

Report from the Select Committee on the Health of Towns ; together with the minutes evidence taken before them, and an appendix, and index.

Contributors

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London School of Hygiene and Tropical Medicine

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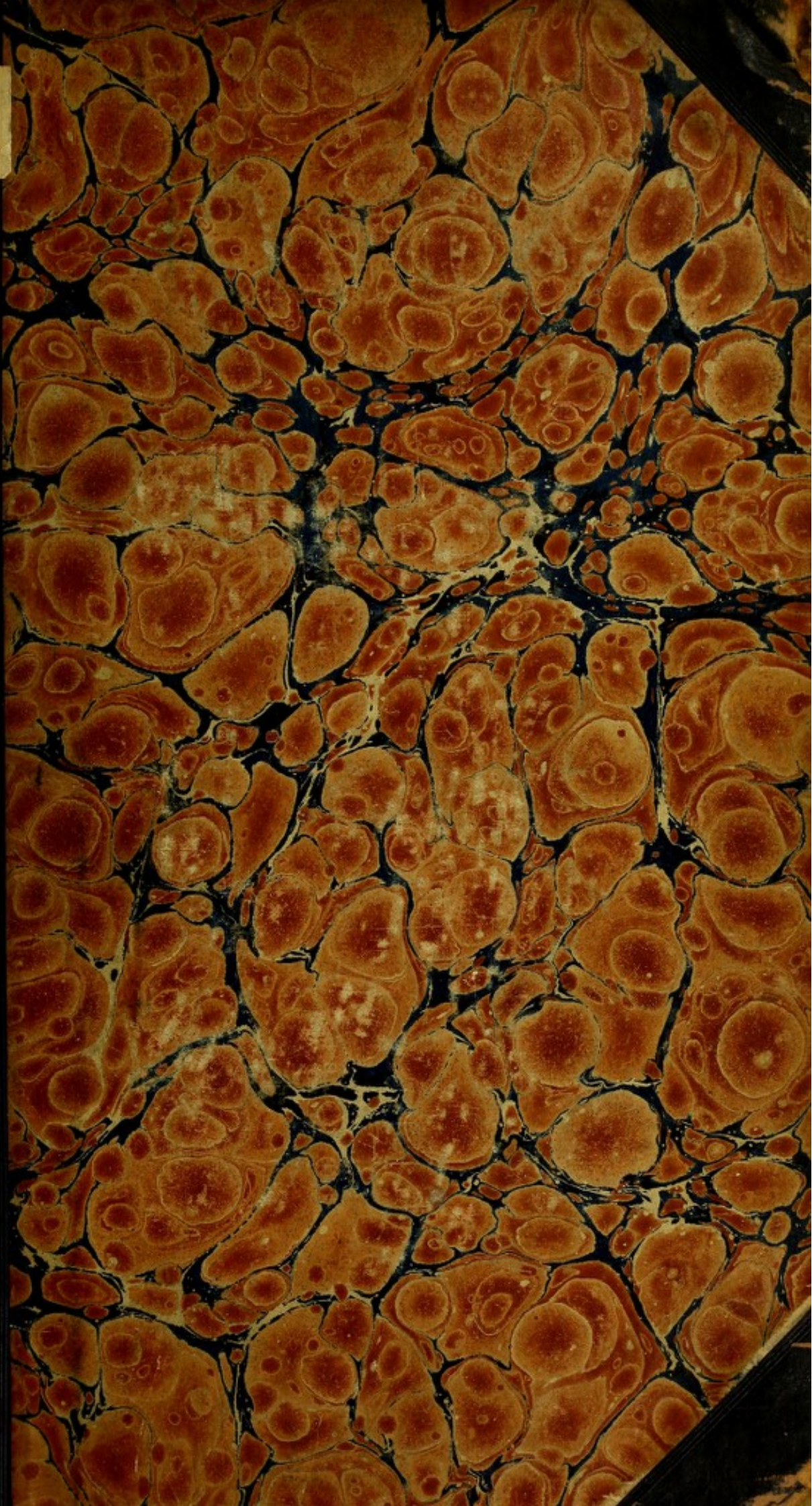
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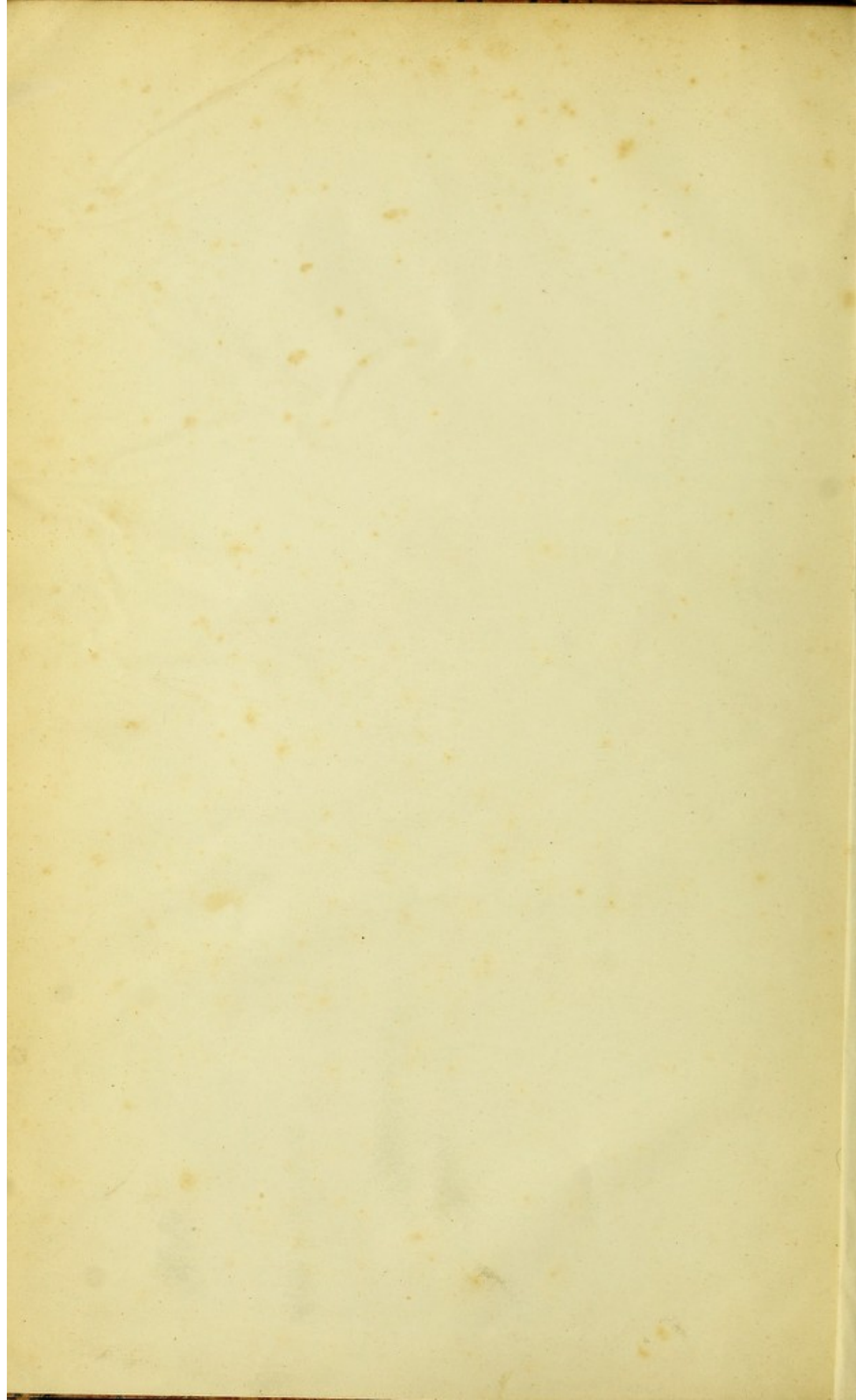
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R E P O R T

FROM THE

SELECT COMMITTEE

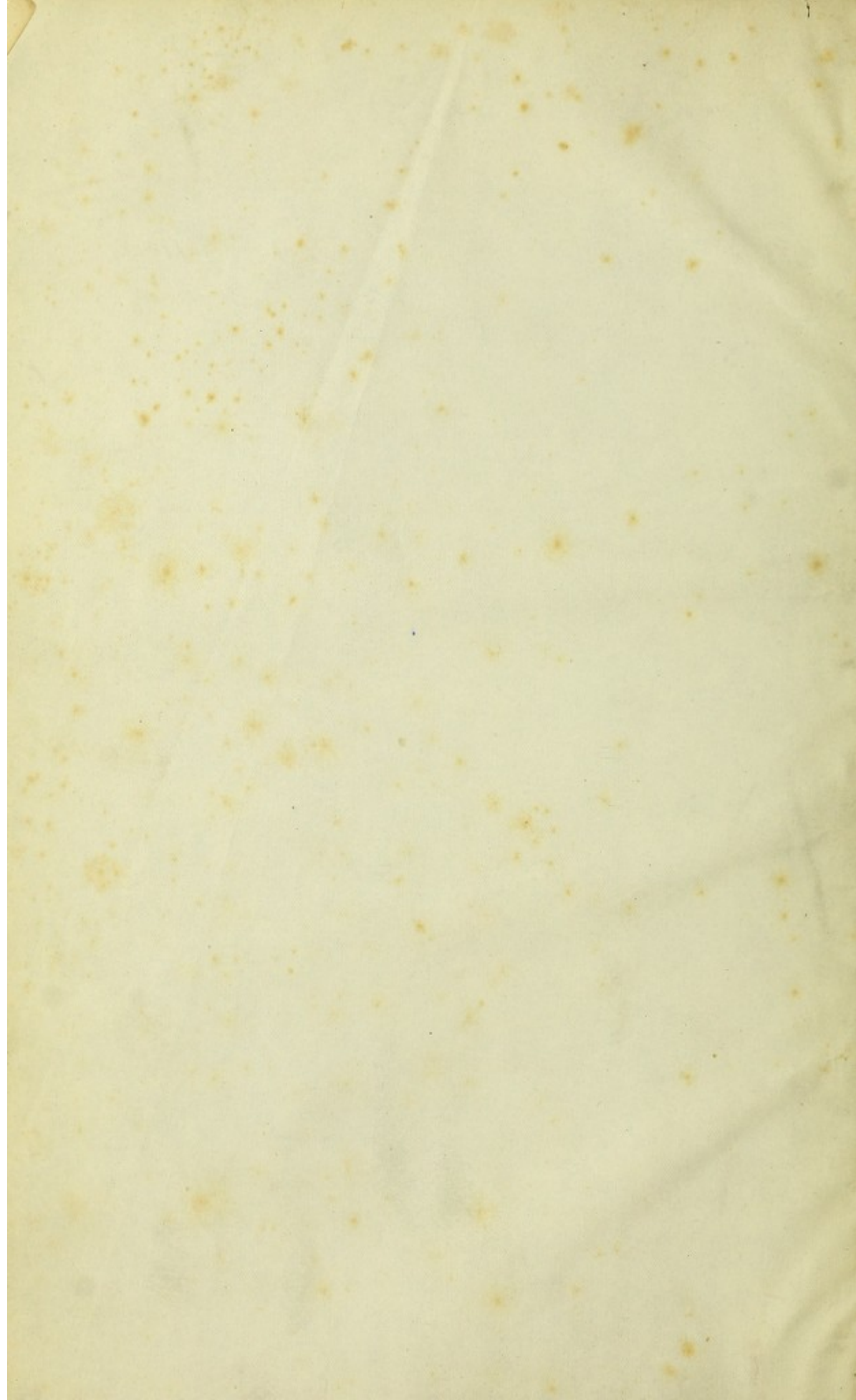
THE HEALTH OF TOWNS

MINUTES OF EVIDENCE

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Ordered by The House of Commons

17 June 1848



R E P O R T



FROM THE

SELECT COMMITTEE

ON

THE HEALTH OF TOWNS;

TOGETHER WITH THE

MINUTES OF EVIDENCE

TAKEN BEFORE THEM,

AND

AN APPENDIX, AND INDEX.

*Ordered, by The House of Commons, to be Printed,
17 June 1840.*

Jovis, 12^o die Martii, 1840.

Ordered, THAT a Select Committee be appointed to inquire into the Circumstances affecting the Health of the Inhabitants of Large Towns and Populous Districts, with a View to Improved Sanatory Regulations for their benefit.

Martis, 17^o die Martii, 1840.

And a Committee is nominated of—

Mr. Slaney.	Sir Harry Verney.
Lord James Stuart.	Mr. Baines.
Lord Viscount Sandon.	Mr. Oswald.
Mr. John Ponsonby.	Mr. Tufnell.
Mr. Cowper.	Mr. Brotherton.
Mr. Greene.	Mr. Ingham.
Mr. Richard Walker.	Mr. William Smith O'Brien.
Mr. Wilson Patten.	

Ordered, THAT the Committee have power to send for Persons, Papers, and Records.

Ordered, THAT Five be the Quorum of the Committee.

Ordered, THAT the Committee have power to report Observations.

Jovis, 2^o die Aprilis, 1840.

Ordered, THAT Mr. W. S. O'Brien and Lord Sandon be discharged from further attendance, and that Mr. Vigors and Mr. Mackinnon be added to the Committee.

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R E P O R T.

THE SELECT COMMITTEE appointed to Inquire into the Circumstances affecting the HEALTH of the INHABITANTS of LARGE TOWNS and POPULOUS DISTRICTS, with a View to Improved Sanatory Regulations for their Benefit, and who were empowered to Report their Observations, together with the MINUTES OF EVIDENCE taken before them, to The House;— HAVE considered the Matters to them referred, and have agreed to the following REPORT :

YOUR Committee have inquired carefully into the matters submitted to them, and find that sanatory regulations in many of the principal towns of the realm are most imperfect and neglected, and that hence result great evils, suffering, and expense, to large bodies of the community. They have proposed several remedies; viz. general Acts to facilitate regulations in building, sewerage, and local improvements, applicable to populous districts; also the establishment of boards of health and local inspectors, and have made other suggestions detailed in their Report.

Before entering into the result of their inquiries, Your Committee venture to lay before The House a few preliminary observations respecting the important subject which has been entrusted to their consideration.

By reference to the Population Returns it appears that, from the beginning of the present century, the whole population of Great Britain has increased at the rate of nearly 16 per cent. every 10 years; from 1801 to 1811, thence to 1821, and again to 1831; and there is every reason to believe about the same rate of increase will be found to have taken place next year, when the next decennial return will be made. Whilst, however, such has been the increase in the population of the kingdom at large, reference to the same returns shows, that the augmentation of numbers in the great towns of the realm has been much more rapid: thus, whilst the increase of population in England and Wales, in 30 years, from 1801 to 1831, has been something more than 47 per cent., the actual increase in the number of inhabitants of five of our most important provincial towns has very nearly doubled that rate; being

Manchester	-	-	-	-	-	-	109 per cent.
Glasgow	-	-	-	-	-	-	108 —
Birmingham	-	-	-	-	-	-	73 —
Leeds	-	-	-	-	-	-	99 —
Liverpool	-	-	-	-	-	-	100 — ⁽¹⁾

giving an average increase of almost 98 per cent. in five cities, whose united population in 1831 amounted to 844,700, and at the present time may be calculated at not less than 1,126,000. Far the larger portion of this vast body of persons are engaged constantly in occupations connected with manufactures or commerce.

In many other of our large towns the increase in numbers has been of a like nature, and though not so rapid in several of them, yet, from a document lately

⁽¹⁾ Population Returns.

lately laid before Parliament, and compiled by authority, it appears that on a comparison of a large rural district with various provincial and other towns (within or contiguous to it), the increase in population in the former, during 10 years (1821 to 1831), was 11 per cent., and in the latter 31 per cent., showing that the numbers in towns augmented almost three times as fast as in the country ⁽²⁾.

By reference to the Population Returns, we find that the proportion of the humbler classes occupied as manufacturers or workmen, and living in towns, is, as compared with the labourers in rural districts, completely changed.

It appears, by returns laid before The House, that the latter class was to the former, in 1790, about two to one; and now the town workmen and manufacturers, instead of being one-half, are nearly double the number of rural labourers ⁽³⁾.

It must be evident, that owing to this rapid increase in the population of great towns, the proportion of the humbler classes, of those with little leisure for education or improvement, will be augmented, as the more wealthy and educated gradually withdraw themselves from these close and crowded communities; which thus more and more stand in need of some superintending paternal care.

The difference in the proportion of numbers entirely occupied in labour is very different in different places. An account laid before Your Committee, and to which they believe due reliance may be given, states this proportion to vary from 64 per cent. in the borough of Manchester, to 74 in Salford, 81 in Ashton, and 94 in Duckinfield ⁽⁴⁾.

Your Committee venture to remark, that the great towns of the realm may be divided into classes differing from each other in various circumstances, yet all requiring, more or less, the enforcement of sanitary regulations calculated for the benefit of their inhabitants. As,

1. The Metropolis.
2. Manufacturing Towns.
3. Populous Seaport Towns.
4. Great Watering Places.
5. County and other considerable Inland Towns not being the seats of particular Manufactures.

Besides these different classes of towns, there are various places, especially in the mining districts, in which a vast population of the working classes are spread irregularly over the face of the country, in some spots closely packed together, and in others dispersed in groups of dwellings more or less distinct from each other.

Your Committee have only been able to inquire into the state of a portion of these towns; to have done more would have occupied them many months; but have thought they best fulfilled the trust committed to them, by confining their investigation to the condition of certain populous towns, or sometimes parts of towns, which might be considered samples of others similarly situated. They have especially directed their attention to localities in which the working and poorer classes chiefly reside, with a view, if evils are found to exist there within reach of legislative remedy, to make such suggestions of improvement as may appear practicable.

Before giving the result of their inquiries, and any abstract of the evidence adduced

⁽²⁾ Abstract First Report of Registrar-general of Births, Deaths, &c. 1840.

⁽³⁾ Abstract Population Returns, 1831.

⁽⁴⁾ Report on the State of Working Classes in a Manufacturing District, by Manchester Statistical Society, 1837.—*Vide* Riddall Wood's evidence.

adduced before them, they would say that considerable differences in the average state of the dwellings of the working classes, as might be expected, will be found to exist in different districts, arising sometimes from local causes, as the nature of the soil or situation, or the vicinity of a stream; and in others from the customs of the place, the nature of the occupations of the people, efficient or neglected municipal regulations.

Notwithstanding considerable allowance is to be made for these circumstances, Your Committee think it may be laid down as a general position, that persons of the same class, and engaged in the same sort of occupations in different populous towns, are subject, more or less, to the same evils (which are hereafter spoken to in evidence), that their health and comfort are affected by the same causes, and that the remedies suggested by Your Committee would be applicable to improve the condition of all or most of them.

Your Committee, therefore, believe that the account given of the state of certain districts inhabited by the working classes in Manchester⁽³⁾ would be applicable to other great towns, in which the people are chiefly employed in the cotton manufacture; that the same might be said of Leeds, with respect to those busied in the woollen fabrics, and such a general resemblance will be found in towns similarly situated, that the same suggestions which would be applicable to one might, with some variation, be beneficially extended to all.

By the Report lately laid before Parliament, it appears that the mortality and diseases of cities vary greatly, and of parts of the same city. Thus, the annual mortality of Whitechapel is shown to be nearly four per cent., whilst that of Hackney, Camberwell, and St. George's, Hanover-square, is less than half that amount, and it is found, from "a comparison of the several districts, that, *cæteris paribus*, the mortality increases as the density of the population increases, and where the density and the population are the same, that the rate of mortality depends upon the efficiency of the ventilation and of the means which are employed for the removal of impurities⁽⁴⁾."

Your Committee now proceed to give an abstract of the principal points in the evidence submitted to them. They have made inquiries into the state of the dwellings of the poorer classes in various parts of the metropolis, in Dublin, Glasgow, Liverpool, Manchester, Leeds, Bradford, Hull, Birmingham, Coventry, and several other large towns, and though there is a great difference in many of the cases examined, they would state, as a general result, that evils of a most extensive and afflicting nature are found to prevail, affecting the health and comfort of vast bodies of their fellow-subjects, and which might be removed or much lessened by due sanitary regulations.

Evidence has been laid before them, depicting the miserably neglected condition of the abodes of multitudes of the working classes in Bethnal Green, Whitechapel, portions of Wapping, Ratcliffe Highway, the parish of Stepney, and other districts in the east of London; an account of which has already been laid before Parliament in a "Report to the Poor Law Commissioners on the prevalence of certain physical causes of fever in the metropolis, which might be removed by certain sanitary regulations;" and which is printed in the Fourth Annual Report of the Poor Law Commissioners⁽⁵⁾.

The same remarks apply, though with somewhat diminished force, to various other districts of London inhabited by the poorer classes, especially parts of the Holborn Union, of St. Olaves, and St. George's Union, Southwark, and

(3) Mr. Riddall Wood's evidence.

(4) First Report Registrar-general on Births, Deaths, &c.; also Journal London Statistical Society, July 1839.

(5) *Vide* Dr. Arnott's evidence.

and to portions of Lambeth, Bermondsey (⁽¹⁾), Walworth, Peckham, Vauxhall, and several other places.

The prevalence of fever and other disorders in these districts is attributed in great measure to the neglected state of the different localities, and is detailed in Dr. Arnott's evidence, p. 33, applicable more especially to the crowded eastern parts of London; viz.

1. Houses and courts and alleys without privies, without covered drains, and with only open surface gutters, so ill made that the fluid in many places was stagnant.

2. Large open ditches containing stagnant liquid filth.

3. Houses dirty beyond description, as if never washed or swept, and extremely crowded with inhabitants. "Heaps of refuse and rubbish, vegetable and animal remains, at the bottoms of close courts, and in corners."

In answer to the question, "Do you feel any doubt that the cases of fever and ill health you noticed arose from some of those causes?" the answer of Dr. Arnott is, "I have not the slightest doubt of it." Reference was then made by the Committee to the Report to the Poor Law Commissioners before alluded to, and the question is asked, "You state remedially at the top of page 14?" "We have no doubt that by proper sanitary police regulations, such as a board of health might decide upon, the typhoid fevers of London and other places might be made to disappear; and we think the remedial measures would cost less than it now costs to parishes and public charities to take care of the sick, and to provide for the helpless orphans and widows of those who die." "Is that your confirmed opinion?" *Answer*: "Yes, it is." This is stated to be applicable not merely to the crowded district east of London, but to any crowded districts of large towns in the realm.

Evidence of undoubted credit, and of the most melancholy description, has been laid before Your Committee, showing the neglected and imperfect state of the sewerage, paving, and cleansing in many parts of London inhabited chiefly by the working classes (⁽²⁾); and similar evidence applies with more or less force to many other great towns, the state of which has been investigated, as Dublin, Glasgow, Liverpool, Manchester, Leeds, Bradford, &c.

Your Committee do not wish to go here into details as to the miserable and neglected state of the dwellings of the poorer classes in various districts of the metropolis and other large towns, but refer to the evidence for that purpose, in which statements of the most melancholy and appalling nature will be found. It will there be seen, that the sewerage, draining, and cleansing is (in many places inhabited by dense masses of the working classes) greatly neglected; that the most necessary precautions to preserve their health in many cases appears to have been forgotten; that in consequence fevers and other disorders of a contagious and fatal nature are shown to prevail to a very alarming extent, causing wide-spread misery among the families of the sufferers, often entailing weakness and prostration of strength among the survivors; and becoming the source of great expense to the parishes and more opulent classes.

On these points Your Committee would refer to the evidence of Dr. Arnott, Dr. Southwood Smith, Mr. F. Moseley, and Messrs. J. Miller, Wagstaffe, Evans, J. Clarke, J. Wood Wilkes, E. White, Walker, &c. Many details will be found in the testimony of these gentlemen well worthy the attention of the Legislature, and exemplifying the severe and extensive evils borne by the humbler classes from neglect of proper sanitary regulations and precautions.

Your

(⁽¹⁾) Mr. Wagstaffe's evidence; Mr. Moseley's ditto.

(⁽²⁾) *Vide* evidence of Messrs. Stodhart and Peeke.

Your Committee would also refer to the valuable Report of Dr. Arnott and Dr. Kay on the sanitary state of the labouring classes before alluded to, the substance of which has been verified before them on examination^(*). They cannot refrain from quoting a few lines from a paper laid before them by Dr. Southwood Smith, whose valuable evidence on the state of several districts of the east of London will be found well worth perusal. It is headed, "Abstract of a Report on the prevalence of Fever in Twenty Metropolitan Unions, during the year 1838," and is printed in the Appendix.

Dr. Smith (who has personally inspected the districts alluded to), shows by Returns stated, that in 20 metropolitan unions, giving nearly 14,000 cases of fever, above 9,000 were "afforded by seven of the unions only, namely, Whitechapel, Lambeth, Stepney, St. George-the-Martyr, Bethnal Green, Holborn, and St. George-in-the-East." These are at once the most populous and the poorest districts; and it is here that fever is "constantly committing its ravages. *It is utterly impossible for any description to convey to the mind an adequate conception of the filthy and poisonous condition in which large portions of all these districts constantly remain.*"

The Returns show that out of 5,692 cases of typhus in all the 20 unions, 4,002 were yielded by the seven unions specified as pre-eminently malarian districts.

Dr. Smith continues: "It appears that out of 77,000 persons who have received parochial relief, 14,000 have been attacked with fever; one-fifth part of the whole; and that 1,300 have died. It should be borne in mind that there is no disease which brings so much affliction on a poor man's family as fever; it commonly attacks the heads of the family, upon whose daily labour the subsistence of the family depends." The present Returns afford melancholy evidence of the pauperising influence of this wide-spreading and mortal disease. *They show that while one-fifth of the whole pauper population in the year in question was attacked with fever, in Bethnal Green the proportion was one-third, in Whitechapel it was nearly one-half, and in St. George-the-Martyr it was 1,276 out of 1,467.*

"Placing out of consideration (continues our benevolent informant) the suffering of the individual attacked with fever, which however is one of the most painful maladies to which the human being is subject; placing out of view also the distress brought upon all the members of the family of the sick, it is plain that this disease is one of the main causes of pressure upon the poor-rates. That pressure must continue, and the same large sums of money must be expended year after year for the support of families afflicted with fever, as long as those dreadful sources of fever which encompass the habitations of the poor are allowed to remain. They would not, they could not be allowed to remain, if their nature were really understood, and if the ease with which the most urgent of them might be removed were known.

"But there do not appear to be any practicable means of removing them without legislative interference; and if the care of the public health be a part of the duty of the Legislature; if in the metropolis unions, which alone include a population of 851,000 souls, it be certain that conditions exist which are absolutely incompatible with the public health, and which conditions are to a very considerable extent removable; and if it shall be found that similar conditions exist in all the large towns in Great Britain, here would seem to be a proper and legitimate field for the exercise of legislative wisdom and power."

The prevalence of fevers and other diseases arising from neglect of due sanitary regulations, is by no means confined to the populous districts of the metropolis above described; but the same causes appear to produce the same effects,

(*) Reports on the Sanitary State of the Labouring Classes, &c. 1839.

effects, in a greater or less degree, in all our great towns⁽¹⁾. In some of them these evils, and the misery consequent upon them, is much increased by peculiar faults in the form and construction of the humble dwellings of the poorer classes. This seems owing to the want of all proper regulations in any general Building Act, applicable to the poorer class of houses in these crowded districts, for preserving due space and ventilation.

Thus in Liverpool there are upwards of 7,800 inhabited cellars, occupied by upwards of 39,000 persons, being one-fifth of all the working classes in that great town; and an account of undoubted veracity states, "that the great proportion of these inhabited cellars were dark, damp, confined, ill-ventilated, and dirty."

In Manchester also, nearly 15,000 persons, being almost 12 per cent. of the working population, live in cellars; and in the adjacent town of Salford, 3,300⁽²⁾. Such an habitation must almost necessarily be unhealthy, as it implies the impracticability of proper drainage and ventilation.

Another form of construction of houses for the working classes, which Your Committee considers highly injurious to the health of the inmates, prevails extensively in many large towns⁽³⁾, and especially in Liverpool; viz. the position of rows of small houses in close courts, built up at the sides and end, and having only one entrance, frequently under a narrow archway.

The evils arising from this cause are much increased when it is found, as in Liverpool, that it is combined with another error in the construction of rows of these houses, viz. that they are placed back to back, so as to exclude the possibility of thorough ventilation.

It has been stated to Your Committee, that there are in Liverpool about 2,400 courts, chiefly of this construction, containing an estimated population of about 86,000 of the working classes, in addition to 38,000 living in cellars⁽⁴⁾. Independent of this faulty construction, so injurious to the health of the inhabitants, the state of most of these courts is described as almost utterly neglected, with no underground sewers, and no attention to cleansing, with no inspection of any kind, and the surface gutters frequently almost choked with filth.

These courts are thus described by Dr. Duncan, an intelligent physician resident at Liverpool:—"Very few have an entrance wider than four feet, and that is by an archway built over it; the width is from 9 to 15 feet between the rows; there is one only six feet. The backs of the houses in one court are built against the backs of houses in another court; at the further end there is generally an ash pit between two privies; they are in the most abominable state of filth⁽⁵⁾."

It is scarcely possible to conceive any construction more prejudicial to the health of the inhabitants.

"The stench arising from these causes is such, in some of the courts, as to render it almost impossible to remain for any time in them."

The great mortality of Liverpool is noticed⁽⁶⁾, and a question is asked, "Do you know whether fevers have prevailed in Liverpool?" to which the answer is, "Yes, fever is the great complaint of these people."

Does

(1) As to Glasgow, Mr. Symons's evidence; Liverpool, Dr. Duncan's; Leeds, Dr. Williamson's; Manchester, Mr. Robertson's letter, &c. &c.; Mr. Fletcher's evidence.

(2) Report of Statistical Society of Manchester, 1838; Mr. Cobden's evidence; Mr. Riddall Wood's; Dr. Duncan's.

(3) *Vide* Mr. Pennethorne's evidence as to parts of London; Riddall Wood's, as to courts in Hull, &c.

(4) Dr. Duncan's evidence; Mr. Riddall Wood; Report Statistical Society of Manchester.

(5) Evidence, p. 142. *Vide* Plate, showing the form of these close courts.

(6) In 1839, one in 33 $\frac{1}{2}$; Dr. Duncan, 2428.

