll themselves; and the measures now to be taken evolve and shape themselves from the successes and failures of the past.

The reforms just suggested are undoubtedly those which are most imperatively necessary. The whole experience of the past justifies the belief that they would soon work a great change for the better in the physical, mental, and moral conditions of life of large masses of the people of London. And from improved and healthier homes would come to the people increased comforts and happiness, and more physical energy and greater strength to fulfil the duties of their lives, and to meet whatever demands the future may make upon them and upon our nation.

The strength and even the existence of a nation depend upon the health of its masses. The stake at issue is a vital one to people and nation; and now more than ever is it necessary that the health and vigour of our race should be maintained at the highest possible attainable standard.