"Does that arise in any measure from the want of ventilation and cleanliness in these dwellings?—A. There can be no doubt of that; I found fever most prevalent in those districts where there is most neglect of cleanliness and ventilation."

2408.

"Can you give any facts with respect to any particular localities where fever has been for a length of time, or where it frequently prevails?—A. I can state the average number of cases of fever attended annually by the dispensaries, and the proportion of those occurring in courts; the average number during the last five years was upwards of 5,000, exclusive of the cases occurring among the members of clubs and friendly societies, of which there are many in Liverpool; that is about one in 35 in all classes of the population; that in the courts is about two-fifths, and between one-half and one-quarter in the cellars (†)."

2410.

Again, it is said, "The proportion of cases of fever occurring among the inhabitants of cellars is about 35 per cent. more than it ought to be, calculating the proportion of the inhabitants of the cellars to the whole population; the mortality of Liverpool was last year one in 33½."

It appears that this kind of property is constantly increasing; is a very profitable and tempting investment; is the cause of great cost to the community, but contributes but little to the parochial burthens (*), as it is stated there are 16,800 cottages in the parish of Liverpool assessed under 12*l.* per annum, and of that number only 900 contribute to the rates, and their contribution is 700*l.* on a levy of 10,000*l.*

Your Committee would pause, from the sad statements they have been obliged to make, to observe, that it is painful to contemplate, in the midst of what appears an opulent, spirited, and flourishing community, such a vast multitude of our poorer fellow subjects, the instruments by whose hands these riches were created, condemned, for no fault of their own, to the evils so justly complained of, and placed in situations where it is almost impracticable for them to preserve health or decency of deportment, or to keep themselves and their children from moral and physical contamination; to require them to be clean, sober, cheerful, contented, under such circumstances would be a vain and unreasonable expectation (†). There is no building Act to enforce the dwellings of these workmen being properly constructed; no draining Act to enforce their being efficiently drained; no general or local regulation to enforce the commonest provisions for cleanliness and comfort.

It appears to Your Committee, that where such evils are found to follow from the neglect or inability in these respects of local authorities, that it is the duty of the Legislature to take efficient steps to protect so numerous and valuable a portion of the community.

These evils, arising from the malconstruction and crowded state of their dwellings; the absence of a good system of sewerage, and all adequate inspection and cleansing of the courts and alleys in which they reside, are found to exist in like manner in many parts of the metropolis, in Manchester, Leeds, Bradford, Glasgow, and other large towns.

Thus,

(†) Dr. Duncan, p. 143.

(*) Page 145.

(†) With these facts before us, it is not surprising that the number of reckless and worthless characters should be considerable in Liverpool, viz. 1 in 45 of the whole population. The cost of those living on the public, and by other than honest means, is calculated annually at no less than 700,000*l.*—*Vide* Report of Commissioners on Constabulary Force, 1838, p. 18.

MANCHESTER.

Thus, in Manchester, the capital as it may be called of the cotton trade ⁽¹⁾, with a population of not less than 240,000 nearly 15,000 ⁽²⁾ of the poorer inhabitants, constantly inhabit cellars. Though the habitations of the working classes are described as better than those of Liverpool, the want of proper building regulations, and any effectual sewerage and cleansing, as applicable to the localities inhabited by the workmen, is most justly complained of ⁽³⁾.

Your Committee would here beg to quote a few lines from an able letter, which will be found in the Appendix, written by J. Robertson, esq. an eminent surgeon, residing at Manchester, to the Chairman. After adverting to the former disgraceful state of the streets and drains, he bears testimony to the zeal of the authorities in carrying on salutary improvements in these respects, "especially when it is known that no street can be paved and sewered without the consent of the owners of property, unless a certain large proportion of the land on either side is built upon. Owing to this cause, several important streets remain to this hour disgraceful nuisances.

"Manchester," continues the writer, "has no Building Act, and hence, with the exception of certain central streets, over which the Police Act gives the Commissioners power, each proprietor builds as he pleases. New cottages, with or without cellars, huddled together, row behind row, may be seen springing up in many parts. With such proceedings as these the authorities cannot interfere. A cottage row may be badly drained, the streets may be full of pits, brimful of stagnant water, the receptacles of dead dogs and cats, yet no one may find fault.

"The number of cellar-residences you have probably learned, from the papers published by the Manchester Statistical Society, is very great in all quarters of the town ⁽⁴⁾; and even in Hulme, a large portion of which consists of cottages recently erected, the same practice is continued. That it is an evil must be obvious, on the slightest consideration; for how can a hole underground, of from 12 to 15 feet square, admit of ventilation, so as to fit it for a human habitation?" "We have no authorized inspector of dwellings and streets."

After remarking that, when well fed, the families of working people maintain their health in a surprising manner, even in cellars and other close dwellings, he states, "That in 1833, 1834, 1835, 1836 (years of prosperity), the number of fever cases admitted into the Manchester House of Recovery, amounted to only 421 per annum; whilst, in two pinching years, 1838 and 1839, the number admitted was 1,207 per annum."

"It is," adds this benevolent gentleman, "in such a depressed state of the manufacturing districts as at present exists, that unpaved and badly sewered streets, narrow alleys, close, unventilated courts and cellars, exhibit their malign influence in augmenting the sufferings which that greatest of all physical evils, want of sufficient food, inflicts on young and old in large towns, *but especially on the young.*"

"Manchester," he adds, "has no public park, or other ground where the population can walk and breathe the fresh air, and, in this respect, is disgracefully defective, more so, perhaps, than any town in the empire ⁽⁵⁾."

Your

⁽¹⁾ The amount of property rateable to the relief of the poor in the borough of Manchester is 821,939 *l.*—*Vide* Return to Parliament as to Police, &c., May 1840, No. 311.

⁽²⁾ 14,960, being 11 $\frac{3}{4}$ per cent. of the working population; and in the adjoining town of Salford, 3,335, being 8 per cent., p. 107-8, R. Cobden's evidence.

⁽³⁾ *Vide* Report on the State of the Working Classes in a large Manufacturing District, the substantial accuracy of which account was verified before Your Committee, p. 107, and which comprises an account of towns inhabited by above 322,000 persons, including Manchester, Salford, Bury, Ashton, Staleybridge, and Dukinfield. *Vide* also Mr. Fletcher's evidence, 1264, &c.

⁽⁴⁾ 14,960. *Vide* ante.

⁽⁵⁾ Mr. Robertson's letter, in the Appendix.

Your Committee have dwelt longer on the state of Manchester and Liverpool than they should otherwise have done, because these great towns are so much supported by, and connected with, the cotton manufacture, which employs a greater amount of capital and workmen than any other in this empire, or, perhaps, in any quarter of the globe, and which is rapidly increasing in importance, and the number of persons occupied in it is constantly augmenting.

It seems alike a matter of duty and policy in the Legislature to take care that the industrious classes, by whose hands the great riches derived from this trade are chiefly formed, should be protected from evils (such as have been described), by the Government and the more opulent ranks, who owe so much to their unwearied exertions.

If from the great towns connected with the cotton trade Your Committee turn their attention to those where the population is chiefly employed in the woollen manufactures (the second in point of extent), they regret to have to report, that the evidence adduced before them shows nearly the same neglect as to any effective regulations to provide for the comfort, or insure the health of the labouring community.

Thus, in Leeds, with a population of above 80,000 persons^(*), the state of the streets, courts, and dwellings inhabited by the working classes appears greatly neglected; paving, sewerage, and cleansing (as applicable to the health and comfort of these workmen) seem seldom thought of, and never enforced.

The Report of the Statistical Committee of the Town Council of Leeds, giving a detailed account of the state of the town, has been fully confirmed by Dr. Williamson, a physician long resident in Leeds, and well acquainted with the facts; the details are given in evidence, p. 96, &c. A few extracts will give a sample of the rest.

Referring to the condition of one ward (a populous district) the question is put: "All the streets and dwellings in this ward are stated to be more or less deficient in sewerage, unpaved, full of holes, with deep channels formed by the rain intersecting the roads, and annoying the passengers, sometimes rendered untenable by the overflowing of sewers and other more offensive drains, with ash-holes, &c. exposed to public view, and never emptied; or being wholly wanting, as is frequently the case, the refuse is accumulated in cellars, piled against the walls, or thrown into the streets; is that an accurate description?—A. It is an accurate description of the condition of the streets."

Referring to one neglected and filthy locality, the witness says, "From that yard I have reason to know cases of malignant fever are continually sent to our Fever Hospital." The district called the North East Ward (in which out of 16,269 inhabitants, 15,399 are of the working classes) is thus described: As containing numerous streets, "having dangerous excavations, bad drainage, little or no sewerage, here and there pieces of stagnant water, ash-holes exposed, out offices, without doors or seats, very unsafe," &c.

Similar or worse accounts are given of various other districts, detailing the evils arising from houses built in close courts, often back to back, frequently with no thorough draught of air, without any conveniences for cleanliness or decency, with no effective drainage, inspection, or system of paving or cleansing.

The general conclusion of the Town Council is: "That the greater part of the town is in a most filthy condition, which demands an immediate remedy, a remedy which does not seem attainable under any local Act now existing, but

LEEDS.

1677.

p. 97.
1683.

1708.

(*) 123,390 in the town and liberties of Leeds in 1831, and the increase has been very great since that time

but calls for an especial enactment, which is doubtless required (they say) not only by Leeds, but more or less by every town in the empire."

1716.

After referring to the evils constantly arising from the bad construction and position of their dwellings, the witness is asked: "Would it not then be of the first consequence to the welfare of the working classes, that there should be some general regulation laid down, either in a general Building Act or some Act generally applicable, not for interfering with the ordinary construction of houses, but for preventing their being built in such a form and manner as experience has shown is highly detrimental to the health of the poorer inhabitants?"—To which Dr. Williamson replies: "The working classes are now exposed to the cupidity and defective arrangements of their landlords, and they appear to me to require the protection of some such general enactment to remedy the evils." The necessity and practicability of such a remedy is spoken to by several other witnesses and experienced builders⁽⁶⁾.

1749.

The witness having stated that Leeds had doubled its population within 30 years, is asked, "During that time it appears from the report which you have confirmed, that no due provision and regulation has been made with respect to drainage, sewerage, and cleansing, ventilation and building, and for the supply of water for this vast community?"—A. Certainly not." And the witness then expresses his opinion of the necessity of legislative assistance.

Your Committee have inquired into the state of several other densely-peopled towns, and refer to the evidence given respecting them, not thinking it necessary to enter into detail more than by stating, that they all appear to stand in need, more or less, of measures calculated to enforce sanitary regulations for the benefit of the humbler classes⁽⁷⁾.

BIRMINGHAM.

Your Committee are, however, happy to remark, that the great town of Birmingham, inhabited by so many industrious mechanics, so long celebrated for their skill and ingenuity, appears to form rather a favourable contrast, in several particulars, with the state of other large towns.

The nature of the employment generally appears not injurious to health; the general custom of each family living in a separate dwelling is conducive to comfort and cleanliness, and the good site of the town, and the dry and absorbent nature of the soil, are very great natural advantages. Still there are many regulations of great consequence to the health and comfort of the inhabitants which appear neglected⁽⁸⁾, to some of which Your Committee will advert in the remedies they recommend. Some sanitary regulations respecting the common lodging-houses appear absolutely necessary for the safety of the community⁽⁹⁾.

In addition to their inquiry into the state of many of the large towns of England, Your Committee also directed their attention to the condition of Dublin and Glasgow. With respect to the former, although many improvements may be made, and additional sanitary regulations are absolutely necessary, they do not think it necessary to do more than direct attention to the able evidence of Dr. Maunsell respecting it, containing many valuable suggestions.

GLASGOW.

1890.

With regard to Glasgow, however, they are sorry to observe that the details are of the most melancholy and afflicting nature. An intelligent witness, who has had every means of knowledge, states, "that penury, dirt, misery, drunkenness,

⁽⁶⁾ *Vide* evidence of Mr. J. White, Mr. Allason, Mr. Green, Mr. Cubitt, &c.

⁽⁷⁾ *Vide* evidence as to Bolton, population 50,000, Mr. Ashworth; Ashton, Staleybridge, and Dukinfield, population 60,000, Mr. Riddall Wood, Mr. Ashton; Bradford, population 90,000, Mr. Ellison, Dr. Williamson.

⁽⁸⁾ There are many houses built back to back in the Bordesley district.—*Vide* Riddall Wood's evidence, 2270, &c.

⁽⁹⁾ Evidence of Mr. Hodson, Riddall Wood, as to Hull, &c., p. 140.

eness, disease, and crime culminate in Glasgow to a pitch unparalleled in Great Britain." And in another place, "I did not believe, until I visited the wynds of Glasgow, that so large an amount of filth, crime, misery, and disease existed in one spot in any civilized country."

The witness was accompanied by the magistrates and heads of the police, and describes the want of ventilation, sewerage, cleansing, and attention to the health of the poorer inhabitants in the lower parts of the town as most grievous in its effects. The result is summed up in the following terms:—
 "Such being the state of things ⁽¹⁾ in large districts of Glasgow, it is not surprising that *the number of persons who died last year was 10,270, being at the rate of one in 24 $\frac{1}{10}$ to the whole population*, or that out of that number 2,180 died of typhus fever, which never leaves Glasgow." These melancholy details, which can scarcely be read without shuddering, are amply confirmed by Dr. Cowan, a physician resident in the town, whose work, called "Vital Statistics," has been laid before Your Committee, and its general accuracy proved. It is there stated, and confirmed in evidence, that the rate of mortality in Glasgow has increased most rapidly, and is thus given in round numbers: 1821, 1 in 39; 1831, 1 in 30; 1835, 1 in 29; 1838, 1 in 26; thus showing the frightful increase from 1 in 39 to 1 in 26 in 17 years ⁽²⁾.

1089.

And, again, it is shown that the mortality in children under 10 years of age has risen from 1 in 75 in 1821 to 1 in 48 in 1839. "Fever, it is stated, has been gradually increasing in the city of Glasgow, and its victims constitute within a fraction of 55 out of every 100 patients treated in our hospitals." "This increase has been during a period of great prosperity." The report quoted goes on to say, "We may safely assume that the 12,895 individuals treated in the fever hospitals during the last seven years, all, with few exceptions, depending on their daily labour, and extending the benefit of that labour to others, were out of employment for a period of six weeks."

1115.

1137.

Dr. Cowan adds, "The mortality bill of 1837 exhibits a rate of mortality inferring an intensity of misery and suffering unequalled in Britain, and not surpassed in any town we are acquainted with on the Continent of Europe." Remedial measures are suggested in the following words: "A few thousand pounds judiciously expended in opening up the districts most densely populated, and in other obvious ways, would greatly tend to alleviate the pressure of our heaviest municipal tax, the fever tax."

1153.

Your Committee would now turn from the melancholy details, a portion of which they have thought it right to insert in their Report, and would state generally, that although the main evils complained of, and proved before them, appear to arise from the want of any regulations as to buildings and ventilation, and the deficiency in sewerage, cleansing, and other sanitary provisions, yet there appears to be some important improvement necessary referable to especial sources of illness in certain districts, as particularly, 1st, The existence of burial places in the midst of populous neighbourhoods ⁽³⁾.

1140.

2d, Local nuisances from some noxious business, affecting the health of the vicinity ⁽⁴⁾.

3d, The neglected and dangerous state of low lodging-houses, frequented by a wretched and migratory population, who often carry fever and other disorders into distant districts ⁽⁵⁾.

Independent

⁽¹⁾ It appeared two-thirds of the children between 3 and 12 received no instruction whatever, 1101.

⁽²⁾ J. C. Symons, p. 63, Q. 1114.

⁽³⁾ Vide Mr. Walker's evidence, also Dr. Arnott's.

⁽⁴⁾ Vide Mr. Moseley's testimony.

⁽⁵⁾ Vide statement of Mr. Riddall Wood, Hodson, Dr. Williamson, &c.

Independent of the physical evils to the working classes arising from the causes before adverted to, Your Committee are desirous to express the strong opinion they entertain, confirmed by the testimony of many of the witnesses examined, that the dirt, damp, and discomfort so frequently found in and about the habitations of the poorer people in these great towns, has a most pernicious and powerful effect on their moral feelings, induces habits of recklessness and disregard of cleanliness, and all proper pride in personal appearance, and thereby takes away a strong and useful stimulus to industry and exertion⁽⁶⁾.

The wife, hopeless of being able to make his home comfortable to her husband, abandons all endeavours for the purpose, neglect leads to neglect, recrimination follows reproof, and their children are brought up amidst dirt and wretchedness, with the example of constant domestic disputes before them. Nor can it be doubtful to those who trace the effects of such causes, that the humbler classes are often induced or driven by the want of comfort at home, and by the gloomy prospect around them, to have recourse to dram-drinking, the fertile parent of innumerable ills⁽⁷⁾.

Your Committee have thus laid before The House an imperfect abstract of the facts proved before them in evidence, showing the neglect of due sanitary regulations applicable to improve the health and increase the comfort of great bodies of the poorer classes.

They have traced a few of the more prominent evils which appear to spring from this neglect, and have endeavoured to show the ill effects produced by these causes in degrading the character of their humbler fellow-subjects, in producing crime, disease, and discontent, and in counteracting in great measure (as regards the younger portion of the population) those moral and religious impressions which they might otherwise receive from education where it is afforded to them⁽⁸⁾.

The cost to the country, arising from these combined causes, it might be difficult to estimate with exactness, but there can be no doubt that it is enormous. Thus it is estimated that every person in the Fever Hospital (12,895 in seven years) in Glasgow loses six weeks employment, which, calculated at 7s. 6d. per week, would amount to 29,004*l.* lost to the community, besides the cost of attendance and support; this has been calculated, *where the patient recovers*, at 1*l.* per case⁽⁹⁾, and adds here 12,895*l.* to the account of loss; chiefly owing to the want of proper sanitary regulations.

In proportion as the working classes in these great cities (rapidly increasing every year) and their children are injuriously affected in their physical condition and their moral characters by the causes alluded to, just in that proportion will their value to the community be diminished, and their cost to the kingdom increased. The property which the country has in their useful labours will be so far lessened, and the unproductive outlay necessary to maintain and restrain them so far augmented.

This consideration will not be thought beyond the province of Your Committee when it is remembered that in the remedies they propose some outlay of expense must necessarily occur; yet on reflection it is hoped that they will be justified in the conclusion they have come to, that ultimately a great saving to the community will thereby take place; and even were that not the case, that some such measures are urgently called for, as claims of humanity and justice

⁽⁶⁾ On this point see the evidence of Drs. Duncan, Williamson, Arnott, S. Smith, Maunsell, Fletcher, &c.

⁽⁷⁾ The increase of consumption of spirits in Great Britain and Ireland has been from 9,200,000 gallons in 1817, to 29,200,000 in 1837; and the number of criminal commitments in England and Wales from 4,600 in 1805, to 22,000 in 1838.—*Vide* Returns to Parliament.

⁽⁸⁾ *Vide* evidence of medical men examined; also Messrs. Pennethorne, 2885, and Fletcher

⁽⁹⁾ Report on Sanatory State of Labouring Classes about the Metropolis, p. 6.

justice to great multitudes of our fellow men, and as necessary not less for the welfare of the poor than the safety of property and the security of the rich ⁽¹⁾.

REMEDIES.

The remedies which Your Committee would propose in order to carry out the spirit of "Sanatory Regulations for the benefit of the Inhabitants of the Great Towns of the Realm," are several; some of a prospective, and others of a retrospective operation.

The first measure they recommend is, a general Building Act, applicable to towns now, or at any future time, comprizing a certain amount of population; laying down regulations respecting the construction of certain rates of houses (well understood among builders) which are fitted for the dwellings of the working classes.

The regulations would be framed so as to interfere no farther with every one's right to manage his own property than was necessary to protect the health of the community; nor would they extend beyond what the necessity of that urgent duty of Government justified. Such regulations would fall strictly under that rule of public law universally acknowledged, which lays down as a maxim, "*Sic utere tuo ut non alienum lædas.*"

These regulations would forbid and prevent such forms of construction specified, as experience and undoubted testimony show to be inconsistent with health. These would embrace,

1. Cellar dwellings, unless with areas in front and back, and with sewers below the level of the floors.

2. Rows of houses erected in close courts, built up at the end.

3. Rows of dwellings built back to back, so as to prevent any thorough ventilation.

These regulations so far would be of a preventive character, and would not otherwise interfere with the discretion of builders.

There are, however, a few other rules which ought to be introduced into such an Act; one of the most important is, to require that before and behind every row of houses of this description a certain space should be left open, proportioned to the height of the houses. What this proportion should be would be matter of consideration. Experienced builders, who have given evidence before Your Committee (and who are unanimous in opinion as to the necessity of such a provision) ⁽²⁾, differ slightly as to details, one proposing the space in front should be the height of the houses themselves, whilst another thinks two-thirds might be sufficient; and in like measure with regard to the space necessary to be left open at the back of these small houses.

Some provisions have likewise been suggested as proper to be inserted in a Building Act, which might insure to these humble classes of houses such conveniences as are absolutely necessary for health and decency, and such receptacles for refuse, ashes, &c., as cannot be dispensed with consistent with cleanliness

⁽¹⁾ "The mortality of cities in England and Wales," says a valuable authority, "is high, but it may be much reduced. A good general system of sewers, the intersection of the dense crowded districts of the metropolis by a few spacious streets, and a park in the east end of London, would probably diminish the annual deaths by several thousands, prevent many years of sickness, and add several years to the lives of the entire population. Similar improvements would have the same effect in the other cities of the empire; the poorer classes would be benefited by these measures, and the poor-rates reduced. But all classes of the community are directly interested in their adoption, for the epidemics which arise in the east end of the town do not stay there; they travel to the west end, and prove fatal in wide streets and squares."—Mr. Farr, Appendix to Report of Registrar General.

⁽²⁾ *Vide* evidence of Messrs. White, Smith, Cubitt, Allazon, &c.

liness and comfort. There should also be a sufficient underground drain communicating with the common sewer.

Some other beneficial provisions may probably be sanctioned as proper for a general Building Act; but these are the only new provisions which appear to Your Committee essentially necessary for the welfare of the working classes.

Regulations as to the thickness of party walls, to hinder the spread of fires, and others to prevent overhanging projections and dangerous chimneys, are now in the Building Act applicable to the metropolis, and probably in some provincial Acts, and would of course be necessary.

In these suggestions Your Committee have kept in view the policy of interfering as little as possible with private property, and no farther than the strict necessity of the case justified.

There is in the evidence abundant proof of the absolute want of some such provisions, and of the wide-spread evils and misery resulting from their neglect. They are in the nature strictly of sanitary regulations, and are only the fulfilment of one of the first duties of a humane Government, to protect those who cannot protect themselves⁽³⁾.

It is matter of deep regret to Your Committee that some such Act as they suggest did not engage the attention of Parliament at the beginning of the century, before our great towns were so densely populated, and so many dwellings for the working classes had been built in contravention of the proposed rules; had such been the case, they cannot doubt but much of the discomfort and sufferings which have been detailed before them would have been prevented.

Your Committee are informed that some years since a general Building Act, which would probably have contained some regulations like those they recommend, was under the consideration of the Government; but, amid the changes which subsequently took place, was laid aside⁽⁴⁾.

The obvious necessity of some such enactment, arising from the evils detailed before Your Committee, might perhaps justify them in simply but earnestly recommending it to the consideration of Parliament; but feeling, as they do, the great importance of its speedy adoption for the benefit of a rapidly increasing and valuable class of their humbler fellow-subjects, they are induced to consider and reply to some objections which might be brought against it.

It may be said, that such regulations as have been spoken of, forbidding buildings being erected in certain forms considered prejudicial to health, is an interference with private property. This is doubtless the case, but appears to be amply justified on the plea of the general good; and the same necessity is constantly held to justify similar interference, in various Acts of Parliament for the construction of roads, railways, canals, and in the enforcement of regulations regarding police, quarantine, &c.

A more serious objection is, that such regulations, by throwing some difficulties in the way of erecting closely-packed dwellings for the working classes, would render them dearer than at present, and increase the difficulty which they often find to procure habitations in populous cities. With respect to such part of the proposed regulations as would insure a better arrangement of dwellings on the same space (as by insuring courts and streets to be open at each end), this objection would not apply. But undoubtedly the effect of some of the rules suggested for a Building Act would be to improve the dwellings of the working classes, but at a greater cost than before.

The evidence, however, of experienced builders leads Your Committee to believe that this cost would not be very materially increased by prospective regulations

⁽³⁾ *Vide* evidence of Messrs. J. White, Pennethorne, T. Allason, Smith, Cubitt, &c.; Drs. Duncan, Williamson, &c.

⁽⁴⁾ *Vide* Mr. J. White's evidence.

regulations of the nature described. The cost of a little increased space of ground before it is built upon, and before additional value is given to it by the proximity of manufactories, shops, roads, and streets, is very different and much less than afterwards; but the rules suggested would apply to it when open, and thus comparatively of less cost⁽⁵⁾.

The outlay on the houses themselves in construction and materials (which are the main points of cost) might be the same, whether there are 20 or 15 on the same number of square yards; yet the effect on the health and comfort of the inmates would be very different in one case from the other. Still it must be admitted, that if a larger space of ground is required for a given number of dwellings, and they are constructed in a better and more costly manner, and have appendant to them some conveniences which they are now without, that the rent to be paid for them must be somewhat higher; but Your Committee assert with confidence, that this addition will be amply compensated to the working classes by the additional convenience and comfort they will enjoy, and that they will gain in freedom from disease, which now so frequently attacks them and their children, a saving greatly exceeding their outlay⁽⁶⁾. The chief property of these persons is their labour. The evidence shows how often this is interrupted by fevers and other disorders, arising from the causes adverted to. Regulations, therefore, which may protect them from these evils, and allow them the uninterrupted advantage of the wages derived from their labour, would more than make up to them some augmentation of rent.

It must be borne in mind that without some such improvement in the construction of his dwelling, and the conveniences appendant to it, as are suggested, it is almost impossible for a working man's home to be made comfortable, or to have any attractions for him, or that he can in any way make the most of his daily earnings, and he is thereby driven to drinking as a resource, as is stated by many witnesses examined.

Another remedial measure, which appears to Your Committee absolutely necessary to facilitate proper sanitary regulations in great towns, is a general Act for the sewerage of these densely-peopled communities.

At present these Acts are partial in their operation and extent, varying in their provisions, and very defective in the powers they give.

A reference to the evidence collected by Your Committee will show how great has been the neglect of the sewerage and drainage in some of the most densely-peopled parts of London, and the large provincial towns, and how much misery and disease have been entailed on the poorer classes of inhabitants in consequence. It cannot be denied, however, that considerable attention has been directed to this point within the last 12 years, and that great improvements have been effected during that period; still the want of any general system of operation, and the defective powers possessed by the commissioners, both in the metropolis and country towns, in which they have been established by local Acts, have altogether prevented the extension and construction of sewers upon a scale commensurate with the increase of population. Your Committee cannot help repeating their conviction, that, in addition to the physical evils which this want of the means of carrying off the refuse and impurities from their dwellings entails upon the poorer classes, it is impossible to deny, from the evidence before them, that their moral habits are affected by the same

GENERAL
SEWERAGE ACT.

SEWERAGE AND
DRAINAGE.

⁽⁵⁾ *Vide* Mr. Cubitt's evidence, and Mr. Smith's.

⁽⁶⁾ The improvement of their general character would make them better tenants, less likely to injure their habitations, more punctual in their payments, and by giving less trouble, and requiring less watching, compensating for some little additional outlay.

same causes. That a constant residence in a tainted and polluted atmosphere, whilst it predisposes them to disease, and renders them less able to repel its attacks, also produces a degradation of moral character, an indifference to the common decencies of life, and an utter recklessness of all those comforts which persons in their station might be expected to enjoy (*).

The effect of this utter prostration of energy, and of all the better feelings of the mind, has been to reduce multitudes, who might otherwise have passed with credit through their humble spheres, to have recourse to ardent spirits as a desperate alleviation of their wretchedness; and Your Committee need hardly point out, how surely this irresistible temptation leads, step by step, to habitual dissipation and debauchery (†).

Your Committee are perfectly aware, that wherever large masses of the labouring orders are collected together in towns, it is almost hopeless to enforce that strict attention to household cleanliness which is maintained amongst those of the same rank in rural districts; but it is for this very reason, and to counteract this unfortunate tendency to a neglect of cleanliness and comfort, that Your Committee deem it essential that every practicable means should be adopted to provide, at all events, against the worst of the evils detailed in the evidence before them, and, by due sanitary regulations, to place the poorer classes in a condition to avail themselves, by a little exertion, of those conveniences which experience has proved necessary to remove the accumulated impurities of large towns.

BOARD
OF HEALTH.

In pursuance of these principles, and with the view of affording to the poorer classes congregated in towns some protection from the evils to which, from the confined nature of their dwellings, and the cupidity of speculators, they are frequently exposed, Your Committee are of opinion that it would be advisable to establish, in every town containing a population of a certain amount, a Board of Health, whose duty it should be to examine into such circumstances and occurrences within their district as are prejudicial to the general health of the inhabitants; to call the attention of the Commissioners of Sewers, and any other local authorities that might be concerned, to such nuisances, and to devise and suggest remedies (‡). They should report their proceedings annually to the Central Board of Health, if such a Board be constituted, and if not, to the Secretary of State for the Home Department, for presentation to Parliament, by which means publicity would be insured to their proceedings, and much useful information collected and diffused. These Boards of Health might be appointed by the Boards of Guardians, or by the Town Councils in corporate towns, or directly by the rate-payers.

It is obvious that a portion of such Boards should always consist of members of the medical profession, and Your Committee are inclined to think, that a class of persons peculiarly pointed out by the nature of their avocations for a duty of this sort, are the practitioners attached to the Poor Law Unions, who, being in the daily habit of visiting the most destitute and neglected portion of the

(*) It seems almost impossible for a poor but decent family, coming to reside in one of those close neglected situations (so frequently described in the Evidence), to preserve any good habits which they or their children may have acquired; evil example, and close contact with those who are careless as to appearance, will soon reduce them to the common level.

(†) In the official circular issued by the Poor Law Commissioner on the 9th March last, it is stated, p. 11, that nearly 24 millions (about four times the amount expended in poor-rates) is annually spent in ardent spirits, chiefly consumed by the labouring classes; and by a calculation made by Mr. J. C. Symons, one of the witnesses before your Committee, Q. 1087, it appears that the quantity of spirits consumed in England is $7\frac{1}{2}$ pints per head, in Ireland rather more than 13 pints, and in Scotland 23 pints, per head per annum.

(‡) Dr. Arnott's Evidence, p. 37.

the community, must become acquainted with the condition of the localities in which they reside, and with the prevalence of those disorders which result from the absence of public sanitary regulations.

Such Boards of Health would probably each have a clerk (paid for his services), whose duty it would be to make minutes of the proceedings, and give such returns, in a short tabular form, as might be useful for reference, and important as affording easy information on a subject of such vital interest to the people.

The principal duty and object of these Boards of Health would be precautionary and preventive; to turn the public attention to the causes of illness, and to suggest means by which the sources of contagion might be removed; and in this way Your Committee believe a great saving of expense would take place eventually, and that the necessary outlay would be compensated by the diminution, not only of suffering, but of actual cost to the community.

Your Committee have next to suggest that facilities be afforded for the establishment in towns and newly-extended suburbs of an administrative authority for drainage and sewerage, without the necessity of incurring the expense and delay of a local Act.

This desirable object might be effected by passing an Act for this country, framed upon similar principles to the 9 Geo. 4, c. 82, which is restricted to Ireland, and by which, on the requisition of 21 householders, a public meeting may be called of all the inhabitants of houses rated at 5*l.* and upwards; this meeting is empowered to decide upon the appointment of commissioners in whom are vested the necessary powers for the cleansing, draining, paving, and lighting of the town. This Act has been already adopted in about 60 towns with general satisfaction. Your Committee think it would be a good arrangement that these rates should be borne by the landlord, and that some facilities for that purpose should be given.

GENERAL
SEWERAGE ACT.

Your Committee have been informed that doubts exist as to the powers possessed by some Commissioners of Sewers of constructing new sewers, they therefore recommend that the continuance of these doubts be obviated; and also that some additional powers, which appear absolutely necessary for remedying the evils which they have stated, be granted to existing Commissions of Sewers, as well as to those which may hereafter be constituted (¹).

1. That of enforcing adequate sewerage for rows or streets of houses which may hereafter be erected; the expense of construction to be mainly charged upon the proprietors of the houses, while that of future repairs will fall upon the general rate of the district.

2. That of enforcing a communication between private dwellings and the adjacent main sewer, at the expense of the proprietors of those dwellings, and the repairs to be placed under the superintendence of the officers employed by the Commissioners of Sewers.

3. That of prohibiting the sinking of cess-pools below the level of the main sewers, and any other similar powers which may be deemed necessary for the public benefit.

Your Committee believe it would also be of the greatest advantage to the inhabitants of great towns if an inspector was appointed to enforce the due execution of sanitary regulations. They think such an officer should (whether appointed by the rate-payers, or the guardians of the poor whom they have chosen,) have the power of proceeding by indictment to abate nuisances, an old remedy of the English law, which, though somewhat in disuse, it seems quite necessary to revive and extend, to prevent and put down injuries to multitudes

INSPECTOR.

(¹) *Vide* evidence of Mr. Peeke, 2024; Mr. Baker, 1580; Drew, 1519, &c.

tudes⁽¹⁾. At present, for want of some such guardian of public rights, they are continually encroached upon, and nuisances injurious to the health, comfort, and property of the people (especially of the humbler classes) are shown by the evidence adduced before the Committee to be constantly increasing. It would be the duty of such an officer to prevent any encroachment on or diversion of highways, or open spaces of ground in the enjoyment of the public.

Your Committee think that the inspector should report from time to time the state of his district to the Board of Health, constituted as before suggested.

Your Committee have thus given an outline of the principal remedial measures they propose. They have been obliged to detail these at considerable length, which is perhaps inseparable from the magnitude and importance of the subject.

Before, however, they conclude their Report, they would state that there are several points of the utmost consequence to the health of the inhabitants of our great towns, which they content themselves with barely enumerating, because they feel assured that if the remedial suggestions they have made were acted upon, these matters would immediately be attended to.

Thus, if the legislative enactments suggested were passed, if Boards of Health and district inspectors were appointed, there can be little doubt that these subjects would soon attract the attention their importance deserves, and if legislative aid were wanted, it would in such case be promptly afforded.

1. The custom of continuing burying-grounds, crowded with constant additions of corpses, in the midst of populous cities, is spoken of by several witnesses as most injurious to health⁽²⁾.

2. The importance of an ample and due supply of water within the reach and means of the humbler classes has been made evident to all who have attended to the subject, and appears lamentably deficient in several populous and increasing communities.

3. The augmentation of buildings in the vicinities of these crowded cities seem to call for provisions to insure some open spaces being preserved, calculated for public walks, essential to the health and comfort of the poorer classes. This was adverted to and recommended by the Report of a former Committee⁽³⁾; it presses more and more as the population of these great towns rapidly increases, and many witnesses have spoken of the growing necessity for some such provision⁽⁴⁾.

4. Some inspection and power of regulation of the humbler class of lodging-houses seems absolutely necessary for the health of the people. They are shown, by evidence before Your Committee, to be now utterly neglected; that there are many in all our great towns habitually in a filthy condition, the abode of fever and other contagious disorders, destitute of all sanitary regulations, and inhabited from time to time by a migratory and shifting population. Thus the diseases which are frequently taken in these dirty and ill-ventilated places are spread about the country, to the manifest danger of the people.

5. Wherever local circumstances give the power to establish public bathing places for the use of the poorer classes, such a step would be highly beneficial, the

(1) *Vide* cases of nuisance, evidence, Messrs. Moseley and Cubitt's.

(2) *Vide* especially Mr. Walker's.

(3) *Vide* Report of Committee on Public Walks in the vicinity of populous Cities, 1832, and Mr. Fletcher's evidence, 1316.

(4) The necessity of some play-grounds adjacent to the schools frequented by the children of the poorer inhabitants in great cities, is spoken to by almost every medical witness; the advantage in moral effect of relaxation from constant confinement is insisted on by all whose attention was directed to the subject.

and the cost in manufacturing towns, where many steam-engines are employed, would not, it appears, be considerable⁽⁵⁾.

Your Committee have now nearly completed their outline of the sanitary regulations they recommend to the consideration of Parliament to prevent as far as practicable the recurrence and increase of circumstances highly injurious to the health and comfort of the inhabitants of our great towns and populous districts.

They cannot, however, conclude the task assigned to them, without endeavouring to suggest some method by which the existing evils may be somewhat removed, and the extent of suffering diminished.

It will be evident to any one who has considered this Report, or looked into the evidence on which it is founded, that much of the unhealthiness of particular groups of dwellings, and sometimes of a whole district, arises from the want of some local improvement⁽⁶⁾, in the removal of some obstruction to ventilation or drainage.

Thus, in some of the crowded and unhealthy places described, the opening of a fresh thoroughfare, giving light and air, would not only remove or abate the evil, but would give additional value to the property through which it passed.

Sometimes taking down a single house which blocked up the end of a street, or of one of those miserable courts described in the evidence, would greatly benefit all the others near⁽⁷⁾, and add to their worth much more than their fair share of the cost of the whole improvement; or the case may be that the additional value given to the dwellings in the immediate vicinity of the proposed sanitary improvement would very nearly, if fairly estimated, cover the expense, requiring a small proportion only to be made up from some other fund.

This supposition may be varied in other ways, and is applicable to other improvements of almost any description, by which additional value is given in different proportions, to private property, and at the same time the salubrity of the vicinity is increased.

Yet at present, however necessary for health or beneficial to private property such improvements may be, they cannot be effected, unless in each spot there be a special Act of Parliament for the purpose, which is the case in very few places. Where, however, such an Act exists, it is generally applicable only to particular improvements specified in the Bill; it only extends to cases where some fund already exists for defraying the expenses, and it gives no power of assessing the whole district benefited, or of appointing apportioners to decide in what proportions the immediate vicinity is augmented in value, and ought to be assessed in consequence. Thus, a single obstinate and unreasonable proprietor may, and frequently does, prevent an improvement beneficial to a whole neighbourhood, and even to himself; but if all the persons interested be willing to concur in the improvement, there are frequently legal disabilities which prevent their consent being available, as leases, entails, &c. Sometimes the power of exchange or sale, or long leases of a small portion of a settled property, would facilitate an improvement widely beneficial, but this now requires in each case a separate Act of Parliament⁽⁸⁾.

Viewing, therefore, the necessity and advantage of such local improvements, and the difficulties which now prevent them, Your Committee beg to recommend

⁽⁵⁾ *Vide* Mr. Sowten's evidence; also Mr. Fletcher's, p. 74, 1305.

⁽⁶⁾ *Vide* evidence, 1140. 2539, &c. Mr. Pennethorne's, p. 170.

⁽⁷⁾ *Vide* Dr. Duncan's evidence, p. 151. 2539, &c.

⁽⁸⁾ *Vide* Report of Committee on Public Walks, evidence of Mr. J. White, &c.

General Act to aid
Local Improve-
ments.

mend the introduction of a general Act (extending to all towns above a certain population) to facilitate such improvements. They venture to suggest that such an Act should contain provisions calculated to obviate the difficulties pointed out; that it should lay down well-considered regulations as to the forms of proceeding; should enable willing parties to carry out beneficial alterations; should empower a certain majority (perhaps two-thirds) of the rate-payers of any district to adopt the provisions of the Act, and bind the minority; empower them to choose trustees or commissioners to fulfil the enactments, raise rates, purchase property, complete improvements, &c.

Your Committee cannot but wish that such an Act, so essential to the welfare of these densely-peopled districts, should contain clauses to facilitate the commencement of public improvements necessary for health at the suggestion of the Board of Health, and for this purpose that, under due provisions, the Board should have the power of ordering surveys and estimates to a limited amount. Your Committee also think that wherever the Government, individuals, or any public body shall be willing to provide a certain proportion (as one-fourth or one-third) of the estimate of any such improvement, that there should be a power to enable such Commissioners to raise a rate for the remainder. In this way they believe many spirited and benevolent persons would generously come forward to assist and stimulate such beneficial public improvements, which without some such facilities and provisions will never be made.

How far it might be advisable to enable the Lords of Her Majesty's Treasury, in certain urgent cases, to advance on good security loans of Exchequer Bills to facilitate such improvements, Your Committee will not undertake to determine.

Your Committee have thus ventured to recommend legislative measures to assist in the necessary work of laying down and enforcing sanitary regulations for the benefit of the inhabitants of the large towns of this realm. They cannot conclude this Report, which they submit to the consideration of The House, without most earnestly recommending all those who, by fortune, station, or trust, are placed in a position to assist in carrying out these views, to exert themselves to the utmost, and without delay, in aiding the improvement suggested in their several towns and neighbourhoods. Whilst Your Committee is earnestly desirous legislative aid should be given, they are yet aware, that with zeal, energy, and perseverance much might be done, even with the present imperfect powers, by individual and combined exertion, to lay the foundation of measures which would afterwards be extended and perfected to the permanent benefit of the community.

17 June 1840.

PROCEEDINGS on the Days in which no Witnesses were Examined.

Lunæ, 23^o die Martii, 1840.

PRESENT.

Mr. Slaney.
Mr. Cowper.
Mr. Ingham.
Mr. Tufnell.
Mr. Greene.
Lord J. Stuart.

Mr. Richard Walker.
Mr. Baines.
Mr. Brotherton.
Mr. W. Patten.
Mr. J. Ponsonby.

Motion made (Lord J. Stuart)—That Mr. Slaney do take the Chair.—Agreed to.

Committee deliberated on course of proceedings.

[Adjourned to Wednesday, Twelve o'clock.]

Lunæ, 15^o die Junii, 1840.

Mr. SLANEY in the Chair.

Mr. Vigors.
Mr. Oswald.
Lord J. Stuart.
Mr. Mackinnon.

Mr. Cowper.
Mr. Greene.
Mr. Tufnell.

Report further considered, and agreed to.

Ordered to report.

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MINUTES OF EVIDENCE.

Mercurii, 25^o die Martii, 1840.

MEMBERS PRESENT.

Mr. O'Brien.	Mr. Ponsonby.
Mr. Brotherton.	Mr. R. A. Slaney.
Mr. Cowper.	Lord James Stuart.
Mr. Ingham.	Sir Harry Verney.
Mr. Wilson Patten.	Mr. R. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

Thomas Southwood Smith, M.D. called in; and Examined.

1. *Chairman.*] YOU reside at No. 36, New Broad-street, do you not?—I do.
2. You are physician to the London Fever Hospital, are you not?—I am.
3. You are well acquainted with the state of the dwellings of the poorer classes in the neighbourhood of Bethnal-green and Whitechapel, and the Eastern part of London?—Yes, I am very well acquainted with their condition, for I have been physician for many years to the Eastern Dispensary, which extends over a large portion of those districts, and I have likewise made a special examination of both Bethnal-green and Whitechapel, at the request of the Poor Law Commissioners, and of which I have given them a Report.
4. The Report you speak of is contained in "A Report on the Sanitary State of the Labouring Classes, as affected chiefly by the Situation and Construction of their Dwellings in and about the Metropolis"?—Yes.
5. That has been published in the Fourth and Fifth Annual Reports of the Poor Law Commissioners, and also in a separate form?—It has.
6. In turning to that, in page 31 there is a statement of your report upon those districts; and in the first part of it you state generally the causes of fever, and the evils arising from the neglect of drainage, sewerage, proper ventilation, and the want of cleanliness in the immediate neighbourhood of those densely-peopled districts?—Yes.
7. In the second paragraph, after adverting to the evils arising from the want of forethought and prudence, you state, "There are evils of another class, more general and powerful in their operation, which can be avoided by no prudence, and removed by no exertion on the part of the poor. Among the gravest, and at the same time the most remediable of these latter evils, is the exposure to certain noxious agents generated and accumulated in the localities in which the poor are obliged to take up their abode, and to the pernicious influence of which they are constantly, and for the most part unconsciously subjected"; that is your opinion?—It is.
8. Further on, at the bottom of the 32d page, you say that "The records of the London Fever Hospital prove indubitably that there are certain localities in the metropolis and its vicinity which are the constant seats of fever, from which this disease is never absent, though it may prevail less extensively, and be less severe in some years, and even in some seasons of the same year than in others"; that is your opinion?—Yes; it is so clearly the case, that if you were to take a map and mark out the districts which are the constant seats of fever in London, as ascertained by the records of the Fever Hospital, and at the same time compare it with a map of the sewers of the metropolis, you would be able to mark out invariably and with absolute certainty where the sewers are, and where they are not, by observing where fever exists, so that we can always tell where the Commissioners of Sewers have not been at work by the track of fever.

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9. You might make that out in the same manner as we do geological districts, fever districts, or sewer districts?—Yes. In the sewer district there is a most remarkable absence of fever, and in the fever district a most remarkable absence of sewerage.

10. You proceed to state, that among the most remarkable districts where it prevails are St. Clement Danes, viz. Drury-lane, White Hart-yard, Newcastle-court, Clare-market, and the whole neighbourhood; St. Giles and St. George, Bloomsbury, viz. the whole neighbourhood of King-street, Charles-street, Lawrence-street, Short's-gardens, Seven-dials, and the lanes leading towards Long-acre, &c.; St. Andrew's, Holborn, viz. all the narrow streets, lanes, alleys, and courts in the Holborn Union; large portions of St. James, Clerkenwell, St. Luke, Shoreditch, Bethnal-green, Whitechapel, St. George's in the East, Stepney, Tower Hamlets, City of London Union, St. Saviour's Union, Lambeth; St. Mary, Battersea, and Wandsworth Union, &c. In all those districts fever prevails more or less, or has done; and, as it would appear from your statement, the drainage and sewerage has been in a great measure neglected?—Yes, very much neglected. No common sewers, at least there are no underground sewers going from those narrow courts and alleys into the common one; but whatever drainage there is, is mere surface drainage, and often there is nothing of that even.

11. The neglect of which you speak prevails most amongst the poorest dwellings, where the people, from other circumstances, are less able to sustain themselves against any affection of fever?—Invariably.

12. Therefore, in the districts where care is the most requisite, and guard against fever or those maladies arising from putrid substances is most necessary, it is most neglected?—Exactly, and that is proved by the exact returns from the several districts which have been already made out. The results are most striking and instructive, and appear to me to deserve the serious attention of the Legislature. I have drawn out an abstract of them for the information of the Committee, to which I would particularly solicit attention.

13. Can you furnish a return of the population in the districts to which reference has been made, where fever particularly prevails?—The population included in the twenty metropolitan unions consists of 851,229 souls, and out of this population the number of persons who received parochial relief during the year ended the 20th of March 1838 was 77,186; but, as I have just stated, there are certain districts which may be considered as more especially the seats of fever, and those are by far the most populous districts, and in general, those also in which the population is the most dense.

14. After stating those particular places, you proceed to state that "the two districts of Bethnal-green and Whitechapel, to the state of which this Report more especially relates, were selected for inspection principally because the records of the London Fever Hospital, from its first foundation, show not only that fever is always particularly prevalent in these districts, but that the very worst forms of fever always abound in them." That was the reason of the selection?—Yes.

15. Then you go on to state, that a particular account of the locality, which was in each case written on the spot, is annexed?—Yes, that was the case.

16. Before going to the facts, you say, "It appears that in many parts of both these districts fever of a malignant and fatal character is always more or less prevalent. In some streets it has recently prevailed in almost every house; in some courts, in every house; and in some few instances, in every room in every house. Cases are recorded in which every member of a family has been attacked in succession, of whom in every such case several have died; some whole families have been swept away"?—That was evidence obtained on the spot from the medical men who attended the people.

17. You state that "the magnitude of the result in London, if that magnitude be estimated by the numbers attacked, is not slight. From returns received from the Bethnal-green and Whitechapel Unions, it appears that during the last year," which was 1838, "there occurred of fever cases, in the Bethnal-green Union, 2,084; in the Whitechapel Union, 2,557: total, 4,641"?—It must be borne in mind that those are the cases of fever attended by the medical officers of the unions, embracing only that class of persons who received parochial relief; that does not at all include that portion of the population in the middle scale, it merely takes in the paupers. There are many just above the pauper population, the

the shopkeepers and the labourers, who never received parochial relief, who are not included; nor does it take in the dispensary patients.

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18. The numbers would have been much greater, if the class above the paupers and the dispensary patients had been included?—Yes; if they were added, the number would be much greater.

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19. *Mr. Walker.*] Can you form any idea of the relative proportion?—I know from personal observation, that fever has been very prevalent among the labourers who were above applying for parochial relief, and amongst the people who keep little shops, and industrious people; but I cannot venture to state what was the proportion; those stated in this Report are ascertained facts.

20. Is it your opinion that the number of cases would be doubled?—My impression is, that it would be doubled; but I should be very reluctant to hazard an opinion when I have not exact matter of fact to go upon.

21. *Chairman.*] A number, however, very considerably beyond those you have stated of persons in the pauper population are affected by the defective state of the sewerage, and also by taking fever from those pauper persons who are so widely affected by it?—At all events, living in the exact localities, they also are affected. There are certain persons who may be able to give a better estimate of the relative proportions of those just above the pauper population than I am; for they probably have been their patients, and they may be able, therefore, better to form an estimate than I can.

22. You go on to say "It appears that the streets, courts, alleys, and houses in which fever first breaks out, and in which it becomes most prevalent and fatal, are invariably those in the immediate neighbourhood of uncovered sewers, stagnant ditches and ponds, gutters always full of putrefying matter, nightmen's yards, and privies, the soil of which lies openly exposed, and is seldom or never removed. It is not possible for any language to convey an adequate conception of the poisonous condition in which large portions of both these districts always remain, winter and summer, in dry and in rainy seasons, from the masses of putrefying matter which are allowed to accumulate;" you are still of that opinion?—Yes; I think it is not possible to frame language to express the intensity of the evil; I remember one place in particular, an open ditch, I suppose of from 300 to 400 feet long and 10 feet broad, into which all the privies of an adjoining street empty, and offensive matter always poured into that open ditch never removed; it does not appear to have been ever touched.

23. That is in a populous district?—Yes, in a most populous district, with houses all around it. When I examined it the stench was most intolerable; my impression was, that no one who had not seen it would believe that such a thing could be allowed.

24. You say further on, that no strength of constitution would be able to resist constant exposure to the exhalations which are always arising from these collections of filth?—Certainly not.

25. After stating that a large portion of Bethnal-green is a swamp, hardly any part of which is drained, you say, "The dampness of the houses is an evil almost universally complained of by the inhabitants, as well as the wet and muddy condition of the streets during a considerable part of the year. In the less open parts of Bethnal-green, and in a considerable part of Whitechapel, the closeness of the streets, lanes, alleys, and courts is most oppressive. A fresh current of air can hardly ever reach them, and the evil is greatly aggravated by the very general custom of the people permanently to close the windows of their houses, partly for the sake of warmth, and partly to prevent the real or imaginary effects of the air on the silk used in their work." They are chiefly silk weavers in that district?—Yes, in Bethnal-green; they do all they can to stop out every breath of air.

26. At the top of page 35, you state a case in which there was fever, that a drain was made, and that things were better subsequently. Then you say, "Dwellings, thickly crowded with inhabitants, stand all around the slaughter-houses; yet here, where the materials for the production of the worst forms of fever are most abundant, scarcely a case has occurred even during the present epidemic." You state the cause of that comparative freedom from it to have been drains having been made?—Yes; there are two facts recorded which I wish most strongly to urge upon the attention of all persons who take an interest in the subject, for they are most remarkable ones. That place (the butchers) I had occasion to attend to before the drain was made; it is a most excellent drain, made by the city of London. I have attended the people who live there, both before

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and after; I was struck with the remarkable difference; I did not for some time observe that any drain had been made, it had escaped my attention. I was struck with not seeing so many cases of fever as I had been accustomed to see, and when it did occasionally break out there, the cases were of a much milder character; all the circumstances remained precisely the same, except that this drain has been made, and now the butchers, after great persuasion, have been induced to open an underground communication with it; and the whole of that side of the street is now very perfectly drained, but the opposite side is not.

27. You go on to say on the other side, "In the passages, courts, and alleys on the very opposite side of the street, from the houses of which there are no drains into the common sewer, fever of a fatal character has been exceedingly prevalent"—Yes; there is a remarkable difference.

28. You think that it prevails on the one side because there has been no cleansing, and that it has been removed on the other by drains being effected?—Yes; and there is a similar fact in a different state of the population in the Hackney-road, where the population is much less dense; here they live in a crowded condition, but still the fact is exactly the same.

29. Then you go on to say, "The preceding facts point to one effectual remedy for lessening the sickness and mortality of these and similar districts, namely, the removal of the sources of the febrile poison." Your opinion, therefore, is decidedly that by proper drainage, cleansing, and ventilation, a great deal of these sources of evil to the humbler classes might be removed?—Yes; a very large proportion of them.

30. With respect to the cost to parishes arising from fever cases, proceeding from the causes you have referred to, you say, "By the returns from Bethnal-green and Whitechapel Unions, it appears that the extra expense for fever cases, for the quarter ending Lady-day 1838, is to the Bethnal-green Union, 216*l.* 19*s.*; to the Whitechapel Union, 400*l.*: total, 616*l.* 19*s.*" Thus, at the rate of the last quarter, the expense of the fever cases in the two parishes alone comes to 2,467*l.* 16*s.*?—Just so.

31. Are you of opinion, that if this money were to be expended in removing the causes which lead to it, there would be a great saving to the parish and a great benefit to the poor?—Yes, for this obvious reason, that this is of yearly occurrence; whereas, the sewerage being once made, the evil is cured in a great degree.

32. You are of opinion that the incurring this expense, on the part of the parishes, would be a measure of economy, as well as a measure of humanity?—That is my opinion.

33. You say, "It becomes then a question, whether, setting aside all other considerations, it is not expedient, even on the ground of economy, to appropriate a part of the money expended on the poor, in protecting them from fever, by removing from the immediate proximity of their dwellings the main cause that produces it, rather than by relieving a few individuals after they become affected with the disease"?—That expresses what would be the most rational course.

34. You mention, also, that it might perhaps be beneficial, at a moderate expense, to take means "to introduce free currents of air where at present the air is perfectly stagnant and stifling;" and you advert to the advantage which would arise from an opening cut through the district, so as to form a free current of air?—Yes, there are districts where immense good would be done, considering the value of the houses, at a moderate expense; the benefit would be very great.

35. In page 36, paragraph 7, you say, "It is desirable that a power should be lodged somewhere, to prevent landlords from building in swampy places, without proper drainage; to compel them to drain into common sewers when made, and likewise to compel them to keep the privies in a state of cleanliness, and to cleanse the exterior and interior of the houses, either at given periods, or when obviously indispensable to the health of the tenants"?—Yes, I think that is one of the most important powers which could be conferred: even the magistrates have it not at present.

36. Then you report with respect to a remarkable case in which, from the neglect of cleansing and whitewashing, and so on, fevers prevailed, and successive lodgers died of fever in one set of rooms, they having had no notice of such fever having existed?—Yes, the magistrates had extreme difficulty to put it down; they did it by what they considered a stretch of power at last; the place was Shepherd's-court, in the Whitechapel Union, consisting of six houses.

It was notorious that fever had prevailed to a great extent in this court, and that different families had, in succession, occupied a set of rooms and become affected with fever.

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37. You state that "One set of people had gone in, become ill with fever, and were removed; that another set of people had gone in, and been in like manner attacked with fever; that this had occurred several times, and that it was positively known that this house had been affected with fever for upwards of six weeks before the present application was made; that on hearing this the magistrates sent for the owner of the house and remonstrated with him, for allowing different sets of people to occupy the rooms without previously cleansing and whitewashing them;" and that they had great difficulty in getting it cleansed by authorizing the medical officers to do so?—Yes; these facts are correctly stated.

38. *Mr. Ingham.*] Since it was cleansed there has been no case of fever?—No; this was the more interesting, inasmuch as it will come out, that similar facts have occurred to other medical men.

39. *Chairman.*] Will you turn to page 38, "Account of a personal inspection of Bethnal-green and Whitechapel, in May 1838." You state you have "called on the medical officers of the union (Mr. Taylor and Mr. Goodwin), who have the care of the out-door poor; I requested that they would accompany me over the district and point out to me first, those places in which fever is constantly prevalent; and, secondly, those in which it is either altogether absent, or in which, when an individual case breaks out, it seldom or never spreads. I traversed a circle of from six to seven miles in extent; I wrote the account of the places I am about to notice, on the spot; I entered many of the houses, and examined their condition as to cleanliness, ventilation, &c. as well as the state of the people themselves, who were at the time labouring under fever"?—Yes, I did.

40. You say, "The district of Bethnal-green contains upwards of 70,000 inhabitants; in the greater part of it, the streets are not close, nor are the houses crowded; on the contrary, large open spaces of ground intervene between them, but in one part the population is as densely crowded as in the closest and most thickly-peopled parts of the city"?—Yes; there is no reason why the whole of that district should not be quite healthy, except from the neglect of the precautions which should be taken.

41. In the general account you give, which is extremely interesting to any one who takes an interest in this subject, but which it would occupy too much time to go through, you state your going down to what is called Punderson's Gardens; you say, "This is a long, narrow street; the houses have no sunk area, and the groundfloor is extremely damp; along the centre of the street is an open sunk gutter, in which filth of every kind is allowed to accumulate and putrefy; a mudbank on each side commonly keeps the contents of this gutter in their situation, but sometimes, and especially in wet weather, the gutter overflows; its contents are poured into the neighbouring houses, and the street is rendered nearly impassable; the privies are close upon the footpath of this street, being separated from it only by a paling of wood; the street is wholly without drainage of any kind; fever constantly breaks out in it, and extends from house to house; it has lately been very prevalent here, and we have lately had several fatal cases from it in the London Fever Hospital;" that is a correct and accurate account of what you saw yourself?—Yes; it was written down on the spot.

42. In speaking of the condition of Campden Gardens, you say, "Campden Gardens consist of a number of small groundfloor houses; each house contains only two rooms, that which is the largest is about seven feet by nine, and the smallest barely large enough to admit a small bed; the height is about seven feet; in winter the houses are exceedingly damp; the windows are very small; there is no drainage of any kind; it is close upon a marshy district immediately to be described; in this street fever is very apt to break out, and to become more than commonly fatal; often all the members of a family are attacked by it, and die one after another; during the present season, several entire families have been swept off by it"?—Yes; several of the houses in which such an event had taken place on that spot were pointed out to me by the medical man who had attended the families.

43. You say, "Yet the houses stand in an open space, and have little gardens

attached

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attached to them; so that, if they were properly built and well drained, they might be perfectly healthy"?—Yes; the people take a delight in cultivating their little gardens: it is a recreation to them, and might and ought to be a healthful one.

44. You then proceed to Lamb's-fields, which you state is "An open area of about 700 feet in length and 300 feet in breadth; of this space, about 300 feet are constantly covered by stagnant water, winter and summer; in the part thus submerged there is always a quantity of putrefying animal and vegetable matter, the odour of which, at the present moment, is most offensive: an open filthy ditch encircles this place, which, at the western extremity, is from eight to ten feet wide." Then you say, "Nothing can be considered more disgusting than the appearance of this ditch for an extent of from 300 to 400 feet, and the odour of the effluvia from it is at this moment most offensive"?—That is quite a correct representation.

45. You add, "Lamb's-fields is the fruitful source of fever to the houses which immediately surround it, and to the small streets which branch off from it; particular houses were pointed out to me, from which entire families have been swept away, and from several of the streets fever is never absent"?—Yes; it seems to me to be perfectly in the condition of the wigwams of the vilest savages; they cannot be worse; we constantly hear of whole tribes of those savage people being swept away by fever, small-pox, and dysentery; and there is precisely the same thing constantly going on at Bethnal-green, whole families are swept away from precisely the same cause.

46. Are the districts of which you have given so melancholy a description, inhabited chiefly by the working and labouring classes?—In the largest proportion; there are, here and there, a few better houses interspersed, but they are in general inhabited by the poorer classes.

47. With reference to Hare-street Fields, you say, it is "An open space, close to the former, containing about 300 square feet, a large portion of which, in rainy weather, is completely inundated; it is surrounded on all sides but one with small houses, and several streets branch off from it; in all the houses forming the square, and in the neighbouring streets, fever is constantly breaking out, and the character of the fever in this neighbourhood has lately been very malignant"?—That is a perfectly accurate account.

48. Passing over a portion of the detail, you then come to Alfred and Beck-with-rows, "They consist of a number of buildings, each of which is divided into two houses, one back and the other front, each house is divided into two tenements, and each tenement is occupied by a different family; these habitations are surrounded by a broad open drain, in a filthy condition; heaps of filth are accumulated in the spaces meant for gardens, in front of the houses; the houses have common privies, open, and in the most offensive condition;" then you state the evils arising from fever, which you found there; are you of opinion that the fever which you found prevailing so extensively in that district, arose from neglect of cleanliness, drainage, and ventilation?—Yes; I think those were the causes of its great prevalence, and of its great severity.

49. On turning over the page there is a description of North-street; you state, "That the houses are in a most miserable condition, surrounded by vast collections of filth; most of the houses are occupied by pig-dealers, and the filth produced by the pigs is seldom or never cleared away; the stench here is dreadful"?—That is perfectly correct.

50. You refer to St. John-street; you state that that is "A close and densely-populated street, in which malignant fever has been remarkably prevalent, and has stalked from house to house; in one room which I examined, eight feet by ten, and nine feet high, six people live by day and sleep at night, the closeness and smell almost intolerable; adjoining this house is a cow-yard in a filthy state;" is that place also in want of cleansing and ventilation?—Yes; in a most extremely close and filthy condition, the air is quite stifling.

51. You state the same with regard to some other places, called Fleet-street and Shackwell-street, varying a little in account, but nearly the same in the general deductions to be drawn from the state of those places?—Very much the same.

52. With reference to Hackney-road Division: "Gibraltar-walk consists chiefly of houses of one story; along the centre of the street is an open gutter, in which all sorts of animal and vegetable matters accumulate and putrefy, and the

the odour of which is most offensive. In the upper part of this street, especially, fever has been extremely prevalent." Do you consider that that fever has arisen from the neglect there described?—I think very much indeed.

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53. Again: "In a direct line from Virginia-row to Shoreditch, a mile in extent, all the lanes, courts, and alleys in the neighbourhood pour their contents into the centre of the main street, where they stagnate and putrefy"?—That is a most remarkable place, remarkable for its closeness and filth; one is shocked to see human beings clustered in the masses that they are there, in a position in which it is impossible to maintain the health, or to prevent the constant recurrence of infectious and malignant diseases.

54. Going on to Read-street and Vincent-street, you say, "The condition of these streets is exactly similar to that of the preceding; families live in the cellars and kitchens of the undrained houses, dark and extremely damp; in some or other of these houses fever is always prevalent; 'My assistance here,' said the medical officer who was attending me, 'is always required; I am never without cases of fever here'?"—That is the truth.

55. Then you go on, "Even in Church-street, Bethnal-green, the main thoroughfare, there is no drain, the water runs off as it can, and now and then the parish authorities send round a mudcart to gather up what becomes so thick as to block up the way"?—Yes, that is an accurate description of the state of that main street.

56. There is no exaggeration in any of those particulars?—Not the slightest.

57. You say, "At the end of Wellington-row, and at right angles with it, a ditch from eight to ten feet broad extends nearly to the Hackney-road; in the greater part of its course, gardens neatly cultivated extend from adjacent houses to its edge; the stench arising from this ditch, at this moment, is intolerable; the poor people inhabiting the neighbouring houses, while cultivating their little gardens with so much care as a recreation, and in the hope of promoting their health, little think that at every moment they are inhaling a deadly poison"?—That is so; the gardens go down close to this ditch, which is always sending up poisonous effluvia, giving them fevers: it is a most melancholy sight.

58. As a contrast to this, you state, going down "From Goldsmith's-place to Cambridge-heath, there is an excellent underground common sewer, completely covered in; here the inhabitants are healthy, no case of fever is known to have occurred in the neighbourhood; this sewer was made two or three years ago, before which fever was as prevalent here as in most other parts of the district, but since that time there has been a remarkable improvement in the health of the inhabitants"?—Yes, that is very striking.

59. Do you believe that to be owing to the drainage?—Yes; during the great prevalence of fever all round last year, I did not hear of a case of fever there, though in the surrounding district it was in almost every house.

60. You go on to say, "Immediately behind Bethnal-green, is a large stagnant ditch, surrounded by poor cottages, the inhabitants of which are constantly suffering from fever; into this ditch, among other things, is constantly flowing the filth from a number of pigsties, where it is allowed to accumulate and putrefy"?—Yes, they are in the most filthy condition.

61. Then, proceeding to Whitechapel Union, you state that, "The greater part of Whitechapel is very badly drained; in many places the population is densely crowded; the streets, courts, and alleys, as at present constructed, admit of no current of air; large collections of putrefying matter are allowed constantly to remain in the neighbourhood of the houses, and the houses themselves are extremely filthy:" is that a correct general account of that district?—Yes, that applies to the greater part of the whole parish.

62. Do you happen to know what is the population of the whole parish of Whitechapel?—Sixty-four thousand one hundred and forty-one.

63. Do you believe that this description of this melancholy neglected situation applies to the greater part of that population?—Yes, to the greater part of the whole population.

64. Do the greater part of the population belong to the humbler classes?—Almost entirely.

65. In selecting some examples of this general neglect, you say, with reference to Baker's Arms Alley, "A narrow court, with a dead wall about two yards from the houses: the wall as high as the houses; the principal court is intersected by other courts extremely narrow, into which it is scarcely possible for air to penetrate: close to the dead wall, between the wall and the houses, is a gutter,

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in which is always present a quantity of stagnant fluid, full of all sorts of putrefying matter, the effluvia from which at the present moment are most offensive, and the sense of closeness extreme; all the houses are dark, gloomy, and extremely filthy; at the top of the innermost courts are the privies, which are open and uncovered, the soil of which is seldom removed, and the stench of which, at the present moment, is abominable;" and again, "the fever here has been extremely mortal, and has raged in almost every house:" is that an accurate account?—It is; and those high walls are a very grievous evil in many places, both in this district and in Bethnal-green. The houses are placed, perhaps, five or six feet only from the wall, and the houses, being generally only one story high, they reach up to the middle of that story, so that it is impossible for either light or air to get into the sitting-room or bed-room.

66. It prevents air or light penetrating into the houses?—Yes.

67. In speaking of Johnson's-change, you say, "Some time ago a cesspool overflowed in one of these courts, and its contents were allowed to remain upon the surface for several weeks; after a time a fever of a malignant character broke out in the house next the cesspool, and has since extended to almost every house in all the courts: there is here no drainage of any kind, there is consequently a great accumulation of filth, and the sense of closeness is stifling"?—Yes, and the population there is exceedingly dense.

68. Further on you say, speaking of Cartwright-street, "A long street, with an open gutter in the centre: in this street fever has been prevalent in every house. In Walton-court, a narrow and close court, terminated at the extremity by a dead wall as high as the houses, fever has prevailed in every house"?—Yes, I examined the houses particularly, and found that to be the fact.

69. Again, in Blue Anchor-yard, you give a description of the accumulation of filth, the neglect of drainage, and the prevalence of fever in that district, nearly similar to that in the districts you have described before?—Yes.

70. The same account extends to the streets on the northern side of Whitechapel, "As Essex-street, Castle-street, Castle-alley, Goulston-street, Petticoat-lane, Tewkesbury-court, George-yard, New-court, the whole of Wentworth-street, and all the courts, alleys, and passages in the neighbourhood, are without any drainage, and extremely filthy and close"?—Yes.

71. You say, "Fever has raged dreadfully in the whole of this district; in some cases, six persons of a family have been ill of it together, all in one room, and four in one bed"?—Yes, I saw that myself in several cases.

72. In page 46, in the second paragraph, after adverting to what was said as to the causes of fever in other districts, you say "Its operation is not less real or less constant, though it may be less striking around the stagnant ditches, the uncovered sewers, the filthy gutters, and the exposed privies of Bethnal-green, and in the close, dirty, and undrained courts and alleys of Whitechapel. For the future, by proper sanitary regulations; namely, by attention to the structure of houses, the arrangement of streets, the introduction of the requisite space between streets and houses, the construction of underground sewers, the opening of underground drains from the houses into the sewers, and the immediate removal from the neighbourhood of dwelling-houses of all refuse matter capable of undergoing putrefaction, the generation and accumulation of this poison might be prevented to a great degree in all cities, towns, and villages;" is that your confirmed opinion?—Yes; I think so most firmly.

73. Has any material improvement taken place since the period when you made this examination?—Yes; they are now in the act of making a drain in the worst part of the Whitechapel district.

74. Some commencement of improvement has taken place?—Yes; it appears that these inquiries have attracted great attention, and that there is reason to hope that the authorities are really making efforts to lessen some of the most grievous of the evils.

75. In what district of the sewers is this place?—The Tower Hamlets.

76. Who is the secretary to that commission?—Mr. Unwin, I believe.

77. To what cause do you refer the defective state of the sewerage described?—I have generally heard it ascribed to the poverty of the districts.

78. To what class of landlords do the houses generally belong?—I have understood them to belong to builders, who, without the slightest regard to the condition of the land, in fact build the houses on a perfect swamp; they build them in the slightest and cheapest manner possible, in order to let them at the highest rent

rent they can; they belong to persons who spend their little capital in that way, their only object being to get the greatest amount of money at the least outlay.

79. Do you happen to know what are the present regulations respecting building?—I know that they are altogether inadequate to meet the evil.

80. Are there any regulations as to the depth to which they shall sink cess-pools, so as to prevent their being sunk below the level of the common sewer?—I believe not any.

81. Is there any power to compel the inhabitants to carry their drains into the common sewer?—Certainly not.

82. Is there any power, supposing they do carry their drains into the common sewer, to compel them to make their drains of a smaller size than the common sewer, to prevent its being choked?—No; and after the City of London made that great sewer in Aldgate, High-street, the city had the greatest difficulty in getting the butchers to drain into it; they have at length got it done. I speak of that as evidence that there is no authority.

83. Are there any persons appointed for the carrying into effect the communication between those houses and the common sewer?—I believe not.

84. Are there any persons who are authorized to make inspection, and to report upon those matters?—No, those are omissions in our social arrangements, which appear to me to be of grave importance, and few things could tend more to the health of the lower classes than the lodgment of such authority in competent hands.

85. Is it your opinion, from the great neglect which prevails in this very populous and extensive district, and which you think prevails in other districts, that it is absolutely necessary there should be adequate power given by law for the purpose of enforcing attention to these measures?—It appears to me a thing clearly requiring legislative interference; it is a matter in which the poor people cannot, by any forethought of their own, guard against the evil; these poor people must take cheap tenements, and these houses may be placed on marshy ground, with no drainage of any kind, no means of carrying away filth, and they cannot help themselves, though they are placed in the midst of the focus of fever perhaps, or of certain other diseases, which incapacitate them from pursuing their labours, and thus they are thrown upon the parish, and grievous evils produced. I cannot help again begging the attention of Members of the Legislature to the Abstract which I have furnished of the Returns from the Metropolitan Unions; they afford indubitable facts which appear to me to deserve the deep attention of the Legislature.

86. Have you turned your mind to any suggestions as to the power which should be given for the security of the health of the inhabitants of those districts?—I have not considered the details, but I am fully satisfied as to the principle. I have a very strong conviction of the paramount importance of its being rendered impossible that any one should be allowed to build a house for the residence of human beings, without taking care to make it dry, and to make it pure, by affording the means of carrying away easily and completely, the refuse matter which there must be wherever human beings reside; at present, no regard whatever is paid to that; no more regard is paid in the construction of houses to the health of the inhabitants than is paid to the health of pigs in making sties for them; but that would be a false statement, for, in point of fact, there is not so much attention paid to it.

87. The pigs belong to the persons who have the sties, and have an interest in their lives?—Yes.

88. If the persons who come into those houses are not connected with the owner of the house, they care little for their health?—Just so; and unless protection be afforded to this class of persons, they are exposed to all those evils, and have no power whatever to relieve themselves from them.

89. You say, near the end of your Report, speaking of the evils the poor are liable to, and after stating the pestilential places in which the industrious poor are obliged to take up their abode, "They have no choice; they must live in what houses they can get nearest the places where they find employment; by no prudence or forethought on their part can they avoid the dreadful evils of this class to which they are thus exposed; no returns can show the amount of suffering which they have had to endure from causes of this kind, during the last year, but the present returns indicate some of the final results of that suffering; they show that out of 77,000 persons, 14,000 have been attacked with fever, one-fifth part of the whole, and that out of the 14,000 attacked, nearly

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1,300 have died;" is that an accurate account?—That is an accurate account, made specially for this inquiry, by order of the Poor Law Commissioners.

90. You go on to say, "The public meantime have suffered to a far greater extent than they are aware of from this appalling amount of wretchedness, sickness, and mortality. Independently of the large amount of money which they have had to pay in the support of the sick, and of the families of the sick, pauperized in consequence of the heads of those families having become unable to pursue their occupations, they have suffered still more seriously from the spread of fever to their own habitations and families." Has that fallen under your observation?—Yes; that I see constantly.

91. Then you say, "It is notorious that this disease has been very prevalent during the last year among the industrious classes who have never received parochial relief, and that it has found its way even into the dwellings of the rich, where it has proved extremely mortal. Generated in Bethnal-green, in Whitechapel, in St. George-the-Martyr, in Lambeth, in Holborn, &c., it has spread to the better streets in the immediate neighbourhood of these and similar places, and thence to still wider and more airy streets at a great distance, and ultimately to the most remote streets and the great squares." That is your opinion?—Yes; I have constant experience of that being the course of events, but I think it would be very desirable that some approximation should be made as to the extent in which that is the fact, especially the extent to which fever has prevailed among the persons who compose the lower sections of the middle class; and I would beg to suggest, that an inquiry may be made of those gentlemen who may be better able than I am to give the proportion in which that has taken place. I think it would be very desirable to ascertain that.

92. You say that an improvement in a degree might be made, "By an amendment of the Building Act; by carrying into the districts of the poor improvements similar to those already completed or now in progress in the places inhabited by the wealthier classes; by removing as far as practicable the obstacles to a free circulation of air in the closest and most densely populated neighbourhoods; by the construction of underground sewers with effectual surface drainage into them; and by the immediate removal of refuse animal and vegetable matters by an efficient body of scavengers"?—Yes; those remedies would remove the most urgent of the evils.

93. You state that "The most pestilential of these places, when once put into a wholesome condition, would be maintained in that state at a comparatively small expense; whereas, as long as they are allowed to remain in their present condition, the results must continue the same: it follows, that the prevention of the evil, rather than the mitigation of the consequences of it, is not only the most beneficent, but the most economical course." That is your opinion?—Certainly it is; most decidedly.

94. *Mr. Cowper.*] From what you state, it appears that in some instances there is an indisposition to avail themselves of the means of relief that were offered to them?—That was in the case of the butchers; they were wealthy people, and said they did not suffer from it, and that they did not care for it; but the people living immediately around them and over their slaughter-houses were constantly affected by the worst forms of fever.

95. Is it clear that persons would be disposed to avail themselves of the means afforded?—No; but the same authority which obliges sewers to be made, should also oblige drains to be made into those sewers, or nothing is done effectually.

96. *Mr. Ingham.*] There is now under the London Building Act a power to see that a party-wall shall be made of sufficient solidity?—Yes, just so.

97. And you would require that there should be equal power to see, before a house is inhabited, that there is a communication with the underground drainage?—Yes; nothing can be done to secure the health of the population without that.

98. The expense of raising a fund to lay down sewers within the district of any commission is levied by a rate on the parties within the limit of that commission?—Yes, I believe so.

99. In Bethnal-green and Lambeth the inhabitants are of a very poor order, and the charge would be very heavy?—Yes; it would be more, in fact, than the parish could sustain; I do not apprehend it would be possible to effect it, if it was to be done by themselves.

100. Disorder, when engendered in a district, is not confined to that district, but extends itself to other districts?—Yes; and on that ground it appears to me that

that those outer districts of London, those suburban places, should be drained at the common expense, for it is for the common good.

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101. Where there is not a commission of sewerage, but private drainage, there would probably be great difficulty in passing into the lands of other persons to get a sufficiently low level?—Yes.

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102. Probably it would be necessary to extend the commissions of sewerage, by having a power by law to enable a person, on due compensation, to pass through the grounds of his neighbour on a lower level, to carry off the drainage from the higher level?—Yes; or a portion of the community might have their health constantly endangered, and their property injured.

103. Probably it would be better to have a common provision than to extend the power of the Commissioners of Sewers?—I think it would.

104. *Mr. Walker.*] You apprehend that the requisite power would be to make an open sewerage, and then to compel the owner of the house to make an under drain to that common sewer?—Yes.

105. Do you consider that it would be wise, by legislation, to effect that object?—I think it would be extremely wise, and I cannot conceive anything more urgently needed.

106. Are the streets, lanes, and alleys you have described in your evidence, generally paved, or not paved?—In general unpaved.

107. Do you apprehend that the ground, in consequence of the want of pavement, retains additional moisture?—Yes, I think that is an additional evil; and there is a gutter generally in the centre of the lane or alley which is never dry, and the parings of potatoes and the refuse of vegetable and animal matter of all sorts, dirty water from the washing of clothes, and from the washing of the houses, all flow into this gutter, and there collect and remain and stagnate and putrefy; that goes on through all seasons, winter and summer; nothing is done to remove it.

108. Are there no police regulations with regard to scavenging these close places?—I am not aware that there are; it is never done; they are out of sight; none but the medical men and parish officers know anything about them; they are as much unknown as the condition of a district in Otaheite.

109. *Mr. Cowper.*] You particularize fever as one of the evils produced by the want of drainage; are there any other disorders produced?—Yes; I took fever as the most striking and the most important, but it is a very imperfect view of the evil to confine it to fever; there is a large class of diseases to which the poor are constantly subject, which, in my opinion, are just as distinctly attributable to malaria arising from this putrefying matter as fever itself.

110. Will you name any other disorders?—All that class of disorders which come under the name of disorders of the digestive organs, the labouring classes who are not affected with fever, are labouring under; disordered stomachs and bowels, and derangement of the liver. It is not more certain that this poison, in a greater degree of intensity, will produce fever, than that the same poison, in a less degree of intensity, will produce disordered states of the stomach, and various most distressing nervous diseases.

111. *Chairman.*] Is the small-pox prevailing in those districts?—Very often, and when it does prevail, it is very severe.

112. Does the crowded, neglected, and dirty state of the district increase the virulence of that disorder?—Very often, and so also measles; it is as certain as the law of gravitation, that when they ever come into those places they immediately become severe, and often malignant.

113. *Mr. Cowper.*] Have you known of any cholera?—Those were the great seats of cholera, the places in which cholera found its home, and its severest ravages were there.

114. *Chairman.*] You stated that you thought there would be a very considerable expense in making those sewers, too great to be effected by the parish alone; would not a considerable saving of expense arise to parishes from the diminution of the amount of relief to the poor if those sewers were made?—Yes; there would be a considerable saving of expense in half a century; it would be the cheapest plan; but the district is so large, and there is so much to be done, that I apprehend it would be vain to look to the district alone for the means.

115. Do you happen to know what is the amount of the poor-rates?—No, I do not bear that in mind.

116. You are not acquainted with the locality of any other district, but there are other districts which you consider neglected?—Yes; I infer that from the

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quantity of fever which prevails in them. I see that in other districts the amount of fever is very nearly the same. I have made a personal inspection of only two districts; but I know, from the records of the Fever Hospital, and from the Returns of the Metropolitan Unions, that typhus and other forms of fever are just as prevalent in other districts.

117. Are those last places inhabited chiefly by the working and poorer classes?—Yes, just the same class of population as I have alluded to; the class of population is the same, the character of the disease is the same, and therefore I infer the localities to be the same; those are Lambeth, Stepney, St. George-the-Martyr, Poplar, Holborn, Rotherhithe, Bermondsey, St. George's-in-the-East, and Wapping.

118. *Mr. Ponsonby.*] A good many of those are in the neighbourhood of the river?—Yes, Lambeth is one which particularly requires investigation; it would be very important, with reference to this inquiry, to make a personal examination, where we know the disease to be the same, and the population to be pretty much the same, whether the circumstances of the localities are not very much the same; it was thought at one time very desirable, by the Poor-law Commissioners, that the inquiry should be extended to some others of the more important suburban districts.

119. *Mr. Ingham.*] You say that moisture is one great cause of the occurrence of fever?—Yes, dampness, more especially in the shape of fog, acts as a powerful means of transmitting the malaria, at the same time that, as a powerful agent in the production of cold, it predisposes the human body to the influence of malaria.

120. Does that apply to particular seasons as well as the defective drainage?—Yes, it is at all times a powerful concurrent cause.

121. You mentioned that in many houses, particularly those of the hand-loom weavers, there is a wish to exclude the external air, and the rooms are in consequence in want of ventilation?—Yes.

122. Would it not be desirable to prevent the dampness, and occasion ventilation, that they should have open fires?—Yes, that would tend to improve the ventilation of the rooms.

123. Whatever would facilitate the acquisition of coal, would, therefore, be a material preventive?—Yes; but the dampness in some of the houses is seen upon the walls, they cannot keep anything without its rusting, even in the cupboards near the fire.

124. Have you had occasion to make observations on the state of the health of those who have fuel at hand, and those living in a situation where fuel is not so easily procured?—No, I have not been able to carry out the comparison with any degree of certainty; but from analogy one should infer, that the warmth and increased ventilation, and the current of air which is produced by an open fire, will diminish, in some degree, and perhaps sensibly diminish, the amount of sickness.

125. *Mr. Ponsonby.*] In those parts which you mention as particularly unhealthy, are the houses generally old?—No; most of them are generally new.

126. There is no more attention paid to the building of houses for that class of late years than formerly?—Not the slightest.

127. *Chairman.*] What is the supply of water?—In Whitechapel the supply of water is very good; I do not know how it is supplied to Bethnal-green.

128. Is there any open ground for exercising ground, or public walks, reserved?—No; but Bethnal-green is remarkable for the intervention of a number of open spaces.

129. Are they covered over with water, or are they marshy, or is there any place which is open and dry, where the people can walk out with their families?—No; it most unfortunately happens that an open space is to Bethnal-green a great evil, for they are so neglected that there are stagnant pools always in the centre of them, and large quantities of stagnant water, full of animal and vegetable matter, always putrefying, and making so many sources of disease.

130. Instead of being a benefit, as they should be, they create an evil?—Yes.

Jordan Lynch, M.D., called in; and Examined.

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131. *Chairman.*] YOU are the medical officer of the West London Union?—I am.

132. Are you acquainted with the district which Dr. Southwood Smith has been describing?—Yes, by occasionally visiting it.

133. Does

133. Does your opinion coincide with his generally?—Generally it does.

134. As to the causes of fever, and as to the state of the district, as far as you know it?—Yes, as far as I know it.

135. To what district does your knowledge particularly extend?—To the West London Union; it comprises St. Sepulchre's parish, the end of Holborn, Field-lane, West-street, the rookeries and little courts running out of Fleet-lane, and down to Fleet-ditch: also the two Bartholomew parishes, the Old Bailey and its precincts, that I am immediately connected with.

136. Do you know what the population of those districts is?—The population of that one Union is between 28,000 and 30,000.

137. Are the localities you have spoken of chiefly inhabited by the humbler classes, the working classes?—It is a mixed population; there are some very good streets, and there is a sudden transition into wretched courts.

138. Will you give an account of the districts inhabited by the poorer classes, as to the state of ventilation, and sewerage, and drainage, and cleanliness?—On the south side of my immediate district there is one court, called Back Bear-alley, in which, within the last 12 months, I may say within the last six months, upwards of 40 cases of typhus fever have occurred; there are not more than nine houses in that court, two people cannot walk abreast in it; they have one common privy, and sometimes there are packed in one room six or seven of the poorest and most destitute of our fellow-creatures: this is under the surveillance of the Inquest. The drainage was deficient in that Back Bear-alley; I directed the attention of the Inquest to it, and they sent notice to the parties concerned that they were coming; the consequence was, they had their houses put in order; they were washed and cleansed, and in some instances, where the fever cases had occurred, they took the precaution of whitewashing: six cases having occurred, some of which were sent to the Fever Hospital, and others treated at home; notwithstanding those precautions, 34 cases afterwards occurred and five or six deaths.

139. Is that from want of cleansing and draining?—Those are co-operating causes.

140. Is the drainage bad there?—The drainage was quite defective. I directed the attention of the authorities, and sent a report to the commissioners: Mr. Kelsey is the paid surveyor; I received this reply, in which they state that 22 miles of sewers had been explored and cleansed in the City of London, the ventilation improved: then they go on to state that they will attend further to this, and they have since laid out in that place, I believe, 800*l.* or 900*l.*; and since they have laid out that money, I have not been called in to a single case of typhus fever.

141. You think that what they have effected there has done good?—Certainly.

142. *Mr. Patten.*] What is the extent on which the 900 *l.* has been laid out?—The Back Bear-alley, and Seacoal-lane; perhaps about 300 yards extent.

143. *Chairman.*] Have they laid out the 900 *l.* in those two places?—Yes; they have done a great deal of good, but the proprietors of the houses gave as much opposition as they possibly could; the commissioners of the City of London required they should pay one-third towards the outlay, but they refused to contribute.

144. Had they any power of compelling them to pay?—They acknowledged to me that they had not.

145. Will you point out the parts of your district which are in a particularly imperfect state, as to drainage and ventilation?—The next court is Green Dragon-court; there are six or seven houses on one side; every room has a distinct family, the smell is most intolerable; and I have felt when I have attended patients there, nausea and sickness of stomach; and where the sewer is so bad, I have had many cases of typhus fever, and also cases of consumption; and where small-pox occurs in those families, it is generally of a very malignant kind. Then proceeding from the south to the north, is St. John's-court; illness is never out of that; the animal and vegetable matter that is allowed to lie, even human excrement is lying in the centre of the way, and a person has to pick his steps in passing down.

146. It is very much neglected?—Yes; and the drainage also.

147. Are there other portions of the populous district in that quarter neglected in the same way?—Yes; Elliott's-court, Dean's-court, Phoenix-court, Crown-court.

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148. You mention those as courts; is there a thoroughfare of air directly through them, or has it only an entrance at one end?—Some have a thoroughfare through them, and others have no passage through them.

149. Do you not conceive it is important for the health of the inhabitants that there should be a current of air through them?—Yes; in the first place those are generally very narrow, and in each room there are frequently more than there should be; and on a cold day they are generally apt to stop up every inlet for the air, and they tell you, if you find fault, that if it keeps out the cold, it keeps out everything which is bad, and it is useless to remonstrate with them; even when a patient is ill you may turn them out, but the moment the doctor's back is turned they are in again.

150. *Mr. Ponsonby.*] Do you often find more than one family in one room?—No, there is not room; those are the remains of old London, some of them have been built 300 years.

151. *Chairman.*] Are there any new buildings to which these observations apply?—In St. Bartholomew's there is New-street, in the centre of a very sickly neighbourhood; the drainage is defective; the common sewer runs for 300 or 400 yards between the rows of houses; there are two streets, and there are backs abutting on each other, and an open sewer in the centre of the backs of the two streets; this open sewer is running; they throw the refuse of every description into this sewer, and perhaps it remains there decomposing until twice a week, when there is a good supply of water, which carries it away.

152. Do you believe that the neglect of covering over the sewer is the cause of fevers in that district?—I think it is an accessary.

153. Is there any other district besides those you mention in which there is a neglect of drainage?—Immediately on the very threshold of my district there is the Fleet Ditch, open for better than half a mile, nearly a mile, from Snow-hill up to Clerkenwell-green, and the mouths of all the different sewers, as they run down the declivity from each side, empty their contents and trickle down the wall into the sewer, and the smell is intolerable.

154. Are there many houses near it?—It is a mass of life all along; the back windows open directly upon it which the working classes occupy.

155. How is the district you have referred to supplied with water?—The supply is good on the days in which it comes in; twice a week, I think.

156. *Mr. Patten.*] How comes it to be twice a week only?—I believe that is the arrangement made with the water company.

157. *Mr. Walker.*] Is the supply such as to wash the drains?—Yes; it is a rapid, strong stream, which carries away refuse of every description.

158. Is that supplied by the water company?—I suppose the water company do not contemplate that, but the people permit it to flow over, and it carries off many things of an offensive character.

159. *Chairman.*] Are there any other portions of the town you are particularly acquainted with?—No. I have been occasionally called to visit cases of a fever in a lane from the back of Aldersgate-street to Golden-lane, and from Golden-lane to Bethnal-green, a distance of half a mile, and it is a *terra incognita*; you might live half a dozen years in London and never know those places; but any person who goes into the district will be surprised at the immense mass of misery and impurity there.

160. Do you consider that any improvement in the sewerage and drainage of those places would very much improve the health of the inhabitants?—I think it would, certainly.

161. Would it not save considerable cost to the parishes, by preventing many of the inhabitants being affected with illness?—Most decidedly.

162. *Mr. Patten.*] What is the condition of the inhabitants?—Many of them are labourers, and others very poor artisans. In West-street they are of the lowest description of persons.

163. Are they labourers in regular employment, or whose employment depends on accidental circumstances?—They are day labourers. A great number of them are Irish people; and when the husband is out of work, the children and the family live upon the parish.

164. *Lord James Stuart.*] Do a great number live in one room?—Yes; I have been in a room, not more than seven feet long and six broad, in which there were four women and two men sleeping every night; they were sitting round the fire smoking their pipes when I went in.

165. They were all sleeping together in that room?—Yes, constantly.

166. *Mr.*

166. Mr. *Patten*.] You are not aware of the amount expended in any one parish in that district?—I believe it is 1,000 *l.* a year in St. Sepulchre's parish; but taking it upon the whole, it is 4,000 *l.* or 5,000 *l.* a year altogether, expended upon the pauper population.

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167. Mr. *Cowper*.] Can you form any notion of the extent to which the fever generated in those districts has reached the better streets?—I know two cases from Back Bear Alley; it extended to the families on each side of the lane; it confined itself there; it did not extend itself further.

168. Mr. *Patten*.] What is the establishment of medical men, beside yourself, attending this district?—I attend the northern district. I have a colleague who attends the south side, St. Bride's, and Ludgate-hill, and a portion of St. Andrew's.

169. What number of patients have you in your district?—The first year I had 1,100; the average is not so large now, it is about 700; I have had a great deal of typhus fever and small-pox.

170. *Chairman*.] Is small-pox very prevalent now?—It is not so prevalent as it was.

171. The want of ventilation and drainage makes those disorders more malignant, of course?—Yes; when we remove them out of those places into the work-house, the mortality is diminished.

172. Lord *James Stuart*.] Were you there in the time of the cholera?—I was.

173. Was that very malignant in that quarter?—It was, very.

174. Mr. *Tufnell*.] Which suffer most from the disorders, the parents or the children?—Measles and small-pox generally among the children; typhus fever is particularly fatal to the adults.

175. Mr. *Walker*.] Is Field-lane within your district?—Yes; typhus fever is never out of that; the Fleet Ditch is running through the centre of it, and people of the lowest description living there; most of all, those courts are the receptacle of thieves and pickpockets, and the most abandoned of females.

Mr. *Samuel Byles*, called in; and Examined.

176. *Chairman*.] YOU live in Church-street, Spitalfields?—I do.

Mr. *Samuel Byles*.

177. You have sent a Report upon the state of portions of that district to the Poor Law Commissioners, which is given in the Reports on the sanitary state of the labouring classes, page 26?—It is.

178. It appears from that Report that you are acquainted with that division of the Whitechapel Union, of which you have been the medical officer. You say, "I scarcely know what portions to describe as the worst; in Whitechapel parish, Essex-street, and its numerous courts, as Martin's-court, Moor's-court, Essex-court, Elgar-square," several numbers in the street, "George-yard, and New-court, in the same; Crown-court, Wentworth-street, and many parts of that street, all lodging-houses, have been the general and almost constant abode of fever for years past"—That is quite correct.

179. Then you go on to say, "In Spitalfields parish, the other side of Wentworth-street, all Rose-lane, Magpie-court, Factory-court, many houses in Flower and Dean-street," several houses in "Red Lion-street, all Ireland-court and Cox's-yard, in that street, New-court, Vine-court, Vine-yard, Vine-place, the courts in Pearl-street, &c. have been equally prolific of fever cases;" that is a correct account?—Quite so.

180. You particularize one or two houses which have been visited with fever, and you say that in relation to those, "The same remark applies to Hudson's-court, Wheeler-street, and the houses adjoining the court; all these houses, and in fact the larger portion of what I have before specified, are old and dilapidated, and to this circumstance and the want of paint and whitewash, I attribute in a great degree the perpetuation of febrile disease; it is also a fearful fact, that in almost every instance where patients die from fever, or are removed to the hospital or workhouse, their rooms are let as soon as possible to new tenants, and no precaution used, or warning given"—That is the case invariably, I may say.

181. "As to the drainage, it is so generally defective, and in all the courts and alleys, and some of the back streets, so much decomposing animal and vegetable matter accumulates, that I do not know how to particularize;" is that a correct account?—It is quite so.

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182. You go on to state, with respect to certain other houses, that you consider them hot-beds for fever; you think that is not overstated?—Not in the least degree.

183. "And in those, as well as in houses let out to weekly tenants, scarcely any notice or care is ever taken where a patient dies, or is removed, but probably the first new-comer is put into the sick man's bed"?—That is the case; at the lodging-houses especially.

184. You say, you attended during the last year, out of the workhouse, about 600 cases of fever, a large proportion of which were clearly ascribable to the evils before alluded to; and you add, "I have met with no backwardness on the part of the local authorities to meet these evils, but at present they possess no means of so doing"?—That is the case; I believe there is some slight improvement in that respect, that under the New Police Act the district surveyor is liable to a penalty if a nuisance is pointed out to him and he does not take means for removing it.

185. Is the district you referred to in this Report inhabited by the poor of the working classes?—Almost entirely, except the principal thoroughfares.

186. They are the principal sufferers?—Yes.

187. Do you think that many are thrown upon the poor's-rates in consequence?—Yes; a great number of the poor inhabitants are a class of people living there for the sake of getting employed on the water side, coming to those lodging-houses to sleep, who pay from 3*d.* to 6*d.* a night for their beds, and if they have been without food during the day they are in much greater danger of taking the contagion of fever than persons who are able to withstand the contagion from good living.

188. Is much expense cast upon the parish by means of those fever cases?—I should think that half the money which is spent by the Whitechapel Union is spent on the cases of individuals who have no settlement in the union; casual poor who fall ill, and are ill for some days probably, before anybody is aware of it, then they are either attended at home or removed to the workhouse, which is attended with great evils, for there is a great want of infirmary room, and there is no place particularly for those persons in a very loathsome state brought there; they thus furnish the elements of contagion to others.

189. When you say that a great deal of expense is cast upon the parish in consequence, have they to bear that in consequence of the disorder generated or augmented by the circumstances you have referred to?—Yes, in many cases.

190. If that is the case, it would be a considerable saving to the parish in that respect if, by any improvements, those evils were got rid of?—Eventually it would be a great saving.

191. You state further, "A general and complete power of enforcing sanitary precautions is needed, as also an extensive improvement in the sewerage of the whole district. I do not think that any large outlay of money in erecting a local fever hospital would be advantageous; the influx of casual poor would be greater in consequence, and parochial burthens would be thus in every way increased; but I consider that the greatest benefit to the district would result from the opening of one or more spacious and extended thoroughfares, and that they would be a great advantage to the district generally;" is that your opinion?—Yes; I think opening a thoroughfare is of more importance than any other mode, for that would do a great deal of good, not only medically but morally, for many places I have described are hot-beds of crime of every kind as well as of disease.

192. It is a very neglected district?—It is; in fact some portions constitute a complete refuge for criminals of every description.

193. You state that a great deal of disease is generated by the want of ventilation and sewerage; is there any power in the Sewer Commissioners to oblige the parties inhabiting the district to communicate with the sewer, if they made one?—No; and there is unfortunately a paradox; there is a penalty on any person communicating from his house into the common sewer.

194. If they are assessed to it that is not the case, is it?—Yes; it appears to be a complete paradox; if privies are known to empty themselves into the common sewer, the person is liable to a penalty.

195. There is no power to enforce communication from the houses of the refuse water, and so forth, into the common sewer, on the part of the Commissioners?—Not that I am aware of.

196. They

196. They have no power of compelling them to bring a small drain into the large one, to prevent its being choked?—No. *Mr. Samuel Byles.*

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197. Have they any power to prevent any receptacles for filth being laid down below the level of the common sewer?—I believe not, and I know it is commonly done. There is a common sewer through the main streets of our district, and along the main district of Whitechapel-road; but this common sewer is considerably higher than the level of many of the cesspools I am acquainted with; and there is a circumstance I would take the liberty of mentioning, that in many parts of the Tower Hamlets they depend almost entirely upon the ancient above-ground watercourses which existed for many years before the buildings which now stand upon the ground, and which found their level into the river when there were no houses; but almost every stack of buildings operates as an hindrance, and they become, instead of watercourses, stagnant ponds, and of course the sources of disease.

198. With respect to the buildings there, do you know what the building regulations are now?—No, I do not at all; the district I am acquainted with has a number of very ancient houses, large houses, containing 10 or 12 rooms, and each room inhabited by a separate family.

199. What is the supply of water in the district?—The supply is very good; they are supplied from the East London Company three times a week, and have an extra supply on Sunday mornings for washing down.

200. Can you return the number of persons who have been attacked with fever in the district you are acquainted with?—My Report states that; I have had 600 cases.

201. In what population?—I think the whole population of the district is about 20,000.

202. Are those 600 wholly pauper cases?—Yes.

203. Are there any other cases of fever in persons just above the pauper class?—Yes, but not to that amount, I should think.

204. Do you know whether the tide comes into the old watercourses?—I think it influences the principal ones to a certain extent; I think it is what is called Nightingale Level.

205. Has any essential improvement been made in any of those sewers of late?—I do not particularly know of any. The sewerage of the principal streets has been looked into and cleansed, and I think the neighbourhood has been benefited. The back parts of this district are not connected with the common sewers; they have nothing but overground, surface drainage, and that is attended to only by the scavengers, but some of the courts and alleys they never enter.

206. They are very much neglected?—Yes.

207. Is there any system of inspection of the drainage, or the conveyance from the houses, or those various matters which affect the health of the poorer inhabitants?—I am not aware of any, except the surveyor of pavements, and I think his observation extends only to that part which comes under the observation of the Commissioners of Pavements; his power does not extend into the interior of the houses to look to the state of the privies or the drains.

208. Does his power extend beyond the pavement?—No, I think it does not.

209. Then it does not extend probably to those courts?—No; there is no inspection except when the people have suffered more than ordinarily with fevers, when the attention of the parish officer has been called to the matter; then they have gone round and represented to the inhabitants of the houses and the landlords the necessity of being more cleanly, but that has soon died away.

210. When you are alarmed by a great body of fever coming upon you, you begin to remonstrate?—Yes.

211. Then it dies away with the fever till things return to the old state?—Yes, that was particularly the case when there was cholera, and has been since on two or three occasions.

212. There is no regular attention to measures of a sanitary nature, to prevent the recurrence of those evils?—No; I think there should be a power from the Government; I believe it exists in some of the continental cities.

213. Do you not think, that some power of making an improvement in the drainage, and the inspection of those districts, to keep them in a clear state, would save a great deal of expense, by preventing those disorders being so prevalent?—Yes, I think it would.

214. And would much increase the comfort of the humbler classes?—Yes, decidedly.

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215. Are there a great many children in those districts?—A great many.

216. Is their health very much affected in consequence of the evils described?—When there is any prevalent disorder, it is rendered very virulent; small-pox is prevented in a great degree by vaccination; but when it does occur, it is generally of the confluent kind.

217. Are there schools in those districts for the children?—Yes, but not sufficient for the population; the children in our district are made useful to their parents at so early an age, they will not sacrifice their time by letting them go to school.

218. In what way are they made useful?—In winding bobbins for the weavers; they begin doing that at seven years of age, and when we get into the worst districts, the children are sent out to beg, and are beaten by their parents if they do not bring home a certain sum at night.

219. The efficiency of any school would be in some measure impaired by the state in which the children are when at home, would it not?—I should say, certainly it would; they have an exceedingly bad example.

220. And they live in a state of filth, misery and destitution?—Yes; that operates in this way, that the parents are ashamed to let their children go to school on account of the state of destitution they are in.

221. Mr. Ingham.] Are there any play-grounds attached to the schools?—No, I think not, except at one school, which was lately established, the British school in Hare-street Fields, I think they have a play-ground, but our national school has no playground; it was built in the most crowded part of the parish, where ground is most valuable.

222. Is there anything particular in the diet of the poor in the district, which you think disposes them much to disorder?—I think they eat a great deal of coarse bad fish.

223. The refuse from the ordinary fish-market?—Yes, it is taken off and carried to their garrets, and kept till next day perhaps.

224. When fish is supplied fresh, it is a healthy diet, is it not?—I think it is occasionally, but not constantly.

225. Do you know the state of health of the poor in those districts where fish is much eaten?—I do not.

226. Chairman.] Do they use cocoa much?—I think not much, unless where the children are employed in the factories connected with the silk weavers; there the children have cocoa for breakfast.

227. You think that very nutritious?—Yes.

228. More so than coffee or tea?—Yes.

229. Mr. Patten.] What are the wages of the weavers in the district?—I think they cannot earn, on the average, 10 s. a week.

230. What can a common labourer earn?—The greater part of them have no regular work; they go down to the docks and get from 2 s. 6 d. to 3 s. a day; but, in general, they do not have four days work: they are badly off.

231. Mr. Tufnell.] You have had opportunities of seeing the children of other persons in the same class of life, what is your opinion of the health, comparatively, of the children, in this district?—I think a smaller number reach to the years of maturity.

232. Is there any difference in their stature and strength?—I think very much, among the weavers; many of them are Irish, and their children are very fine children, but they are much disposed to inflammatory complaints; a great many die before ten years of age.

233. There is a marked difference in the stature and strength of the weavers' children?—Yes; I can point out, in passing along the streets, the child of a weaver: the women bear children with great difficulty.

234. Chairman.] What sort of silk goods do they weave, articles of luxury?—The weaving of Spitalfields is now in extremes, either the very richest or the very thinnest and poorest; the middling quality of silk is wove very much in Manchester, and the large towns in the north.

235. Mr. Tufnell.] Do you think those persons having lived in such a neighbourhood for a number of years, their children are subject to any particular diseases?—I think they are very much disposed to scrofulous diseases; their bones are softer, and they are subject to diseases of that kind; formerly the weavers could go out into the fields and get fresh air, but they cannot do that now.

236. Mr. Walker.] Is not their employment carried on in very close rooms?—Yes,

—Yes, they shut out the air to prevent the effect of it on the fabric they are forming. Mr. Samuel Byles.

237. *Chairman.*] That is an additional reason why the district about them should be clean and healthy?—Yes. 25 March 1840.

238. *Mr. Walker.*] Does the air which is let in affect the colour or the weight of the silk?—It affects the colour I know, and I believe it affects the weight also.

239. *Mr. Patten.*] What person is there in your district who has authority to remove nuisances?—The surveyor of pavements, I think, is the only one who has authority to remove nuisances.

240. How would the removal of a nuisance be carried into execution?—He would order it to be removed, and if the person neglected to remove it, he would be subject to a fine, I believe.

241. Is there any authority to compel any particular person to remove a nuisance lying in the street?—I suppose the person at the nearest house would be obliged to do it.

242. What class of persons are the landlords of those houses chiefly?—The houses are sublet very much; I question whether the original landlords, in a large proportion, are known at all; a great many houses are so sublet that all direct title is lost.

243. By whom are the rates paid?—They are generally paid by the person who holds a certain number; by a builder, for instance, who holds them and repairs them, and becomes answerable for the payment of the rates; that is a private arrangement between the owner of the property and the parochial authorities.

244. In the case of those nuisances, is he the person who would be obliged to remove them?—Yes, if the power existed to compel it, but there is no such power at present. There is one house which I have visited, which has been the constant habitation of fever for 15 years. I have enforced upon the landlords the necessity of cleansing and lime-washing it, but it has never been done. There was one house where there were five deaths in six weeks; there was such a horror that it was shut up for a few weeks, but at length the landlord let it, and the persons who came in were immediately attacked. I know one house which was shut up for two years after persons had died in it; and that the persons who next came in were immediately attacked; no person had paid attention to whitewashing or cleansing, in the interim.

245. Can you, as a medical man, suggest any regulations for rendering the place more healthy for the future?—I think if there was an officer of health in every neighbourhood, that would be sufficient, just as the relieving officer is an assistance to the medical officer. If I have a pauper patient who is under my care who is destitute of necessaries, the relieving officer under my direction supplies him with necessaries; so if there were an officer of health, if I could point out any house where, from being the abode of fever, precautionary measures were necessary, that would effect much.

246. Should that officer be connected with the Board of Guardians or the Commissioners of Sewers?—I think it should be a person independent of all local authority, and there should be a power of inspection.

247. Do you think that the Board of Guardians, whose interest it is to preserve the health of the neighbourhood, are not the most proper persons to have the supervision?—I think in our neighbourhood I could depend upon them for so doing; but that might not be the case everywhere.

248. Would it be a laborious office in each district?—No, I do not think it would.

249. Do you think it would occupy the entire attention of one person?—I think it would. In our union there are three medical officers; but I think such an officer as I refer to, might manage to look to the whole district, because it would be his single employment. The medical officers have private practice also to attend to.

250. By whom would you recommend that the orders of this superintendent should be carried into execution with regard to the removal of nuisances?—I think the order of the medical officer to this officer should be paramount.

251. There must be some expense attending this department; who would you recommend should defray that?—I think the expense must fall upon the county.

252. *Mr. Ingham.*] Are you aware that some fever hospitals in the country employ

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employ officers of this kind, at the expense of the governors of the charity, to whitewash?—Yes; and I believe that has been done by the Fever Hospital in London to some extent, but they frequently meet with difficulties.

253. *Chairman.*] At present, there is no power in the Commissioners of Sewers to compel the owners of houses to make drains, so as to connect every house with the sewer?—No; there is not.

254. A good system of sewerage and drainage, to be carried into effect for the removal of the evils from each of those houses, is the first thing to be attended to?—Yes.

255. With sufficient power to carry that into effect?—Yes.

256. Do not you think improvements in the Building Act, so as to prevent courts without air passing through them, and walls to prevent the access of air, would be desirable?—Certainly.

257. Do you not think this might be carried into effect by the local authorities in towns?—I think so.

258. In addition to this do you not think some inspector, having power to report to the authorities on the state of the district, would be desirable?—Yes; the state of the privies in our neighbourhood is particularly bad; I am scarcely ever sent to a case of typhus fever, but my nose is assailed as soon as I enter the house.

259. How are those privies emptied?—They are in the state I have described; there are many landlords with whom nothing but immediate interest has any effect; they are scarcely ever emptied, but they flow over into the streets; there are a number of them where the floors are quite rotten with the continual damp and wetness; these circumstances produce typhus fever continually. I have made a memorandum of a court, Wentworth-court, which used to be full of typhus fever; the houses have come into possession of a rich Jew, who has cleansed them, and I have not had a single case of fever for 15 months; it is entirely inhabited by Jews; the fumigation and lime-washing have answered the purpose to a great degree there, though there was no power of making sewerage: the lodging-houses are a great source of nuisance.

260. *Chairman.*] Is there a power of inspecting lodging-houses in that neighbourhood?—No; and they are inhabited by thieves and prostitutes in many instances; and I have actually known the lower classes of prostitutes following their vocation while they were labouring under fever, and compelled to do so by the mercenary character of the persons in whose houses they were lodging.

261. *Mr. Walker.*] Do those lodging-houses give accommodation to the labouring classes, or to those vagrants?—They give accommodation to both; and thus those, who were not so, become corrupted.

262. *Chairman.*] Is there any other fact you would mention?—I would suggest the great importance of a thoroughfare through our neighbourhood, which would break up a great deal of this; if the plan of the Committee on Metropolitan Improvements were carried into effect; a line has been recommended by the rector of our parish, and the authorities, which would do much; if we had a line traversing Essex-street, Rose-lane, Red Lion-street, Wheeler-street, and then on through a portion of Bethnal-green, Virginia-gardens, and Anchor-street; all the evils scattered over Bethnal-green are concentrated there; that is a very populous district, the houses are very large and very old, and there is nothing but a surface drainage.

Mr. Robert Heelis, called in; and Examined.

Mr. Robert Heelis.

263. *Chairman.*] WHERE do you reside?—In Limehouse.

264. Are you a medical man?—I am the medical officer for the Limehouse district of the Stepney Union.

265. What population is comprised in your district?—According to the last census it was between 15,000 and 16,000.

266. Of what class of persons?—Decidedly of the lower class; tradesmen, a very large proportion of mechanics, shipwrights, and engineers; they form the largest proportion; and a great many labourers, that get their living by working in the docks.

267. Will you have the goodness to describe the state of the district with which you are acquainted with regard to drainage and sewerage, and the state of the habitations of the poorer classes, and any measures which may appear to you proper with respect to the sewerage, and so on?—The habitations occupied by the labouring

labouring classes may be divided into two descriptions: one, the ancient town, the old part of the parish; and another, a very considerable portion, more modern, which has grown up with the docks; the old part is adjoining the river; they are principally wooden houses, with their roofs very much dilapidated; the streets are very close and confined. The more modern part is decidedly improved generally; small houses, occupied always by more than one family, and generally speaking, better adapted for the working classes.

268. What is the state of the sewerage and drainage particularly?—There are some open ditches still remaining; the ancient drainage or sewerage; there is one in particular; several others have been arched over within the last 10 years; the tide comes up the whole of them; there are others there in a very filthy condition, and in the neighbourhood there is always fever, and that fever generally of very malignant character.

269. Are the houses you refer to within a short distance of the open sewer?—Within three yards of it.

270. Do you conceive that the fever which occurs in those houses arises very much from that circumstance?—I have every reason to believe so, for, in other respects, they are small, convenient houses, and modern.

271. It is the neglect of the drainage being covered over?—Yes.

272. Does that affect a good many, or very few?—There are not many houses in the immediate vicinity of this sewerage; there is an open space, a neglected field, which was immediately opposite this. In the year 1838 I had very nearly every family attacked with fever, and the heads of many of those families were carried off; that arose, I conceive, from this cause.

273. Are there other districts in which those evils have occurred?—We have another sewer which is partially covered; it is covered here and there; in the confined parts of the town it is covered. That comes all the way from Shoreditch.

274. Does that affect the health of the inhabitants?—It does.

275. Does it pass through a populous district?—It passes through a most densely populous district.

276. Do you conceive the health of the inhabitants has been affected by that circumstance?—Yes, certainly.

277. What is the state of the drains communicating with the sewerage from those small houses; is it perfect or imperfect?—Very imperfect.

278. Are there any small courts, into which your medical attendance obliges you to go?—Yes.

279. Is there the same circumstance in operation there?—Yes.

280. Is the absence of cleanliness in attending to those the cause of the illness which prevails?—Yes.

281. Is there any officer who sees that this refuse is cleared away from those small courts?—There is no officer who has the power of seeing to the removal of those nuisances.

282. Is it neglected in many instances?—In the main streets the scavenger comes and clears away tolerably well, but the narrow courts and alleys are entirely neglected by the scavenger; he never enters them.

283. The narrow courts and alleys are the very places where those nuisances most prevail?—They are.

284. They are the very places which ought to be attended to?—Yes; in many of those confined places they keep pigs.

285. In your opinion does the health of those poorer persons suffer from the want of proper drainage, and the proper enforcement of due regulations for cleansing and keeping them clean?—That is my opinion.

286. Are there any dilapidated houses in that district?—There are many in the old parts of the parish, they are all dilapidated; they are very ancient in their structure; generally they are lath and plaster, and damp, as I mentioned before, in very close streets, as old streets frequently are; they are very confined.

287. Can you give any particular instances which occur to you, in which, from the want of some authority to take care of the state in which they are, they are much neglected, and evils occur in consequence?—The cholera first made its appearance in this parish, and on that occasion there was a little excitement, and it was found, that though on the side of the street in which it occurred, the Commissioners of Sewers had covered over one of those open ditches, there was not a proper communication with that drainage, but that the old drains were running over, and in the most filthy condition. In that street I think there was not a house but what lost an inhabitant in the cholera.

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288. Were those dilapidated houses?—Yes, every one of them; and the drainage or communication with this large sewer with these very old houses was very imperfect; many of the houses never had any communication into it.

289. Mr. Cowper.] There was no efficient drainage in that street?—No; there was a sewer, but the owners of the houses did not avail themselves of it.

290. Chairman.] Are there any houses which have been taken down?—Some houses, a short time ago, in an alley called Globe-alley, in the corner of the room there was no roof whatever; the rain descended in the corner, and carried away the ceiling of the floor below. In that house there was a family living.

291. At present if a house is in such a miserable state as to be likely to injure the health of the tenant, and so forth, is there any mode of procuring inspection; the lodging-houses, and so on?—No, none whatever.

292. Suppose fever to prevail in a house, and the family to be obliged to leave it, or to die there, is there any power to compel cleansing and whitewashing before fresh persons go in?—There is none.

293. Do they let them again without that being done?—Yes; there is one house closed now, in consequence of the death of the keeper of a lodging-house; in that house I attended lodger after lodger with fever.

294. Would it not be a proper regulation, for the purposes of the preservation of the health of those poor persons, that there should be some power of inspection of the state of such houses to which they continually go, and that they should be properly ventilated and cleansed?—It would be exceedingly desirable.

295. Is there any power of obliging the persons having houses near a sewer to drain into it?—There is no power to oblige them to do it.

296. Notwithstanding the main drain is so near them, yet there may be no communication between the houses and the drain?—No; that was precisely the case in the street to which I have referred.

297. Is there any power to prevent their sinking cesspools or receptacles for filth below the level of the common sewer?—No, not that I am aware of; I think there is not.

298. Would not some such regulation be a great advantage?—Yes; to have an efficient drainage, it would be necessary. I will just mention one circumstance which bears me out as to the necessity of drainage in the preservation of health; the alley in which the cholera first made its appearance; there was a little excitement at the time; the Commissioners of Sewers covered over an open ditch which ran through it; that alley, since I have lived in Limehouse, now between 14 and 15 years, I never knew without fever, but since that was covered, I think, with only one exception, I have not had a case of fever, and that was an exceedingly dirty family, of filthy and dirty habits.

299. What is the name of that alley?—White's-rents; these houses are in a very dilapidated state; there are not so many occupied as there were, but those are not fit for the habitation of any human being; it would be desirable to have them pulled down, but there is no power of enforcing that.

300. Mr. Tufnell.] Has not there been a great deal of building in that district?—Not within the last seven or eight years; 10 or 12 years ago it was rather overdone, and in consequence of that a great many houses were unoccupied.

301. Upon the parts which have been lately built, has there been better care taken for draining?—No better care taken for draining; but the houses are better adapted for the working classes; there is no better drainage whatever in the district; where they are modern houses, there is no continuance of sewerage; in the old district there is not a sewer constructed by the Commissioners of Sewers; it is a private drainage which they have, and I think a very bad system too, for in consequence of this, the drain belongs to a number of individuals, and it is difficult to get those individuals in one mind to cleanse it. The first street we have in Limehouse, Church-row, inhabited by most respectable persons, is drained by a private drain, running down in front of the houses; that drain has not been opened for more than 20 years; every one of the inhabitants is complaining of the nuisance, but still they cannot get them all into one mind to have it cleansed; there is no general power to enforce it; the Commissioners of Sewers have no power over it; and many of the inhabitants of that Row have opened the drain, immediately in front, at considerable expense to themselves, but still it accumulates again, it is of no advantage to the drainage; a private drainage I consider very bad.

302. Chairman.] There should be some power of enforcing a good general drainage?—Yes.

303. In

303. In what district of the sewers is the place which you now mention?—*Mr. Robert Heelis.*
The Tower Hamlets.

304. What is the supply of water?—That is tolerably good, I think.

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305. Are you aware whether there are any general regulations with respect to buildings, as to enforcing a certain degree of width between the houses, and making the courts open, so as to allow a current of air to go through them?—I do not know whether the inspector has authority for that; there is an authority as to the structure, to render them safe from fire; party-walls, and so on; but I am not aware that he has any authority to widen the space, or allow a space between streets, or boundary-walls, or anything of that sort.

306. There is nothing to prevent such a construction of houses as shall make them subsequently unhealthy to those who reside in them?—No, not anything of the kind.

307. *Mr. Patten.*] Can you state the average number of patients you have under you, in the course of a year?—One thousand two hundred.

308. Do you know what proportion of those are fever cases?—Not a very large proportion; about 200, I think.

309. What are the most prevalent diseases you attend to there?—The diseases principally are among the children; the greatest mortality we have is amongst the children, in consequence of the miserable dwellings that they are forced to live in; and we lose a great many from inflammation of the lungs, in consequence of exposure to the cold.

310. Have you ever made a comparison between your district and other districts in London?—I should conceive ours is pretty healthy in comparison with some others.

311. Are you intimately acquainted with any other districts?—No, my practice out of the parish lies principally on the water side, more in the adjoining parish of Poplar and the Marshes.

312. What do you consider to be the state of the districts on the east side of London?—Certainly, higher up, in Whitechapel and Ratcliff, I should say, are decidedly more unhealthy parishes than the one I have to do with, and Shadwell.

313. *Mr. Ingham.*] In what Union is Limehouse?—In the Stepney Union.

314. Have you not a school for the reception of all the children belonging to that union?—Yes; I have the charge of that school.

315. *Mr. George Frederick Young* is the treasurer of that school?—Yes, *Mr. Young* is chairman of the Board of Guardians, under whose control the school is.

316. They teach them work as well as literature, do they not?—Yes.

317. There is a spacious piece of ground attached?—There is.

318. Have you observed the health of the children after they have come to the school?—It is remarkably good.

319. *Mr. Tufnell.*] What is the number of the children in those schools?—At the present time about 400; the last year we did not lose one per cent.

320. *Mr. Cowper.*] Is the school placed in a thickly populated part of the district?—The building is, rather; but still there is a very spacious play-ground.

321. *Mr. Ingham.*] There is a master to teach them gymnastic exercises to promote their health, is there not?—Yes; and everything which can be adopted for the promotion of their health and comfort is done.

322. Do you find children who come there retain their health?—Yes, they are all young; they have all the mortal diseases to which we all know that young children are liable. Taking that into consideration, I consider it a most healthy establishment; and it is a fact, that though we have 200 under six years of age, we have not lost one per cent.

323. *Mr. Wilson Patten.*] Are you acquainted with the medical conduct of any other districts which have been spoken to to-day?—I am acquainted with the medical men.

324. Are they all conducted on a similar plan with your district?—Yes.

325. Those gentlemen have made an average of 700 sick in a population of about 19,000 or 20,000?—Those gentlemen stated 600 cases of fever; I have had 200 cases of fever.

326. *Mr. Walker.*] Do you not consider 12 $\frac{1}{2}$ per cent. of a population as a very large amount to come under the superintendence of a medical officer?—It is a large amount, particularly at the parish expense; those are all paupers.

327. Do you attribute that large amount of medical relief to the great vigilance and care which the guardians take of the poor?—It appears a large

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amount, but it must be taken into consideration that we have no dispensary, or other charity of any description, within a very considerable distance; many have dispensaries or hospitals within a convenient distance, and therefore these do not appear, perhaps, so many in proportion; we have no dispensary within a mile and a half.

328. *Chairman.*] Yours is rather a destitute district in other respects, is it not?—We have the labouring classes of the docks; they get a very precarious living; they are principally Irish, and they live together in one house in immense numbers. The other day I attended a case of fever, which I sent away. In that house there were 32 individuals living, and in the cellar of that house there were pigs kept.

329. Are there a good many children in this district?—A very great proportion.

330. Do you not think that the state of destitution and neglect you have referred to has a very injurious effect upon them?—It has a very bad effect.

331. Do you not think that the effects of attending school, however well conducted during the day, is a good deal neutralized and done away by the bad example, and filth and dirt, and want of cleanliness and decency they see at home?—Yes; but the greatest proportion do not go to school at all.

332. Upon those who do go, those things would still have a very bad effect, would they not?—Yes.

333. *Mr. O'Brien.*] Have you ascertained what proportion go to school?—I can only judge from the number of children and the number of schools; we have a parochial school which professes to take 500; I rather think it is something short of that; then there is an infant school lately established, which has 170; that is a very small proportion of the whole children of our neighbourhood.

334. *Mr. Walker.*] Is the school you superintend entirely devoted to paupers?—Entirely to paupers; they are either orphans, or the parents are in the Union workhouse.

335. *Chairman.*] Is there a British and Foreign school?—There is not in that parish.

336. Upon the whole, they are very destitute of schools?—Yes.

337. A great proportion are of the working and poorer classes?—I should say five-sixths.

338. *Mr. O'Brien.*] Can you give any opinion as to the means of providing a remedy for the evils you represent to the Committee to exist in this neighbourhood?—No, I have not paid particular attention to that; there clearly ought to be some authority; I think the Board of Guardians would be the best authority to place it in the hands of.

339. *Mr. Tufnell.*] At what period of the year is fever most prevalent?—In the autumn and the winter; but they are very different kinds of fever: the most fatal is in the winter season.

340. Does it arise at all from want of fuel?—Yes; I intended to have mentioned that circumstance. I think the price of fuel affects the general health of the younger classes of this metropolis exceedingly; and there is another thing in the construction of houses; that there ought, in my opinion, to be stoves or grates, or something of better construction than there are now; in many of the poor people's houses there is no stove whatever: it is not the part of the owner of the house to supply them; and especially for the labouring classes, who are very migratory, and have very frequently no fire-place at all, and, if they have any fire, the greater part of the heat goes up the chimney; and very few of them have their stoves set, because they remove their residences so frequently; consequently they do not get the benefit of the fire they have.

341. *Mr. Cowper.*] Will you specify in what way the want of fuel operates on the health of the labouring classes?—The younger branches of families decidedly require a degree of warmth, which they have not; then again, the houses which are not very well constructed and are not warm, they frequently are damp; in the modern houses, the sand they make use of in cheap buildings, where they build at a small expense, is the sea sand, and it always becomes damp; it gives, as it is called.

342. *Chairman.*] Would it not be an advantage, in your opinion, if there was a plan, drawn by competent authority, pointing out the best mode of constructing habitations calculated for the reception of the working classes; giving plans for the construction of rooms, and pointing out the most economical mode of the consumption of fuel, which plan might be a kind of pattern of the best kind of cottages,

cottages, afford information to builders and so forth?—Some, perhaps, might adopt it, but I fear it would not be general.

343-4. Are you aware that there is any such work at present?—I am not.

345-6. Mr. *Ingham*.] Are you aware that there is a London tax on coal?—Yes.

347-8. Mr. *Wilson Patten*.] Does that affect the price much?—I am sure I cannot say.

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Veneris, 27^o die Martii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Brotherton.
Mr. Cowper.
Mr. Greene.
Mr. Ingham.
Mr. Wilson Patten.

Mr. Ponsonby.
Mr. R. A. Slaney.
Lord James Stuart.
Mr. Tufnell.
Mr. R. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

Mr. *Edward White*, called in; and Examined.

349. *Chairman*.] YOU are a medical man?—I am.

350. Residing where?—In Lamb's Conduit-street.

351-2. A portion of the Holborn Union is under your medical superintendence?—I am one of the medical officers of the Holborn Union.

353. Would you be kind enough to state to us the district with which you are best acquainted?—The Union consists of the parish of St. George-the-Martyr, Queen-square, the upper portion of St. Andrew's, Holborn, (what is called above the bars, out of the City,) and the liberty of Hatton-garden, Saffron-hill, and Ely-rents.

354. Is that a district in which there are a great number of the working classes?—A great number of the labouring classes.

355. What is the condition of it, with respect to sewerage, draining, and cleansing, throughout the whole of the district or locality you have mentioned?—I would beg to state, that my duties do not extend further east than Leather-lane, therefore I am not so well acquainted with that portion which comprises Saffron-hill, the most dirty and most densely populated of the Union, and where the drainage has been worse attended to than any other part of the Union.

356. We will only go to the parts you know; with respect to the portion you are acquainted with, what are the circumstances in the respects I have mentioned?—I should say the most unhealthy part, and where disease most generally prevails among the poor, is between Gray's-inn-lane and Leather-lane.

357. What is the state of the drainage and cleansing there?—There is a long street,—and I happen to know a little of the drainage, from being a member of the Board of Health at the time of the cholera in 1832; and a good deal was then done to improve the drainage of the parish, but it is capable of very great improvement still,—there is a long street called Baldwin's-gardens, with 80 houses in it; it extends from Gray's-inn-lane to Leather-lane, and there is no sewer down this street.

358. Is it inhabited chiefly by the working classes?—One end is more particularly so, and closely confined.

359. There is no sewer there?—No sewer down the street.

360. What is the state of the cleanliness of it?—Many of the houses in a very filthy state, and badly ventilated.

361. In your judgment, have any fevers arisen from this neglect?—I think there have.

362. Is there any other district you would mention particularly?—There is a place or court called Tindal's-buildings, opposite the entrance into Gray's-inn.

363. Is there a place called Back-hill, and also Eyre-street-hill?—Yes; they are more healthy places; they are much worse houses in Tyndall's-buildings.

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364. Garden-court?—

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364. Garden-court?—Yes, there is that place.

365. I have a statement that there have been several bad cases of typhus there?—Yes, there have.

366. Are those places drained?—Very badly drained; they have no common sewer; I consider Tyndal's-buildings the most unhealthy part of my district; I think there are 20 houses in it that are inhabited almost exclusively by poor Irish labourers and their families; they are very densely crowded; perhaps, in a room of half this size, there would be from a dozen to 15 people sleeping in it; the rooms are dark, and badly ventilated, and the filth of those houses for the most part enters into a kind of back cellar or open cesspool, frequently without any covering over it, from which a malaria arises at certain periods, very pernicious to the health of the inhabitants. There are some houses in this court that are hardly ever free from fever; there was a woman and a child sent from there to the Fever Hospital about three weeks ago; they returned cured; they had not been back six weeks before the mother had another attack that proved fatal.

367. Does that arise, in your opinion, from the neglect of cleanliness?—Yes; partly from that and the filthy habits of the inhabitants.

368. Mr. Cowper.] Is there any outlets in Tyndall's-buildings?—No; and very few of the houses have any windows, except on one side; they are built as if against a wall.

369. Chairman.] There is a place called Fox-place, Feathers-court, Portpool-lane, and another court leading from it?—Yes; Portpool-lane is the same length as Baldwin's-gardens; the health of that place has been improved by Messrs. Reids, the brewers, pulling down many houses to make a yard.

370. There are many similar places described in the Report from that Union to the Poor Law Commissioners; Baldwin's-gardens, Baldwin's-place, and many other places of that description; some parts of Eagle-street and Little Ormond-yard?—Yes.

371. Is it an accurate account to say that they are in a bad and neglected state?—Yes.

372. That is, as to drainage, dirt, and so on?—Yes.

373. Mr. Cowper.] Do you know Portpool-lane?—Yes.

374. Has there been much fever in that neighbourhood?—Yes; this lane runs parallel with Baldwin's-gardens. I am not aware that there is a sewer down it; I believe not.

375. Chairman.] Those districts of which you have spoken are neglected in point of sewerage?—Yes.

376. Is there any system of inspection to see that they are kept regularly cleaned or swept out, or the cesspools emptied?—There is a court-leet existing, but those gentlemen very seldom make an inspection of the parish, except where a house is reported as likely to tumble down.

377. Is there any system of inspection likely to lead to the cleansing of those places?—No, not any.

378. Would it not be a great advantage to those persons that such should be the case?—Yes; it would very much tend to promote their health if the simple act of whitewashing could be performed. There are houses three stories high; there are eight rooms in the house, and in each of those rooms a family is residing, and the whitewasher's brush does not appear to have been used for years.

379. Do you know of any instances in those neglected recesses of houses and apartments being infected with fever, the family going out and others coming in and taking the fever?—Not in the same room. I have always recommended whitewashing, and it is generally done.

380. Do you think it desirable to have some authority to whitewash and cleanse those houses?—Yes; it would be a most salutary regulation if the room was fumigated and cleansed.

381. Has the parish been put to a considerable expense in consequence of the increase of disease arising from these causes?—Yes; I have known of cases where the parents have both died in consequence of the fever, and the children sent to the workhouse.

382. A regulation of that kind would be a benefit to the parish?—Yes.

383. Mr. Cowper.] Do you consider that the typhus fever is of the nature of a malaria fever?—Do you mean the exciting cause of it?

384. Yes.—Yes; I think it arises clearly from the poison generated in the locality,

locality, and there being a predisposition, from a bad state of health, or a peculiar state of constitution, or intemperate habits.

385. So that the expense which falls upon the parish by the propagation of typhus fever might be saved, if there was no infection in the district?—I think so, certainly.

386. *Chairman.*] This is a very crowded locality?—Yes, the most crowded.

387. Can you give us any notion of the population in the district you have spoken of?—No.

388. Are you anxious for the inhabitants to get into any open place to get fresh air?—Yes.

389. Do you not think that it would be an advantage if an open space was reserved for public walks for the people?—Yes, very much so.

390. You think it would promote the health of those persons?—No doubt of it.

391. *Mr. Cowper.*] Have you had any opportunity of comparing the London population of the poorer classes with that of the country, as to their physical condition?—No, I have not.

392. Have you observed a great difference in the physical condition of the people who live in the districts you have described and those who live in better ventilated streets?—Yes, I have, decidedly.

393. Have you found greater weakness among those residing in close situations?—Yes, and a more emaciated appearance and greater debility generally. I think in those districts full one-third of my out-door patients are natives of Ireland, or their children. It appears to me that those people, though they get employed as labourers, seem to have no idea of paying anything for lodging; only 1s. or 1s. 6d. per week. Now in those buildings I have mentioned, I do not think there is an English family; there may be one, but it is almost entirely confined to Irish labourers.

394. They do not attach much importance to their lodgings?—No.

395. *Chairman.*] Have you observed in those localities where this negligence prevails, that the health of the children is much injured by the want of ventilation and the closeness?—I think that the children in those places, unless very strong, die early; that is the reason that people say they appear so healthy; if they are not healthy they are carried off.

396. You think that this want of cleanliness is injurious to the health of the children?—Yes; I have had cases of typhus in children of seven years and upwards.

397. Does it increase the malignity of the small-pox?—Yes, very much so.

398. *Mr. Cowper.*] What is the health of the children in the Union generally?—In the workhouse, do you mean?

399. Yes.—They are very healthy.

400. Are they out of town?—They are all now in the union-house in Gray's-inn-lane; they have as good health now as when at Barnet, and better than at Norwood; we had many die there.

401. *Mr. Tufnell.*] How many years have you had charge of this part of the parish?—Two years and a half; I have been a medical man in the parish for upwards of 20 years.

402. Has there been any considerable increase of building in that neighbourhood?—No; it is an old part of the town; in some places old houses have been pulled down; the Messrs. Reid have pulled down a great number of small houses, and have made an opening, and there is better ventilation; there have been no open spaces built upon.

403. Do you know whether the health of the people has been worse of late years than it was formerly?—No.

404. It has been improving?—Yes; there was less fever last year than in the year before; I have the number of cases of fever in my pocket; it prevailed much in 1838.

405. *Mr. Walker.*] You attribute a part of the increase of the healthiness to the improved habits of the people?—Yes, to a certain extent. In 1838 I had 210 cases of fever; 11 died and 27 removed to the Fever Hospital. In 1839, 120 cases, of which 7 died and 14 removed to the Fever Hospital.

406. *Mr. Cowper.*] Do you attribute that to the season?—To the less malignant nature of the fevers.

407. Not to any general improvement of the district?—No.

408. *Chairman.*] Do think that the district still needs improving?—Yes; I think

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I think the health of the poor might be improved by increased draining and cleanliness, and ventilation; and if you get the people more temperate and moral, they will become more cleanly.

409. Do you not think that this neglected state of the courts as regards cleanliness and drainage, and decency, has a very considerable effect upon the moral character of the children?—Yes, they run about half naked.

410. If they go to school in the day, the habits they see have a bad effect upon them when they return?—Yes; the bad habitations injure their health, and the bad habits they see injure their morals.

John Wood Wilkes, called in; and Examined.

J. Wood Wilkes.

411. *Chairman.*] YOU are the relieving officer of the Holborn Union?—Yes.

412. And well acquainted with the district spoken to by the last witness?—Yes.

413. Do you confirm his general account of the want of cleansing and ventilation, and draining, which he has spoken to?—I do.

414. Do you believe the evils he has spoken of arise from those causes?—Yes; there is a sewer down Leather-lane and Gray's-inn-lane, but in the intermediate courts there is nothing of the sort. With respect to Saffron-hill it is very unhealthy, the houses very old, and very populous, and the inhabitants of them extremely filthy and dirty, and with the exception of the Fleet Ditch, which is near there, there is no drainage of any sort, which is certainly very much wanted.

415. The poorest districts, which, from the habits of the people, would require the greatest attention and the greatest facility to carry off the filth, appear to be the most neglected?—Yes, they do; these two districts, the eastern part of Gray's-inn-lane, and then the eastern part of Leather-lane, or the Saffron-hill district; those two districts very much require draining.

416. Now, with regard to ventilation, there are in that populous district you have mentioned many courts and alleys through which there is no current of air?—There are numerous courts and alleys, and some few have no current of air.

417. Courts in which they are built up at one end?—Yes.

418. Are those courts inhabited by the persons spoken of?—Yes; those courts are, particularly behind Gray's-inn-lane and Saffron-hill.

419. To the consequence of the negligence you have spoken of, or the want of those due regulations, do you attribute the ill health in the district in some measure, and the fevers which prevail there?—Yes; doubtless illness arises from the situation.

420. Have there been fevers in that district?—Yes, frequently.

421. Have you many cases that came to you for relief in consequence?—Yes, several cases; the number of fever cases we have sent to the hospital I can speak to generally; these are considered desperate cases; they are sent upon the recommendation of the medical officer; I do not send any without medical advice. We had 18 the first year, 43 the second, and 83 the third; we are now in the fourth year, and have sent 23; we have rather improved in respect of fever cases this year.

422. Are those cases of fever from houses in this neglected part of the town, and do you attribute them to this state of dirt and filth?—Yes, I do.

423. Do you think that the filthy condition of many of the populous districts spoken of is likely to encourage fever?—I do.

424. *Mr. Cowper.*] Can you state what amount of expense was thrown upon the Union by the cases of fever you have alluded to?—We pay a guinea with each patient; if they are there only a few hours, a guinea; if for days, a guinea; that is the charges.

425. Are there a great number of fever cases that do not go to the hospital?—Yes, several; Mr. White returned 110 or 210; there are very many.

426. *Chairman.*] Are the habits of the poorer classes in the districts you speak of, reckless and intemperate?—Yes; and many of them are very filthy in their habits. They are principally confined, I must say, to the Irish; they are very indifferent about what sort of lodging they have. It is no uncommon thing to find five or six families in a small room. I have seen a donkey in the same room;

room; and I have seen, upon another occasion, pigs living in the same room; and also stale fish.

427. Are the lodging-houses occupied by the Irish, or other persons as well, casually?—Behind Gray's-inn-lane, we call that part of it Little Ireland, there are a great number of Irish there, and at Saffron-hill.

428. That is the place you have described as wanting drainage?—Yes.

429. It needs it more than the other?—Yes.

430. Mr. *Tufnell*.] Has the want of ventilation and drainage attracted the attention of the local authorities?—Yes; and it has been attended to on one or two occasions; but under the Metropolitan Police Courts' Act there is a very beneficial clause with respect to cleansing these houses. I believe that the guardians are empowered and can complain to the magistrates of any particular house or houses, and the magistrates have the power to summon the inhabitants or the owner of the property; and if he does not cleanse the property within a certain time, seven days I believe, the magistrate can direct the parish officer to do it, at the expense of the owner. It is a recent Act, as you are doubtless aware of, but much good may be done by its being carried into effect.

431. With regard to the sewerage, has any representation been made to the commissioners; you say there are only two districts in that situation?—No; only two.

432. Has any representation been made to the commissioners?—I do not know; my duties are rather confined to that of relieving-officer.

433. If those cases of fever are caused by malaria arising from want of sewers, it is strange there should not have been a representation made to the commissioners?—We have had no increase of fever; but this state of things must cause fever.

434. The lower classes that inhabit these places are only casual residents?—No, the Irish reside there for years; many families have resided there for years.

435. Have you any manufactory there?—No, not in our Union.

436. Is there any particular demand for labour?—They are principally bricklayers' labourers, and stonemasons' labourers, and navigators.

437. Do you find any difference between the habits of the English and Irish labourer?—Yes, certainly; I find the English labourer more cleanly in his person and habitation; he is not so content to put up with anything.

438. Their families are more free from fever?—Yes.

439. You have not had any instances in your district of any improvement taking place in the buildings in regard to ventilation and the consequent improvement upon that change?—No; at the time of the cholera there was a general cleansing of our parish by the paving board, which produced some benefit.

440. Do the poor suffer from want of fuel very much?—No, with the assistance we give them; there is a good deal of charitable relief in our parish, so that they do not suffer much from want of fuel in our Union, and I have been rather surprised at it; I have generally found them with good fires; there has not been that scarcity of firing I should have expected. When I visit them, as I make it my duty to do, if I find them in a deplorable state, I order all of them into the house.

441. *Chairman*.] Is there a good supply of water in this neighbourhood?—Yes, by the New River Company: there is no scarcity of water.

Mr. *John Clarke*, called in; and Examined.

442. *Chairman*.] YOU are the medical officer of the St. Olave's Union?—Yes.

443. You speak to a populous district below London-bridge, on the Southwark side of the river?—Yes.

444. What parish is it?—The Union consists of three parishes, St. Olave's, St. John's, and St. Thomas's parish.

445. Is it chiefly inhabited by the working classes?—There are a great number of the labouring classes inhabiting it, who are obtaining a precarious livelihood from the wharfs.

446. Extending from London-bridge along the side of the river, and extending inland?—Yes; but not far inland.

447. Does it cross the line of the Greenwich Railway?—The line of the Greenwich Railroad intersects it.

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448. Be kind enough to describe to us the state of that district, with relation to the habitations of the poorer classes, as regards draining and cleansing and ventilation, and any circumstances that affect the health of the working classes, arising from any neglect in those respects?—The labouring classes, who are inhabiting the district over which I preside as medical officer, are principally inhabitants of Ireland, who come over here seeking to obtain a subsistence from their labour. They are very densely crowded together, inhabiting chiefly the courts and alleys pervading the district in every direction; the houses are of the very worst description, badly built, and ill provided in every respect. Most of them have the light obtained only from one side of the house, consequently there is no thorough draft of air through the tenement. In many courts a single privy is provided, accessible to all the inhabitants of the court, and this privy is placed over a common sewer or ditch, often without any covering whatever. The inhabitants are not very particular and careful in their observances of cleanliness, and consequently it frequently happens that those privies are in the most filthy state that can be conceived.

449. Mr. *Wilson Patten*.] Does this apply generally to the district?—In some part of it it is unfortunately very general; in other parts, where there is a convenience attached to the house, it is placed over an open ditch; those ditches or sewers, as they are called, pervade the district in every direction. They terminate, many of them, in a large sewer recently constructed, and others empty themselves into the Thames.

450. *Chairman*.] Do they pervade the district in every direction?—Yes.

451. Mr. *Walker*.] Is there much fall in those ditches?—No, very little; some of those ditches, at high tides, are filled with the water from the Thames, and others not; it depends upon the height of the tide whether the water runs into them or not. In some cases the privy is immediately over the ditch, and in others not so; of course the fluid that accumulates in those ditches is of the most filthy description, and the effluvia emanating from them at some seasons of the year are of the most noxious kind, and the inhabitants living in this locality are very liable to fevers for a number of months for nearly two years I was never without cases of typhus fever on my list.

452. *Chairman*.] Arising, do you think, from those causes?—Yes, I believe arising especially from those causes; the habits and mode of living of the inhabitants predisposing them to attacks of fever.

453. What number of persons, speaking not very closely, do you think inhabit this district?—I can hardly state accurately the number of the labouring classes.

454. Are there many thousands?—Yes; I should say between 5,000 and 6,000 of the labouring classes inhabit this district.

455. Mr. *Walker*.] What proportion of the population do you suppose to be of the labouring class?—One-third; our district comprises about 21,000, and one-third consists of the labouring population that inhabit the locality I have spoken of.

456. *Chairman*.] The description of open ditches and stagnant places you describe apply chiefly to the localities inhabited by the working classes?—Yes; but those ditches unfortunately run into other districts inhabited by shopkeepers and others.

457. Does the neglect you have spoken of, in your opinion, generate fevers, and operate most injuriously to the health of those poor persons?—There is no doubt that the habits and modes of living of the poorer classes in this district predispose them to attacks of fever; and their residence in this locality subjects them to fever.

458. You have said there were many Irish there; are there any English labourers?—Yes, there are some; but those I speak of obtain a precarious livelihood, by working day-labour on the wharfs.

459. Do they earn good wages?—No, very scanty wages, not sufficient to maintain their families; and many of them set their wives and children to work at sackmaking and other things.

460. They are not able, by the wages they earn, to get the kind of food that would fortify them against the attacks of disease?—It is not sufficient to provide them with adequate and nutritious food.

461. Mr. *Wilson Patten*.] What is the average of their wages?—It is impossible to tell; they are employed at the wharfs, by which they obtain so much per hour;

hour; they may get two or three hours per day, and sometimes a whole day's labour.

462. *Chairman.*] Where people get only an insufficient supply of food, is it not necessary that they should be guarded from disease, by a better mode of ventilation, and sewerage, and draining?—No doubt it is of the utmost importance.

463. What is the supply of water there?—Very good; but it is obtained from a small cock, which is placed generally in the courts, to which all the inhabitants have access at a certain hour in the day.

464. With respect to the drainage coming up to those houses in the courts, are there any covered drains that come up to them?—None whatever; there is only a little gutter frequently provided in the centre of the court, which is not sufficient to answer the purpose of drainage; the inhabitants care nothing about drainage, and throw out into the open gutter all their offal and refuse.

465. Is there any system of inspection by any competent authority having the power to cleanse away the offal and filth, and to see that they have sufficient drains carried up to the houses?—I believe it is directed to be done, but there are no persons who feel sufficient interest in it to see that it is done.

466. Is it done?—No.

467. *Mr. Wilson Patten.*] Whose duty is it?—The leet jury, I believe. I have, for several years, in my report to the board of guardians, dwelt upon it as strongly as I could, inasmuch as I see so great an increase in the expenditure for the poor, from the diseases prevailing among them, arising from bad drainage.

468. Have the leet jury the power of remedying it?—Only by presenting it.

469. Whose duty is it to make the alteration?—The Commissioners of Sewers. The Commissioners of Pavements are the parties whose duty it is to see that these courts and alleys are properly cleaned.

470. Are the Commissioners of Sewers obliged, upon the presentation of the leet jury, to lay down sewers?—I am not aware that they are obliged to do it.

471. You have made repeated representations, and they have not led to any removal of the evil?—No.

472. *Mr. Tufnell.*] Have any representations been made to the Commissioners of Sewers by the board of guardians?—Yes, I believe there have; but I am not aware of the result.

473. *Chairman.*] Are there a good many children in that district?—There are a great many children indeed; and sickness is exceedingly prevalent among the children, as much from the negligence of the parents as other causes.

474. Do the children attend schools, most of them?—I believe very few of them. We have recently established in the district Infant and Sunday schools, which many of the parents avail themselves of; but, generally speaking, the children are in a miserable state of neglect.

475. *Mr. Wilson Patten.*] How many schools have you in the neighbourhood?—We are favoured in having a very large grammar-school, of the Elizabethan foundation, which takes in all classes of the people; whoever can obtain a presentation from a governor can send his boy; and we have between 600 and 700 boys educated at that grammar-school.

476. *Chairman.*] But notwithstanding that, there are many who do not go to school?—Yes; those are the children of the labouring classes, who would not be admitted without decent clothing.

477. And those who do go to school, and avail themselves of those advantages, is it not your opinion that the neglect of decency and comfort they see at home tends to do away with the advantage of education at school?—Yes, most materially, I believe it does.

478. So that the bad example they see there has a great effect upon them?—Yes, no doubt of it.

479. *Mr. Wilson Patten.*] You have stated the amount of population was 21,000?—Yes.

480. State the average number of patients you have under your care, from one end of the year to the other?—I could state, with tolerable accuracy, the number of cases of fever which have occurred in a particular period.

481. I mean the cases of illness generally?—We see from 50 to 80 patients daily during the year, at the charge of the Union.

482. Now state the number of fever cases?—Fever has not prevailed latterly

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so much in our district as formerly; last year we had only 40 cases of fever in the house, whereas in the year preceding we had 110.

483. Does the small-pox prevail in that district?—Very much, latterly.

484. Have you observed whether those who have been vaccinated are, from their modes of life, more liable to take the small-pox than they would be under other circumstances?—Yes, most certainly; I have an instance under my care of a woman who has taken the small-pox in a very modified form, from nursing her child; she lives in this district.

485. Is there any repugnance among the labouring classes to vaccination?—No, it is merely from neglect.

486. Have you seen the Bill, for the purpose of vaccination, passing through Parliament?—No; I have heard of it.

487. Do you think there would be any repugnance, on the part of the labouring people, to have a person there to enforce vaccination?—No, I think not; they would have no objection to it if it could be obtained with little trouble to themselves.

488. Mr. Tufnell.] Have you had many cases of cholera there?—Yes, the cases that occurred, first occurred in that district.

489. Mr. Wilson Patten.] Do you find that vaccination modifies the disease (small-pox) in that district?—Yes, very much indeed; it hardly requires medical treatment.

490. Mr. Parker.] The parish of St. Olaves is a very flat parish?—Yes.

491. Very little undulation?—None.

492. Very little above the level of the river?—It is not above the spring tides.

493. Do you consider that there might be, by mechanical means, a perfect system of drainage, by having a sluice to open at low water, and close as the tide rises?—Yes.

494. Mr. Tufnell.] Have you had any cases of cholera lately?—Yes, a few have occurred.

495. Were they cases of English cholera?—No, they were cases of real cholera.

496. Mr. Wilson Patten.] What has been the extent of the mortality in your district compared to other districts?—I do not know that it prevails more in that district than in others; but where there is much sickness, of course there is a great deal of fatality; the number of cases of fever in the last year, compared with the preceding years, would not average more than one-fifth.

497. At what season of the year do you find typhus fever more prevalent?—Not in one season more than another.

498. Mr. Tufnell.] To what do you attribute the improved health of the district?—I cannot tell; but although the last season was so wet, we had fewer cases of fever; I believe it arose from the quantity of rain cleaning out the ditches.

499. Chairman.] The rain cleansed out the ditches and purified them?—It answered that purpose.

500. Mr. Wilson Patten.] Do you happen to know the amount of poor-rates paid in that district?—No, not exactly the sum; but in the last three or four years it has been reduced more than one-half.

501. You do not know the amount?—Not the exact amount.

Neil Arnott, M.D. called in; and Examined.

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502. Chairman.] YOU, I think, have made, in conjunction with Dr. Kay, a Report to the Poor Law Commissioners, “on the prevalence of certain physical causes of fever in the metropolis, which might be removed by proper sanitary measures”?—I have.

503. That is printed in the Fourth Annual Report of the Poor Law Commissioners?—Yes, I have seen it there.

504. In referring to that Report, in which you state the causes of fever in various districts, I venture to turn to nearly the bottom of the 12th page, where you speak of “the means of removing completely the noxious animal and vegetable matters brought to or produced in cities”?—Yes.

505. You have before stated that you think the neglect of drainage and the removing of offal, and dirt, and filth, from the great towns, is the cause of fevers?—Yes.

506. And

506. And many other illnesses?—Yes.

507. Be kind enough to turn to the beginning of No. 1, and just state to us if you consider the statement you have made there would be effectual in diminishing very much the mortality, particularly among the humbler classes; you state, first, "A perfect system of sufficiently sloping drains or sewers, by which from every house and street all fluid refuse shall quickly depart by the action of gravitation alone; the streets, alleys, courts, &c. being moreover well paved, so that the refuse may be easily distinguished and detached;" that is one of the means you have spoken of as being efficient?—Yes, for the removal of those causes of disease.

508. That would be applicable to all large towns and populous districts?—Yes, universally.

509. Secondly, "A plentiful supply of water to dilute and carry all such refuse, and to allow of sufficiently washing of streets, houses, clothing, and persons"?—That is equally necessary.

510. Thirdly, "An effective service of scavengers, to remove regularly the rubbish and impurities which water cannot carry away, and fit receptacles for such matters until removed," that also would be necessary?—I think all those very important.

511. "Free ventilation, by wide streets, open alleys, and well-constructed houses, to dilute and carry away all the hurtful aeriform products of the processes of society;" ventilation is most important?—Yes, ventilation is most important.

512. You have also stated the necessity of keeping away at a distance from the people the practice of all the arts or processes capable of producing malaria?—Yes; of which there are a great many carried on in the neighbourhood of large towns.

513. I observe you particularly state burying-grounds, in one part of it?—Yes.

514. Are you of opinion that the practice of burying in very large towns, without covering deeply the bodies, is very dangerous?—Yes; I have no doubt cases of disease arise from it, and the malaria arising from those burying-grounds injures the health of the neighbourhood.

515. Lastly, you have stated the necessity of preventing the great crowding of the lodging-houses of the poor?—Yes.

516. You are of opinion that attention to those points would very much increase the health and comfort of the labouring classes in large towns?—Yes.

517. Then we go on generally to the want of proper attention to those points in London; and without going to the several instances mentioned, I would go down to where it states "At the request of the Poor Law Commissioners on the 1st of May, we inspected parts in the eastern extremity of London, about Wapping, Ratcliff Highway, the parish of Stepney, &c. from which many patients with fever had been carried to the hospitals. We found, as we were prepared to find, wherever the fever had appeared, one or more of the causes now to be noticed." Was that the case?—Yes, it was.

518. You have inspected those populous districts to which I have ventured to call your attention, and found the predisposing causes to fever in many of them?—Yes, as here stated.

519. The causes are stated below: "1. Houses and courts or alleys without privies, without covered drains, and with only open surface gutters, so ill made that the fluid in many places was stagnant; 2. Large open ditches, containing stagnant liquid filth; 3. Houses dirty beyond description, as if never washed or swept, and extremely crowded with inhabitants, who had no means of separation in case of disease arising among them; 4. Pigs kept in back yards with sties very filthy, and masses of half putrid food for the pigs in receptacles around, which in one instance were in the back room of the house, with an open door to the front room, in which was lying a man in the last stage of fever; 5. Heaps of refuse and rubbish, vegetable and animal remains, at the bottoms of close courts and in corners." Did you find those cases arising in many parts of the district which you have looked over?—We ascertained that the persons who had been carried to the fever hospital from that neighbourhood were from the houses we were examining, in which we found those causes existing.

520. Do you feel any doubt that the cases of fever and ill health you noticed arose from some of those causes?—I have not the slightest doubt of it.

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521. You state, remedially, at the top of page 14, "We have no doubt that by proper sanitary police regulations, such as a public board of health might decide upon, the typhoid fevers of London and other places might be made to disappear, and we think the remedial measures would cost less than it now costs to parishes and public charities to take care of the sick, and to provide for the helpless widows or orphans of those who die." Is that your confirmed opinion?—Yes, it is.

522. That is applicable not merely to the crowded district east of London, to which we are now alluding, but also to any crowded districts of large towns in the realm?—Yes, wherever typhoid fever arises, or diseases of that kind.

523. Would it not be likely that the diseases that afflict the inhabitants of this district would arise in other towns similarly situated?—Yes, no doubt they do arise.

524. Then without troubling you to go through the minute detail of what you saw in those districts, I venture to call your attention to the districts generally of Bethnal-green and Whitechapel, and the east of London?—I have passed through those on many occasions, and made a similar remark, that the situations were calculated, from the causes here described to be in existence, to produce the fevers I knew to be in existence; that was the impression upon my mind, and that the fevers that arose in those districts spread in proportion to the prevalence of those causes.

525. Would not also the negligence spoken of increase the virulence of small-pox, measles, and scarlatina to which children are subject?—I believe malaria injures the health of people generally, and that every disease that affects them would be more serious in its consequences.

526. Did you observe the want of sewerage and drainage, and cleanliness and ventilation, in many portions of the populous districts of Bethnal-green and Whitechapel?—Yes, I did, when, from curiosity or other causes, I have passed through them, I noticed those circumstances.

527. You think that the labouring classes suffer severely from the neglect of those regulations which might be made, that would be beneficial to them and to the parish at the same time?—Yes, I do.

528. Generally the places that are alluded to in this report you have seen, and you believe the report to be a correct one?—It is a general review made on the occasion to which this refers, when I went with Dr. Kay; but I recollect particularly, that on several occasions where we saw houses where fever was likely to arise, we found that in one case the inhabitants had been all sent to the Fever Hospital, or had been affected with fever, showing we had accurately fixed upon a spot likely to occasion fever, and that seemed to be proof there was no mistake as to the cause.

529. Do you happen to have in your own knowledge any cases of districts affected with fever from the same causes, which, being subsequently drained, have been improved, and, by a cleansing taking place, the fever has left it?—I have mentioned one remarkable instance in this report.

530. Near Clarendon-square?—At the commencement of the Birmingham Railway, at the back of Euston-square, there was a lake of filth rather than a ditch, which used to overflow at certain seasons, where 100 cows were kept, and fevers were very common in a school where there were 150 children; at the season of the autumn, when malaria is likely to prevail, diseases of different kinds manifested themselves every year, different diseases, according to the season, but proceeding from the same cause. Since that drain has been covered up, such diseases have ceased entirely.

531. Would like effects arise from similar improvements elsewhere?—No doubt.

532. Do you not consider that the labouring classes in the eastern districts of London are particularly liable to diseases of this kind, in consequence of not being able to get, in their circumstances, the strengthening food which they ought to have?—I believe the want of nourishing food would be one of the causes rendering these exciting causes active, and is of as much importance as any of the causes that have been mentioned: want of food would weaken the health of the parties, and render them more susceptible of injurious impressions.

533. Mr. Wilson Patten.] Do you know what the general food of the labouring classes in those districts is; do they eat much meat?—Yes, I think they do;

do; many of the men who work on board the ships drink large quantities of porter, and eat meat. Perhaps the wives and children have but a small allowance, but the man takes care of himself.

534. *Chairman.*] You think the situation of the working classes renders it more particularly necessary that care should be taken in draining and cleansing the neighbourhoods of their habitations?—Yes, they are exposed to want of food now and then, and the injurious influence of that privation would be much more important when the other causes here described are in operation.

535. You have been kind enough to state your general views and the result of your knowledge of particular localities in the eastern part of London; can you give us any information of any neglect or want of improvements in any other districts round London?—I think on the outskirts of London generally, where it has been the practice to begin to build small houses, that no attention was paid to the drains; in many situations there are streets without any sewers.

536. Can you mention any of them?—I passed yesterday near the entrance to Kennington Gardens, the north side, where there was a number of small houses, and there was no outlet; they have been obliged to make drains since a better class of houses have been constructed, and to dig deep; there were many small houses near to the ditch, and I have heard that disease prevailed there to a considerable extent.

537. You are of opinion that in the suburbs of London where there has been a great increase of building, there has been great neglect in these respects, of draining and sewerage?—Yes, there have been great neglects; there is no law enforcing the construction of drains as part of the habitation.

538. *Mr. Wilson Patten.*] Do you know where cottage property has been built that drains have been made?—No, I do not.

539. It is generally the case where cottage property is built, that drains are not laid down?—I believe it is so; that there is no compulsory law.

540. *Chairman.*] You think that some compulsory power to enforce the regulations as to draining and cleansing is in large towns necessary?—Yes, most important and necessary.

541. Do you think that some kind of regulations as to some improvement in building, that is to say, as to distances and openings for ventilation, would be beneficial to the health of the poorer classes and all classes?—I think there is not much error in that respect; the streets are wider in London than in many towns, and in the new parts of the town the streets crossing at right angles; there is much to be learned with respect to ventilation, and the interior; as the agents are invisible there, the malaria arising from the lungs of people often remains, doing great injury, and is unsuspected altogether, and the diseases are attributed to other causes.

542. You do not happen to know the number of courts in London through which there is no thoroughfare?—No; there are a great many, no doubt; but even in a *cul de sac* the wind blows in; where there is an accumulation of filth, of course it is bad, but the air blows in.

543. Do you not think it desirable that they should be built open at both ends?—Yes, certainly.

544. Have you heard that in Manchester there are 2,000 courts without any thoroughfare, where people reside?—Yes, and when narrow, they become the receptacles of filth.

545. *Mr. Wilson Patten.*] If they were kept clean, would there be sufficient ventilation?—Yes, but that is impossible; where people are not passing, the inducement to throw things down is so great.

546. *Chairman.*] If there was some party authorized to keep them clean, it would not be so objectionable?—No; if the filth was removed, there would be much less objection to the form of the court; but if it leads to an accumulation, the only means to prevent it is by ordering the court not to be closed.

547. Do you not think that in consequence there should be some power in some competent authority to enforce a communication between the common sewer and the houses, to take off the refuse?—It is one of the most important regulations that could be made.

548. Do you not think there should be a power to prevent the cesspools being dug below the level of the sewers?—Yes, I do.

549. *Mr. Wilson Patten.*] In what quarter would you recommend that authority

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authority to be vested?—The Commissioners of Sewers require to be superintended by other authorities; they have separate interests, and there should be a board of health.

550. Should they be connected with the board of guardians?—That might be the means of carrying it into effect, as they would have an interest in seeing that those useful changes were made; but I am not prepared to speak decidedly upon that subject.

551. You do not mean to recommend that a board of health should be established for that purpose?—No; but that there should be a body of men who should look around them, to see the cause of diseases, and that they should point them out to another board in order to get them removed.

552. That board could not be established without a great expense; where would you recommend that that should fall?—It would not be attended with great expense, even throughout the whole kingdom.

553. You would have it established throughout the kingdom?—Yes.

554. *Chairman.*] Do you not think that a board of health, without saying where the authority should be vested, if it was duly administered and attended to with respect to the health of these districts, would pay its expenses over and over again?—Yes, I think it would be excellent economy; for the same reason there is a surgeon appointed to a ship or a regiment, whose duty it is to go round and see there is nothing existing injurious to the health of the crew; I think there should be a body consisting of several to watch over the health of the community, and see where there are causes existing injurious to the health of the public.

555. You think it would be a saving in point of expense?—Yes.

556. Do you not think it a matter that would be a debt of justice to the great body of the labouring classes, that there should be a body of that kind?—Yes.

557. *Mr. Walker.*] Admitting that body to be formed, do you not think that a recommendation from that body to the board of guardians would be sufficient to effect those improvements?—Yes, I think so; some of the guardians being the most enlightened and public-spirited men of the neighbourhood, they would be most happy to know what could be done to obtain so great a good.

558. Do you not think that that would be a cheaper mode rather than arming a board of health with the requisite powers?—The board of health should not be the body to carry it into effect, but the board of guardians would be the most eligible body.

559. *Mr. Wilson Patten.*] You are aware, under the New Poor Law Act the board of guardians are empowered to contract with a medical man for the superintendence of the district?—Yes.

560. Under the recommendation you have just now given you would do away with that power, as being contrary to the principle of a board of health?—There must be medical officers to take care of the sick; the duty of the board which I now speak of would be to prevent illness. The medical officers are now paid for curing the sick when they present themselves; but the duty of the board of which I speak would be, to look around and prevent disease, which is much more easy than to cure it.

561. Are you aware that under that Act of Parliament a contract can be entered into?—I am not aware of it. I have not attended to it particularly.

562. *Mr. Tufnell.*] Do you think that those fevers that exist among the lower classes spread to the higher classes?—Yes; and I might mention a case in my own neighbourhood, where the drains were in bad order: two of the young ladies have been at death's-door, and I am not sure that one will not die. On making inquiry, I found that the house had been in the occupation of two or three families within a few years, and it appears that the servants and other members of the families, which were there in former years, were taken ill of fevers, and removed, and some died.

563. What do you consider the most healthy part of London?—The north-west of London; they have the most pure air, from the prevailing winds being south-west and north-east, which winds do not blow over London to them; on the elevated grounds in Marylebone parish the air comes to them pure, as much so as Hampstead; and, as far as depends upon the air, those are the better parts of the town.

564. But not as to the drainage?—Being elevated they can drain them very well.

565. Do

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565. Do you perceive that where the drainage is better the habits of the people are more cleanly?—It will tend to that; where filth is unavoidable, it makes people careless of making a little addition to it; it does not shock their feelings as if all was clean.

566. *Chairman.*] Does it affect the condition of the children?—I believe it affects the health of them.

567. With respect to the moral habits of the children, if they go to school and come back to a place filthy, does it affect them?—No doubt it has an effect upon them.

568. *Mr. Tufnell.*] In these close and confined districts, where generation has been living after generation, has it had an effect upon the health of the children?—Yes; no doubt, in the fenny, marshy districts of England, the people acquire an appearance which distinguishes them from the inhabitants of the elevated districts; that is the malaria acting upon them; and no doubt the atmosphere of a town will operate upon them in the same way. An individual, the offspring of persons successively living in bad air, will have a constitution decidedly different from a man who is born of a race that has inhabited the country any long time.

569. The race will continue degenerating?—Yes, to a certain extent.

570. That applies itself to the neglected, dirty districts of towns?—Yes; most particularly.

571. *Mr. Cowper.*] Do you mean it produces an effect upon their outward, physical frame, as well as their constitution?—Yes; it makes its mark upon the person; we can distinguish the inhabitants of a town from the country.

572. And the inhabitants of those crowded alleys still more?—Yes.

573. Have you observed, in the course of your practice, that the houses situated opposite to gullyholes have been affected with fever?—Very likely; it is very injurious breathing so impure an air as results from that. I have not known an instance, but I have no doubt it does produce that effect.

574. *Mr. Greene.*] In the course of your examination in different parts of London, was your attention directed to the places where animals were slaughtered by butchers?—I have seen all of them.

575. Is it not the case that some of the small butchers slaughter their cattle in cellars and places below the level of the streets?—I know they do.

576. Where there must be considerable difficulty in getting away the offal and blood?—They would scarcely venture to do it if there was not a sewer leading from the place.

577. Still, is not the practice of slaughtering cattle in closely peopled places highly injurious?—Yes.

578. *Chairman.*] Any plan by which they would be got rid of would be an advantage?—Yes; and many other things of the kind that exist in large towns.

579. *Mr. Greene.*] Practically, there is less mischief arises from putrid animal matter than putrid vegetable matter?—That depends upon the state of it. Putrid animal matter becomes, in a certain state, a positive poison. When the body of a person buried has been taken out again, or a grave opened, the effluvia has knocked the parties (to use a common phrase) down, and produced a disease that has ended in death in a few days.

580. There is no regulation with respect to the places where cattle are slaughtered?—No; in London attention is paid to the draining and clearing away those offensive matters, and less injury arises than formerly; but still I have no doubt that injury does arise, and the neighbourhood must be unhealthy.

581. *Chairman.*] A board of health, such as you have alluded to, would turn their attention to matters of this kind, and give such suggestions as their experience might dictate?—Yes.

582. And that would be highly desirable?—Yes, they would have saved you the trouble of making this investigation; they would have had their attention constantly turned to it.

583. *Mr. Ponsonby.*] Have you found the neighbourhoods of churchyards very unhealthy?—Yes; there have been cases where people have been taken ill upon a grave being opened when living in the neighbourhood of a church-yard, but the hidden enemy has not been suspected; the errors committed from want of knowledge are extraordinary. I heard, at the Zoological Gardens, of a class

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of animals where 50 out of 60 were killed in a month from putting them into a house with no opening in it but a few inches in the floor; it was like putting them under an extinguisher; and this was supposed to be done upon scientific principles.

584. Mr. *Wilson Patten*.] Have you paid much attention to the morals of the labouring classes in London?—My attention has been attracted to it.

585. Could you speak to the increase or decrease of drunkenness among the labouring classes?—I have not attended to that so closely as to make a comparison.

586. Have you had an opportunity of making an observation upon their habits in that respect?—Yes; I live up in Bedford-square, and pass through St. Giles's often on a Saturday night, and it is a most extraordinary scene.

587. Have you seen the effects, generally, of drunkenness?—Yes; a man who is in the habit of drinking becomes a patient in the hospital, and one then sees the consequence of the habit.

588. Have you observed that children in the metropolis have been affected, even at birth, by the drunken habits of their parents?—The poor children sent to the workhouse exhibit in their constitution the effects of those habits.

589. Immediately upon being born?—Not immediately, but soon after; in stunted growth and general appearance.

590. Do you think, speaking of the labouring classes of London, that their health is more deteriorated by local circumstances, or habits of drunkenness?—It is difficult to make a comparison; drunkenness will destroy the constitution; but children often come before the parents have acquired the habit, and do not exhibit what the parents have become eventually, which prevents the race becoming extinct; when men become drunkards the children born after that time die very soon.

591. Have you ever turned your attention to the quantity of spirits consumed in this district at the present time, compared to former years?—No.

592. *Chairman*.] Spirit drinking prevails in the locality you speak of?—Yes, very greatly.

593. The evils are very great?—Yes.

594. Mr. *Wilson Patten*.] Do you think that the evil has increased in a great degree in the last few years?—Yes, I think so; those gin-palaces show more profit has been made by that branch of commerce than formerly.

595. *Chairman*.] The eastern and northern parts of this great metropolis are extremely crowded; would it be beneficial to those districts if there were reservations of open spaces made in the way of public walks, in which the poorer classes could go to get fresh air on Sunday, or on holidays?—Yes, I think exercise in the open air highly useful.

596. Mr. *Wilson Patten*.] The open spaces that exist in the eastern parts are not beneficial to health?—No, they are full of ditches and stagnant water.

597. *Chairman*.] Would the same remark, as to open spaces, apply to great towns, generally?—Yes, I think it applies generally.

598. Mr. *Tufnell*.] Do the lower classes suffer much from want of fuel, or the uneconomical use of it?—Yes, and having no fire at home they go to a public-house and sit there; and many of them believe that taking spirits internally warms them and answers the same purpose as going to a fire: they think it a question, which of the two ways will warm them best, not deeming it more injurious to health to warm them in the one way or the other. The want of fuel is particularly felt, and it is known that disease prevails to a much greater extent when the winter is severe; from that cause persons drink more and suffer more in various ways.

599. Would it be possible to devise more economical means of employing fuel for the poor?—Yes, I have turned my attention to that subject; and in second edition of a little pamphlet I published a short time ago, I think I can point it out.

600. So that the poor might warm their houses and cook their food?—Yes, they could do it for 1 *d.* or 2 *d.* a day, and the machinery would cost very little; I have had a model prepared for the purpose, which will be particularly described: Count Romford suggested something of the kind some years ago, but he had not thought self-regulation necessary to it.

601. Mr. *Wilson Patten*.] Are you aware that societies have been formed in many parts of the country to take advantage of your invention?—Yes; but the whole

whole science and philosophy of heat were not well understood, and there have been many popular errors upon the subject, and many reasons given that have been fruitless; but the facts now familiar to all minds will make the reason clear, and a very important change may be effected soon.

602. *Chairman.*] Does not it happen to you to know, that the mode in which the poorer classes use the fuel they have, is one the most expensive and the least beneficial that can be devised?—Yes, nothing can be much worse or less judicious.

603. So that those poor persons make less of the little fuel they have than the richer classes?—Yes.

604. The improvements in fire-places, which have been brought forward by scientific men, have done a great deal for the fire-places of the rich, but not to the habitations of the poor?—Yes.

605. Are you aware of any treatise upon the subject, particularly relating to fire-places of the poorer classes, and the building their cottages and dwellings?—Yes; the first publications upon the subject were those Essays of Count Romford.

606. They were many years ago?—Thirty or 40 years ago, but it was not to the taste of the people to study the subject; there was some little difficulty in it, and very few architects understood the essays.

607. *Mr. Ponsonby.*] Have you found the poorer classes ready to avail themselves of those improvements?—Yes, they would be, if the advantages were clearly shown to them.

608. Are they not wedded to old systems?—No, not in this country, there are so many novelties exhibiting every day; they do not believe that the world is always to be as it is now.

609. *Mr. Walker.*] In your contemplated improvements, will there be any plan in the machinery by which cooking can be facilitated?—Yes, it is a cooking apparatus.

610. You consider that of great importance to the poor?—Yes, it is quite essential. The purpose of a fire is generally that of cooking; they are often obliged to do without a fire at other times.

611. Is it not the habit of the poorer people to have their food cooked at a baker's, or a cook-shop?—Yes, and pay more for it than would suffice to keep them warm for 24 hours, as well as cook their food.

612. Do you not consider that the greatest improvement in their domestic comforts would arise from that circumstance?—Yes, I think so, independent of the saving of expense.

613. *Mr. Cowper.*] Have you any suggestions to make upon the ventilation of their houses, as well as the warming?—Yes, they go together; the people being warmed, the ventilation will improve itself; it was left to mere accident and misapprehension of what is going on, and when parties have interfered with it, it has been to make it worse than before; some egregious blunders have produced injury instead of benefit.

614. The people are not aware generally that a close room is very unhealthy?—Yes.

615. *Mr. Tufnell.*] With this system of consuming fuel there is an improved system of ventilation?—Yes, the two go together.

616. *Mr. Cowper.*] Do you know to what extent the poorer classes breathe fresh air in London on Sundays?—Yes; many go from their house, and those who have not fit clothes conceal themselves.

617. Can you say anything of the effect upon the health of remaining the whole year round in the confined atmosphere of a town?—It must be very injurious, and produce a weakly constitution and liability to diseases, and, when certain diseases arise, leading to a fatal termination.

Mr. Edward Evans, called in; and Examined.

618. *Chairman.*] YOU are relieving officer of a district in Southwark?—I am; *Mr. Edward Evans*, a surgeon.

619. What district do you superintend?—The parish of St. George's, Southwark.

620. Are you the medical attendant of a portion of that Union?—It is a parish alone, not an Union.

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621. That is a very populous district, I believe?—About 42,000 inhabitants.

622. There are a considerable number of the working classes resident there?

—Yes; a great many.

623. Is the Mint in that district?—Yes, exactly so.

624. There is a district called the Mint, in Southwark?—Yes.

625. Is that crowded with the humbler classes?—Yes; almost every individual is of that class.

626. Be good enough to describe to us the district inhabited by the labouring classes there with respect to drainage, cleansing, and ventilation, and any point in which it appears to you to be neglected, and to have injured their health?—It appears that The Mint is very much crowded with dilapidated houses; they have not paid any attention to it for many years; it is all tumbling down, and it is choked up for want of proper ventilation. There are a great many lodging-houses there, four or five of them, and not less, on an average than 400 or 500 come there every night to those cheap lodging-houses, paying 2*d.* a night.

627. Are those places very much neglected in point of filth?—Yes; you can hardly get up to them without seeing it.

628. With regard to the drainage?—Where the houses are so much neglected, the yards are very filthy, and the cesspools are overflowing with water and filth; and where they keep their ashes, and so on, are in a very filthy condition; throwing out the cabbage-leaves, and everything they have they throw out into those back-yards.

629. And very much neglected?—Yes.

630. Are there drains to them all, or are the drains neglected?—Sometimes when there is a considerable quantity of rain for a day or so, you find the yards covered with water for want of drainage into the proper sewer; there is always a little gutter to carry the water into the sewer, but with dust and other neglect it is overflowed; very often it is dangerous to get into the back premises, from the smell of the effluvia.

631. These gutters are open gutters?—Yes.

632. And loaded continually with filth and dirt?—Yes.

633. Is the neglect of those gutters, from the filth thrown out, injurious to the health of the inhabitants?—Yes, very much; during the time of the prevalence of the cholera and influenza, 12 months ago, the typhus fever was very prevalent, and I was obliged to go to those houses two or three times a day, and not one person only, but two or three, one after another.

634. Did that arise in a great measure from the neglect of the cesspools and draining?—I have no doubt that it added to the fever very considerably.

635. Do you think neglected drains and cesspools have a tendency to bring on fever?—Yes, where there is a slight predisposition to it, they may bring it on and continue it.

636. How are they off as to water?—I believe they are very well supplied with water, and good water.

637. In that respect they are not deficient?—No.

638. How is it supplied?—By pipes from the different main-pipes in the street.

639. With respect to this district that you say is neglected, how many do you think there is of the population of the working classes situated in districts neglected in this way?—I cannot give you an answer to a hundred or two, but 3,000 or 4,000.

640. This is in the centre of a very populous district?—Yes, one side of our own parish, but in the centre of a populous district.

641. Are there any other drains or cesspools open to the air?—Not in the Mint exactly, but upon one side of Kent-street, at the boundary between Bermondsey parish and St. George's parish, there is an open ditch there which runs a considerable way as a boundary between the two parishes, and on one side of Kent-street, in our own parish, there are several streets, and almost every street had the typhus fever, and the inhabitants had to go away from it.

642. Did that arise from that ditch not being covered over?—Yes.

643. That is in another part?—Yes, that is toward the Kent-road.

644. Is the cleansing and cleaning out those places, and the draining and bringing an under-ground communication to each house, neglected in that district?—Yes, I have no doubt it is; I had occasion, a few years back, to call the attention of the guardians to the state of it, in consequence of the cholera; we
formed

formed a committee, and got our officers to give them notice that they must keep the houses in a better condition, and have them whitewashed, and keep their places in a better condition.

645. Was any system of drainage carried out, so as to bring the drains up to every house?—No, there has been nothing of that kind since.

646. Is it still in a very neglected state?—Yes, there has been nothing done since; there have been to the new houses, but in the general part it is not.

647. It is still neglected?—Yes.

648. And the cause of fever to the inhabitants?—I have no doubt it is so.

649. With respect to the conveniences, the privies, and so on, are they well regulated; are they sufficient, or are they kept clean or cleansed at proper times, or are they, on the contrary, neglected?—They are all neglected; there are so many people in one house using the same convenience, that there is often not a cover at all, and it is very dangerous to go to it.

650. And injurious to health?—Yes.

651. Is there any efficient system of inspection as to drainage, and as to cleansing the cesspools and cleansing those places in which dirt and refuse are thrown, in those close courts and places inhabited by the working classes; is there any system of inspection carried out?—In our parish we have different local Acts of Parliament for cleansing and lighting and scavenging; I am one of the commissioners belonging to one part, and we contract once a year with the master scavenger to take care to clean the whole of the bye places and the main streets; that is, once or twice a week it is done; I believe we have the power to insist upon these things, but I am not sure it is carried to the extent that it ought to be.

652. Is there any effectual system of inspection now, to see that it is done?—It is not to that extent I wish to see it.

653. With regard to these close courts and alleys, is there any system of inspection as regards house cleansing?—I know there is not.

654. Would it not be very much an improvement to the health of the district, and particularly the humbler classes, if such a system of inspection and cleansing was carried out?—Very essential.

655. Does not there want an improvement in the system of drainage?—I believe in the open drainage there does; but we have a very excellent sewer in our parish.

656. Does it go up every main street?—Yes; and there is a very good communication from every bye street.

657. Are they covered communications or open?—By an open gutter, very often.

658. Is not that very injurious?—Yes, most injurious.

659. Ought it not to be covered?—It ought to be.

660. Is small-pox prevalent in those districts among the children?—It is frequently, but we have not many cases at present.

661. Does not a neglect of cleanliness and decency have a tendency to increase the virulence of the disorder?—If there is any epidemic, no doubt the want of cleanliness will increase it, and produce a disposition in the constitution to receive the poison.

662. Are there many children in this district?—Yes.

663. Are there schools provided for them?—We have many schools in the Bow-road.

664. I am speaking of the Mint?—That is not far from the Mint.

665. Do you find there are schools sufficient for them?—Yes; but the parents neglect to send them.

666. Do the children go?—Many do, and many do not.

667. Mr. Ingham.] Are there play-grounds attached to the schools?—There are no play-grounds to any great extent; there are small yards.

668. Mr. Wilson Patten.] Do you know anything of the quantity of school-room there is in your district, or the number of schools for the labouring classes?—No, I do not know the number of small schools, but we have a national school and a parochial school in the Borough-road; and it is in contemplation, I know, to enlarge the national school in the Borough-road to a very considerable extent; there is now a committee sitting, and they are now examining different designs sent in, so that the school in the Borough-road will be a very large one indeed.

Mr. Edward Evans. 669. Do you know what the space around that school will be?—At present it is a very small yard.

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671. Have you found in your observations, that the children who frequent the schools are the most healthy children in the district?—Yes; by their attention at school, and going backwards and forwards to school, and having their breakfasts and dinners regularly, it engenders good health and cleanliness also.

672. Mr. Greene.] How is the water supplied to the houses in the Mint; are they not very poor houses?—Yes, they are very dilapidated houses, and ought to be condemned.

673. Have they water laid on to each separate house?—No; they are congregated together, and there is a common pipe or cock for several houses in the back yards; you find several running with their pails to the same place to get water.

674. Do the landlords of the several houses contribute for the water?—The houses are farmed out, and the landlord pays so much for the water, and they have all common access to the water place.

675. You have spoken of an open ditch in the neighbourhood of Kent-street; how does that communicate with the common sewer?—It runs between the two parishes, and empties itself into another ditch, that empties itself into the Thames.

676. Are you aware how far it is from that ditch to the common sewer?—I believe it is about half a quarter of a mile.

677. The common sewer is much below the level of that ditch?—Yes, many feet.

678. Would it be a matter of perfect ease to empty it entirely into the sewers?—Yes; there is an open space in Kent-street, where it could be easily done.

679. To the infinite benefit of the inhabitants of the neighbourhood?—Yes; and I think those belonging to the sewers ought to be careful as to the particular gratings, where there is often an accumulation; that causes a considerable effluvia that is injurious to health; I want the parish to admit a quantity of water in where there is an accumulation of stagnant water under the grating.

680. There being no water in the stink-trap?—No.

Mr. Matthew French Wagstaffe, called in; and Examined.

Mr. M. F. Wagstaffe. 681. Chairman.] I BELIEVE it is the Lambeth district you are acquainted with?—Yes.

682. You have made a report to the Poor-Law Commissioners upon the sanitary state of the poorer classes?—Yes, in 1838.

683. You are a surgeon?—Yes, I am.

684. Residing in Walcot-place West, Lambeth?—Yes.

685. I observe in page 16, of the Report I have in my hand, a letter of yours, in which you state you had addressed yourself to the board of guardians of Lambeth, the 18th September 1837, on the subject of the prevalence of fever in many parts of your district; the periodical recurrence of its almost continued existence, chiefly among the labouring classes; and you told them that, in your opinion, it arose from want of proper drainage, and suggested the propriety of constructing a sewer in East-street, Lambeth-walk, and the following streets leading into it, namely, New-street, Saunders-street, John-street (east and west); besides these, you recommended that Frances-court, Fountain-court, both in Lambeth-walk, China-walk, China-place, be frequently cleansed and lime-washed, and that all the houses in which fever had been, or was at that time raging, should be likewise limewashed; that is from your letter, is it not?—Yes, it is.

686. In consequence of that, you stated that the board of guardians gave prompt attention to the whole of your suggestions, as regarded the forming of a sewer in East-street; that is the sewer which was pointed out; has that sewer been made, and have those improvements been made which you suggested?—I believe they have not.

687. In your opinion, were they requisite for the health of the poorer classes in that district?—Yes.

688. Are

688. Are you aware, from your medical knowledge, that fever was caused in that neighbourhood from the neglect of the drainage and sewerage?—I cannot say that.

689. If not generated, it was increased by it?—Yes.

690. Was the neglect of the sewerage and drainage a predisposing cause of the want of health among those working classes?—Well, I should think so.

691. Subsequently you state, in another letter, alluding to the former one, "East-street, New-street, Saunders-street, John-street, Fountain-court, and Frances-court, Lambeth-walk, are the worst places; the primary cause of this infection," speaking with regard to fever, "I believe to be the malaria or effluvia arising from the state of the drains or stagnant filth; the heat of the sun, acting upon the mud, sends forth this kind of malaria, which impregnating the air, is the first cause of fever, and consequently the cause of a great additional burthen upon the parish, by the increased number of paupers rendered wholly incapable of work, and throwing them and their families entirely upon the parish." That is the account you gave; do you still remain of that opinion?—Yes, I do.

692. Then you recommend, as a remedy, that the drains be cleaned, and no filth allowed in the gutters; and should there be any cow-yards where pigs are kept, night-soil emptied, &c., that these be also looked to; has that recommendation been attended to?—I should think only in part.

693. Is the district with which you are acquainted still very much in want of such sanitary precautions?—It is.

694. Is this district a populous district?—Very much so.

695. Inhabited principally by the working classes?—Very much. We return from 5,000 to 6,000 patients annually; consequently it must be a very densely populated place.

696. Are those persons, from their habits, many of them not having the best food, and so on, susceptible of fever from those causes, and being in the immediate vicinity of neglected drains?—Much more so than others.

697. Is it not more particularly necessary that in the vicinity of their dwellings cleanliness and drainage should be observed?—Yes; and the houses should be looked to, and many of them ought to remain uninhabited for some considerable time, so as to do away with the probability of infection.

698. You mean houses infected with fever ought to be shut up some time before other persons get into them?—Yes; not only shut up, but cleansed and limewashed.

699. Is there any such power now in existence?—No; it is optional with the landlords. I have called their attention to it, and sometimes they have done it.

700. Do you not think some means of enforcing the cleansing of houses where the poorer classes reside, so that the houses infected with fever should not be immediately again inhabited, would be attended with advantage?—Yes, I do. In some cases the privies are in the cellars, as Windmill-court, Harper's-court, Fore-street.

701. Is the state of the privies in the neighbourhood neglected?—I can hardly say that; in some instances they are.

702. How is it with respect to cesspools and receptacles for wet and filth, and so on?—They are very much better attended to than formerly.

703. In that respect improvement has taken place?—Yet I do not know that there is less decomposed vegetable matter lying about; I notice it in many places.

704. Are there underground drains, communicating with the common sewer?—No.

705. Is not that necessary for health?—Yes.

706. Are there any means of enforcing it?—I believe it rests with the Commissioners of Sewers.

707. Do you know that they have any power of enforcing it?—I wrote to them, and you will find my letter, and the answer, in the report you have mentioned.

708. Mr. Tufnell.] You say that has been an improvement?—More attention has been paid.

709. Is it in consequence of the improved habits of the people, or the regulations enforced?—The regulations enforced.

710. What regulations?—I may be incorrect in saying regulations, but greater attention on the part of those persons having the power of enforcing the scavengers and street-keepers to cleanse the streets more frequently.

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711. *Chairman.*] Is the drainage still in a defective state?—Yes.
712. The cleansing of the close and small courts, is that still defective?—Yes.
713. Requiring attention?—Yes.
714. Do you not think that some kind of authority for visiting, for the purpose of inspection, populous districts of this nature, so as to enforce sanitary regulations for the good of the inhabitants, would be essential?—Decidedly.
715. According to the common saying, "What is everybody's business is nobody's," it is not done at present?—I believe it is not; I think in the answer to the letter I have just mentioned, it was stated there was very little power, if any, in the Commissioners.
716. *Mr. Cowper.*] Do you know the authority of the surveyor of the highways?—No; I suppose it is to look to such things; there was a person who stated himself to be the secretary.
717. *Chairman.*] The letter you allude to is from Thomas Roffey to the board of guardians?—Yes; in which he says, "The courts called Fountain and Frances-courts are not under their jurisdiction."
718. That is the part you alluded to?—The assistant surveyor, Mr. Mundy, interested himself while he was in office; he called upon me, and promised that a sewer should be made in East-street, and some of the adjoining streets; but it was not done, nor has it been done since he vacated the office.
719. How long ago was that?—In 1838.
720. *Mr. Greene.*] Your letter is the 25th of September 1837?—Yes.
721. *Chairman.*] Since that communication, which was made to you in 1837, down to this time, this sewer, so essential to the health of this district, in your opinion, has not been made?—A sewer has been made in Lambeth-walk, but none down the contiguous streets.
722. But those sewers into those populous spots have not been made?—Lambeth-walk is a very populous place, and these streets run at right angles.
723. There are no sewers made into those streets that are at right angles to Lambeth-walk?—No.
724. They are without any sewers or underground draining?—Yes.
725. *Mr. Cowper.*] How often are the gutters cleaned?—I do not know; I have often seen the streets swept.
726. *Mr. Tufnell.*] Is there any difference in the health of the inhabitants in consequence of the sewer made in Lambeth-walk?—I cannot say that it is owing to the sewer in Lambeth-walk. We returned 800 cases of fever in 1838, and we have had fewer cases of fever since; but I was unable to look through the books, having been out professionally during the night.
727. When was the sewer made?—Soon after that time.
728. *Chairman.*] That has arisen from the sewer having been made?—I cannot say that.
729. *Mr. Ingham.*] Do you find any difference in the liability to disease among those inhabitants who live close to the water side; are they more liable than those who live further inland?—In some places they are, such as intermittent fever. There are some very filthy places near the river, so contiguous to it that they can get water almost whenever they please. There is an immense quantity of mud and filth even now, right away from Westminster Bridge to Vauxhall Bridge, which includes this part; filth of all sorts is thrown over into the mud—vegetables, &c.; and vegetable matter sooner decomposes and becomes more infectious than animal matter.
730. Are those accumulations of mud ever removed by a dredging machine?—I never see any, except at the boat-builder's; and that is for their convenience.
731. Do they continue accumulating till they get above the level of the water, and then turn into land?—No, they remain in that state.
732. *Chairman.*] Does not the flowing of the tide up and down prevent the accumulation?—No.
733. *Mr. Ingham.*] How long have you lived there?—Ten years.
734. You were not there before the taking down the old London Bridge?—No.
735. Do you know whether there is any difference in the scouring effect of the tide since that bridge was removed?—I cannot say; the tide often runs so high that this part of Fore-street, and right away to Vauxhall Bridge, is frequently inundated.
736. What is the chief occupation of the people in this neighbourhood?—Fishermen.

737. Is there anything in their diet that tends to produce disease?—Their diet is of a very peculiar kind; many of them drinking large quantities of spirits, and eating little else than salted fish and potatoes; haddock, herrings, and such sort of fish.

738. Mr. *Cowper*.] Do they appear to suffer from their diet?—Yes, they do.

739. Mr. *Ingham*.] Is cocoa used as an article of diet?—No, I cannot get them to use it; they prefer tea.

740. Mr. *Tufnell*.] In what part of the year do fevers more particularly exist?—I think rather more in the hot season; but we do not have more than three months summer weather in this climate, and we have fever the whole of the year.

741. But it is most prevalent in summer time?—Yes.

742. It is not generated by the want of fuel in the winter?—I often find numbers huddled together over small fires, and very little to cover them, and taking very little food; and the inadequate quantity of food produces an inefficient circulation of warmth, and the want of clothing weaken the powers of the system.

743. It is not the want of warmth, added to the inclemency of the season?—It predisposes them to it, and consequently predisposes them to any endemic or epidemic that may be floating about.

744. Mr. *Ponsonby*.] Does their peculiar diet arise from poverty, or their preferring it?—Perhaps both.

745. Are they very poor?—Yes.

746. Do they buy the fish you speak of at cook-shops, or do they dress it at home?—They dress it at home; they catch it and dress it; the herrings they purchase; I see the fishermen bringing up the fish in their little boats.

747. Mr. *Greene*.] Do you find any difference in the houses situated at the mouths of sewers?—I have not taken particular notice of that; I do not know that I could give an answer to it; I think their diet has much to do with their health.

748. Mr. *Ingham*.] Generally, with the exception of fish, do they get their dinners at the cook-shops or cook them at home?—Often at cook-shops; there are a great number of cook-shops in the neighbourhood, and they purchase their articles in the smallest quantities possible.

749. *Chairman*.] Do the working classes drink a great quantity of ardent spirits in that neighbourhood?—Yes; there is not a street without one or two gin-shops or palaces.

750. Is that injurious to them?—Yes.

751. Anything that would wean them from that habit would be beneficial to their health?—Yes.

752. Within any little distance from you, is there any open space where the people may walk with their wives and children on the Sunday and enjoy the air?—Yes; the whole of the Bishop's-walk, between the old church and Westminster Bridge; that is one place, and there are many others.

753. How far is Kennington-common from the place you have been speaking of?—Not more than 10 or 15 minutes walk.

754. That is a very good reserved place?—Yes.

755. There is a footpath across the middle of it?—Yes.

756. Is it, generally speaking, pretty dry, and kept in good order?—Moderately so.

757. Would it not be desirable to have a little improvement there, so that people might have at all times a dry walk across it?—Yes.

758. And round it?—Yes; it is often very wet.

759. There is a right of common upon it at certain seasons of the year?—There is; and that portion upon which the church has been built, I believe, was originally a part of the common-right.

760. Mr. *Tufnell*.] Has there been any great increase of late years among the lower order of inhabitants in streets of an inferior description?—Yes, and built upon marshy land, which is decidedly wrong, without any drainage at all; there are no drains or sewers made in many parts.

761. *Chairman*.] What district do you speak of?—About Vauxhall, adjoining Vauxhall-gardens; no drains running into Tyer's-street, New-street, Vauxhall-street, from the back streets. Several hundred houses are built upon this marshy land.

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762. Mr.

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762. Mr. Tufnell.] Was any representation made by the local authorities to the Commissioners of Sewers?—I do not know.

763. It is not your duty?—No.

764. Mr. Ingham.] Do you know whether these streets were built by speculative builders, or by building societies?—Speculative builders; and so it is in the Waterloo district, Granby-street, and that neighbourhood.

765. Are there any building societies in your parish enrolled under the Benefit Society Act?—Not that I know.

766. Chairman.] Are there any drains in the new streets that have been built in the district lately?—No.

767. Would it not be a great improvement to the health of the inhabitants if there was such a system of drainage?—Yes.

768. And it is also necessary for the purposes of cleanliness, as well as health?—Yes; and it is the same in the New-cut, in White Horse-street, running into Blackfriar's-road.

769. Is that inhabited by the lower classes?—Yes.

770. Are there any other places of a similar kind?—The whole of Walworth Common towards the bridge leading to Peckham. The ditch Mr. Evans spoke of runs down Kent-street, back of the Kent-road, through Bermondsey, and so on into the River.

771. Is that an open sewer?—Yes; it is a tide ditch, but often containing much filth.

772. Is there any other district which is so neglected?—Yes, the whole of that part called Walworth Common.

773. Is that neighbourhood occupied by the working classes?—Yes, entirely.

774. Are there many of them there?—There are 2,000 or 3,000 houses.

775. Is the sewerage and drainage there much neglected?—Yes.

776. Are the buildings there still increasing?—Yes; and what is very singular, there are very few houses to let.

777. But no methods are taken for draining these new houses?—Very few of them.

778. There are in some?—Yes: in Walcot-square, where there are 300 houses erected, there is a system of drainage.

779. Are they of an inferior description?—No, they are rather of a better description of house; they have a sewer through the whole of them.

780. You are not aware of any mode of enforcing any regulation, for the drainage and sewerage, and ventilation in those districts?—No.

781. Would not some such power of due regulation for the drainage and sewerage, and taking care that the houses are built in a proper mode, be highly beneficial to the working classes?—Yes, similar to the district surveyor; he has authority over the building of houses.

782. Are you aware that his authority only extends to party-walls, and overhanging chimnies?—I was not.

783. Are you aware that he has any other power?—He has none over the sewers.

784. Has he any authority as to houses being placed at a distance from each other?—No, but the houses must be built, according to first, second, or third-rate, and with good party-walls.

785. That is as a preventative against the spreading of fire?—Yes.

786. Mr. Tufnell.] Is there good ventilation provided in the new houses you have been speaking of?—I believe they are built upon a much better principle.

787. Are they well supplied with water?—Yes; indeed there is a reason for it; there is a contention between two companies; they are both supplying water and bringing their pipes in all directions, the Vauxhall and South Lambeth Companies. In the district I first mentioned, the Lambeth district, and in Bermondsey and in the Borough, I see they are well supplied with water.

788. The class of buildings which are improved as to drainage, are the better classes of houses?—Yes.

789. The great objection, in the district you have spoken of, is the want of cleanliness in drainage?—Yes; and individual cleanliness also.

790. If there is a good system of drainage, do you think it will induce habits of cleanliness?—I cannot say; it might; it could not do any harm.

Mr. Samuel Miller, called in ; and Examined.

Mr. S. Miller.

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791. ARE you relieving officer?—Yes, of the West London North District.

792. What locality?—The parish of St. Sepulchre, St. Bartholomew the Great, and St. Bartholomew the Less ; it surrounds Smithfield.

793. Is that a densely-peopled district?—Yes, of the lower class of Irish.

794. A great number of the labouring classes?—Yes ; perhaps I might just add, that the parish of St. Sepulchre consists of 8,000 souls, but only 650 rate-payers.

795. Be kind enough to describe to us the state of the poorer districts within the locality you are acquainted with, with regard to the drainage, sewerage and cleansing the courts, cesspools, and other receptacles of refuse in and near the houses of the poor?—The parish of St. Sepulchre is very well cleansed and looked after, but there are alleys branching off from Saffron-hill, and what was formerly called Chick-lane, now West-street : there are alleys and courts branching all the way through to Snow-hill, and in spite of all they can do the offal is still carried out into the streets. They possess the advantage of an excellent and ample supply of water, but in spite of everything that can be done, the nature of the population and the narrowness of these places will always accumulate a great portion of filth.

796. What is the drainage from the main street to each of those houses ; are there under-ground drains?—Yes, there is. The parish of St. Bartholomew the Great is the very reverse : there is the whole of New-street, of 30 houses, and the whole of Middle-street, leading from Cloth-fair, consisting of 30 houses, where there is no drainage at all, and in some places the filth has been allowed to accumulate, so much that even this morning I saw an overflow of it even in the passages, the effluvia from which is insufferable ; in fact, it is so dreadful that in going to visit the sick we must wait some time before we can get ourselves into a situation to go into the room at all.

797. What is the condition of the cesspools and the privies?—They are in a very bad state indeed : they have got into a system of getting water thrown into the cesspools, and pumping it out into the streets ; there are no sewers at all, or any other mode of getting rid of it, but by getting the nightmen to take it away ; but every room being occupied by a family, the poor people will not get it done, and the landlords do not do it till the authorities compel them.

798. Does this same system of neglect extend itself to any other courts or districts?—No, it does not go over much of Cloth-fair.

799. Are there, in the particular district you spoke of, where the neglect is so great, fevers and disorders arising as the consequence of it?—Yes, very much ; it was only a fortnight ago I was compelled to take one of the magistrates to take the deposition of three poor people who were very ill indeed ; one was a case of fever, and the other very bad, arising from filth : one was a young man who has since died.

800. Does that state of disease produce much expense to the parish?—It does produce a proportion of the expense : we are compelled to send them to the Fever Hospital. We sent from Back Ball-alley 22 to the Fever Hospital last year.

801. Do those diseases arise from want of cleanliness and want of drainage?—Yes, no doubt ; this Back Ball-alley was cleansed throughout, but it has broken out again ; in fact, there is no air gets to it at all : it is a narrow space, not above a yard wide, and every room is occupied by a poor family, consisting of four, five, or six.

802. There is neither draining, ventilation, or cleanliness to promote the health of the inhabitants?—No.

803. The consequence is fever and disease?—Yes.

804. Do your observations extend themselves to any other district thereabout?—No, I only know these particular places with respect to drainage. With respect to population, there is a very dense population among the courts and alleys, and lodging-houses adjoining : we have 10 lodging-houses, where they make up from 40 to 60 beds a night.

805. What is the state of them?—They are kept pretty clean : when going backwards and forwards we notice it ; the parties are rate-payers who hold them, and they keep them clean.

806. Will you mention any other districts requiring draining and sewerage,

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and cleansing?—The greater part of St. Bartholomew's requires cleansing; and then there are other parts I have mentioned that have no drains, but in the other parts I have mentioned it is impossible to cure it, except by pulling them down. The property belongs to Lord Kensington, and they are occupied by the lower class of Irish.

807. Would it very much add to the health of the district if they were pulled down, and an opening made?—Yes; poor as I am I would subscribe something myself to have them pulled down, from the danger I run in visiting the people there: there being a family in each room, they block up every avenue for the air, and the stench arising from the bottom of the house it is impossible to describe.

808. Would not regulations to insure cleanliness there be of the highest importance?—Yes; but the parish is divided into factions, and it requires a superior interference, and it must be done, or the state of that place alone will affect the health of the metropolis.

809. Mr. Tufnell.] Do you mean from the number of people inhabiting the houses?—No, from the houses themselves, and the want of drainage; the houses are very ancient and tumbling down, and the parties interested will not alter them as long as they can get a tenant to occupy each room. If a house consist of four rooms, they get 16s. a week for a house not worth 20l.

810. Is the state of the health of the neighbourhood better or worse than it was a few years ago?—Worse, decidedly.

811. Have you any returns to that effect?—No, it is only from my observation; if any party is sick, I go and visit the case, and give an order for the doctor; but I am satisfied that the disease has increased; we sent 22 cases to the Fever Hospital from one place alone.

812. Chairman.] You think that fever has increased?—Yes, very much.

813. You think that owing in a great measure to the existence of these places?—Yes, because when a place has been cleansed, the disease has shown itself again.

814. Mr. Tufnell.] Has the mortality increased in the parish?—I do not think it has; the people are considerably more temperate than they used to be, but the lower class of Irish generate diseases that the English do not; they eat a kind of food that the English do not; they eat the heads of rusty old pork, and salt-fish; I think they eat things that engender disease; but the habits of the people are certainly more sober in the last two years.

815. There has been a regulation enforced lately about shutting up the public houses on Sundays till after church time; is that beneficial in your opinion to the labouring classes?—Yes, it is a very great benefit to them; in my opinion smoking induces drinking; the men light their pipes in the morning, and go to the public-houses to get drink, and get stupified in the morning, and all the rest of the day they are not fit for anything; I wish there was a tax, to put an end to smoking.

816. Supposing in a neglected place, like one of these courts, there has been a family in a room which has had the fever, and the room has been contaminated by it, is there any power by which you can prevent any other family coming in, till it is cleansed, or compel the landlord to whitewash the house?—I am not aware that there is any such power.

817. Would not some such power be a great benefit to the health of the neighbourhood?—Yes, there wants, as I said before, some superior interference; the interests of individuals prevent any alteration taking place.

818. Do the landlords of those poorer dwellings derive a very considerable rent from them?—Yes; the houses are not worth above 40l. or 50l.; they buy them, and let them for 4s. a week; they farm them out; I know a man who is making a great deal of money by houses of this sort.

819. Do the people pay their rent beforehand generally?—No; there is one person on the spot who goes round every Saturday night or Monday morning, and collects the rent from house to house, and he generally lives rent-free.

820. Who pays the poor-rates for those houses?—They are farmed at so much a house, full or empty, but they are considerably under-assessed.

821. The landlord pays the rate?—Yes.

822. Is that under the local Act?—No, but by agreement with the parish officers.

823. Mr. Baines.] He pays by a composition, not by the value?—Yes, so much

much per house, whether full or empty ; they are productive by being let out ; the landlord gets 4 s. a week.

824. *Chairman.*] He loses sometimes by a slippery tenant ?—Yes, and having the repairs to do.

825. *Mr. Baines.*] Is this thought a desirable property ?—Not to those who can lay out their money well, but only to low brokers who can get their money where others cannot.

826. *Chairman.*] Do they make their interest upon their money ?—No doubt of it.

827. *Mr. Walker.*] What is the amount of abatement made by the parish officers generally ?—That would be according to the necessity of the case ; I should think they do not pay above half as much as the other houses upon the average.

828. *Mr. Ingham.*] You say that the Irish workman lives upon coarser food than the English ?—Yes.

829. Is that from receiving a less amount of wages, or does it arise from his spending his money otherwise ?—I think from receiving less wages, and from their previous habits of eating coarser food ; I think the English labourers are brought up with more cleanly habits. The peasantry of England were tolerably well fed, and had wholesome food, and you could not get them to partake of bad food ; the Irish partake of salted or pickled fish, and large old pigs' heads, and very rusty and bad bacon, and things of that kind, and a great quantity of salt fish ; all through the neighbourhood of Saffron-hill you would see fish lying about that you would not think people would eat.

830. With the same wages, you think the English labourers get better food ?—I think the Irish labourers have not the same wages ; they get a job now and then, and then they are out of work the rest of the week, probably.

831. It is from the habit of being content with coarser food that the Irish live as they do ?—Yes, and they are more improvident.

832. *Mr. Ponsonby.*] Are the Irish less temperate than the English ?—Yes, and they associate so much together, one man induces another to drink.

833. Have they any cookery for their dinners, or do they buy them generally dressed ?—I think the poor generally cook their victuals, in London.

833*. At home ?—Yes.

Mr. Francis Moseley called in ; and Examined.

834. *Chairman.*] YOU live in Lincoln's-inn Fields ?—Yes.

835. You have been in the medical profession ?—Yes.

836. And have paid particular attention to the state of the poorer classes in the vicinity of London ?—I have.

837. With reference more particularly to the state of their dwellings, and the state of the cleansing the drainage and sewerage near their dwellings ?—I have directed especial attention to the points you name, as affecting the health and mortality of certain districts.

838. To what particular districts round London have you more especially attended ?—The united parishes of Westminster.

839. St. John's and St. Margaret's ?—Yes.

840. Be kind enough to mention to us any poorer districts of that neighbourhood, in which the labouring classes reside, which are neglected in point of sewerage, or cleansing, or ventilation ?—I think that in these parishes, as in most of the parts of London where the poor reside, their abodes occupy a limited district, bounded by a certain number of better streets ; I might say, the habitations of the labouring class of Westminster are bounded by Tothill-street on the north, Great Peter-street on the south, Stretton-ground on the west, and Great Smith-street on the east.

841. Within that district there is a considerable square or block, which is chiefly inhabited by the poorer classes ?—There is.

842. Have you made yourself acquainted with that district ?—Very much so.

843. Be kind enough to describe to us the state of their habitations in the points I have adverted to ?—There are a great many of the abodes that are very old ; and as regards sewers, I believe they are very defective. The inhabitants themselves are of a very low class indeed. The houses not only exceedingly close together, having but a narrow alley, court, or lane between them, but

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each house is exceedingly closely inhabited; not only let into single rooms, but parts of these are re-let.

844. You say they are very deficient in sewerage; are there underground drains from the houses to the sewers, or are they deficient in that?—There is an open sewer, and I may add, a bone-boiler's, in the centre of this neighbourhood.

845. Where is that?—It extends from New Pye-street to Old Pye-street, running parallel up Duck-lane.

846. Is the effluvia from that in summer very noxious?—Particularly so.

847. Has that been the cause of fever?—Yes, it has to a considerable extent.

848. Are the open drains and the neglect of clearing away the filth and offal in this district notorious?—The scavengers neglect the courts and places where they should go particularly to.

849. In consequence of that negligence, and the effluvia arising from it, are there fevers generated in that district?—Yes, there always has been, and now are, in consequence.

850. Are many of the parts of the district you speak of neglected, in point of sewerage and drainage, and cleaning the privies, and so on?—Yes.

851. Are you cognizant that fevers and other disorders have arisen from it?—I have no doubt whatever, seeing such causes, that the result would inevitably be that fevers would increase.

852. Would an improved drainage and sewerage, and cleansing and clearing cesspools and receptacles of filth in that neighbourhood, be a material benefit to the health of the poorer classes?—Very great indeed.

853. Does the same general observation extend itself to any other district inhabited by the poorer classes in the neighbourhood of London?—There are many districts similarly situated on most points.

854. Just mention them incidentally, and state what districts there are similarly situated, and where the like evils prevail?—We may mention the same parish, more to the west, a number of alleys running from York-street and Castle-street in a similar state.

855. Inhabited chiefly by the working classes?—Yes.

856. Any other district?—More to the north, I might name the abodes of the working classes residing within the square having St. Martin's-lane to the west, Bedford-court to the east, New-street to the north, Chandos-street to the south. This mass of abodes is but intersected by a few courts and alleys, with but one exception; each house exceedingly closely inhabited, and where to obtain an access of air is peculiarly difficult; and here the sewerage and cleansing of the numerous receptacles of filth is very imperfect. Shall I mention further the boundaries of certain districts where sickness undoubtedly prevails from local causes?

857. If you please?—Long Acre on the north, Hart-street on the south, St. Martin's-lane on the west, and Bow-street on the east.

858. That is a district also in which the sewerage and cleansing has been neglected in the close courts?—Yes, it is particularly so; and from whence typhus is too frequently spread.

859. Is that a populous district, inhabited by the working classes of people?—Yes, the lowest class of people.

860. I believe a great want of cleanliness exists there?—Yes.

861. In that district, is the want of communication with the sewers one of the causes of disease?—Yes, that is the great evil.

862. Not the want of sewers in the main street, but communication with the sewers?—Yes, I believe that may be generally the case; there are opportunities, if they will avail themselves of it.

863. They are not enforced by any authority, either by means of regulation or inspection of any sort?—No.

864. Now, be kind enough to go on to any other populous districts in a similar state?—I will mention St. Giles; Holborn on the north, Parker-street on the south, Drury-lane on the west, Newton-street on the east.

865. Is that a district inhabited by the labouring classes almost exclusively?—Exclusively.

866. In which dwell many families in a house, one above another?—Yes.

867. Is it not more requisite, in a district like that, that the cleansing and drainage should be enforced, rather than any other?—Especially so, where the neighbourhood is similar to this; but where, undoubtedly, it will be found most defective, the population is very close, the houses are re-let, and even a room is re-let; there is often more than one family in a room in such neighbourhoods.

868. Under

868. Under those circumstances, it is more essential that the health should be attended to by public regulation?—Unquestionably.

869. Now go on to any other district.—St. George, St. Giles, and St. Martin's.

870. Those are parts of the several parishes?—Yes; to form a district several parishes met; Broad-street on the north, Tichfield-street on the south, Crown-street on the west, and King-street on the east.

871. That is also a neglected district, inhabited greatly by the working classes?—It is a neighbourhood where the underground drainage is not so deficient as in the previous; there are but few of the inhabitants to whom a good drainage is not available, though the stench from the majority of the privies, and the accumulation of filth in and about their houses, evince the greatest neglect of their health.

872. Do fevers and contagious disorders arise in that neighbourhood from the causes spoken of?—Yes, to a very great extent.

873. And when they do arise are worse in their symptoms?—Undoubtedly; for independent of the occurrence of fever, the inmates of those abodes are ever enfeebled, mentally and bodily, from the polluted atmosphere they are respiring.

874. You think that the physical energies of the people are in a great degree injured?—Yes, and their poverty increased, from the atmosphere they breathe rendering them incapable of work.

875. You think this arises in a great degree from the neglect of drainage and cleansing that we have spoken of?—Yes.

876. Turn to another district?—St. George's Rookery, Bainbridge-street on the north, Broad-street on the south, George-street on the east, High-street on the west; St. Andrew Holborn and Clerkenwell, Kirby-street on the west, Mutton-hill and Clerkenwell-green on the north, St. John's-lane on the east, Cowcross and Peter-street on the south.

877. In the district you have mentioned last, are there any common sewers?—Yes; there is the Fleet-ditch, which is in a very filthy state occasionally; it may be considered an open sewer.

878. Is that in the last district?—Yes.

879. Is it productive of fevers?—It is, to a very considerable extent; and, in this neighbourhood, there are a number of slaughter-houses, and so on.

880. Which are neglected, in your opinion?—Not in this district so much as in some.

881. You have mentioned this as a district which is neglected, and in which you think are wanted cleansing and improvement, and so on; is it a very poor district?—Very filthy; a complete hot-bed for fever; and I know of no spot where improvements are more called for.

882. Do you know that cases of fever have arisen, caused, as you imagine, by the want of cleansing and sewerage, and so on?—I have no doubt, considering the circumstances under which the people reside, fever must inevitably continue to occur until there is some amendment made.

883. Now go to another district?—Cripplegate and St. Luke's.

884. Part of the parishes of those two?—Yes; Golden-lane on the west, Bunhill-row on the east, Old-street Road on the north, Chiswell-street on the south.

885. That also is a populous district, inhabited chiefly by the working classes?—Yes; but in addition to the circumstances met with in the other districts, it has additional causes for polluting the air.

886. Will you mention them?—A number of burial grounds within a very short distance; indeed, in the midst of this dense population.

887. In your opinion the custom of burying in the midst of a densely-peopled district is injurious to the health of the persons living there?—Yes, particularly so.

888. Have you heard of cases of illness arising in the neighbourhood of a burying-ground?—Where the interments are so exceedingly numerous as in these grounds, I have, as they may be a considerable source of malaria.

889. Are there any other districts?—In the parishes of Moorgate, and Bishopsgate, bounded by Long-alley on the west, Half-moon alley on the south, Bishopsgate-street on the east, and Skinner-street on the north.

890. Is that a district inhabited chiefly by the working classes, or by various classes?—Chiefly by the poorest class of people.

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891. Is that a district in which the want of drainage and sewerage and cleansing prevails?—Very much.

892. Are there many close courts and alleys there?—Yes, it consists entirely of them.

893. Is there a want of regulation for cleansing and draining there?—Yes, very great; the scavengers are seldom seen there at all; in fact, this spot they neglect to a very great extent.

894. Is there a want of drainage between the houses and the common sewers?—I should imagine there is no sewerage at all; it chiefly consists of courts, and the inhabitants have not applied to the Commissioners of Sewers for a communication.

895. From some cause it is deficient in drainage and cleansing?—Yes.

896. Is there a bad unhealthy smell in the lower part of the house injurious to the health?—Yes; although I have found by inquiries among this class they are not aware of the causes that produce the ill effect upon their health.

897. But you feel confident, from your medical knowledge, that it must have a very injurious effect indeed?—Yes, although imperceptible to the inhabitants.

898. Are there fevers prevailing in that district?—Yes, to a very great extent.

899. Arising from the causes you have mentioned?—Yes.

900. Mr. Cowper.] Do you know whether it is the duty of any public body to cleanse those places?—No, I am not aware of any.

901. Chairman.] Mention any other district?—I should say the Commercial part of London is the worst. I have inspected these parts; I have been in almost every alley, and know the state of the people, and where most attention is called for. On the Commercial side of London, down by a place called Rosemary-lane on the north, East Smithfield and Parson's-street on the south, Cartwright-street on the west, and Well-street on the east, inhabited principally by mariners.

902. Is that a very neglected neighbourhood in which fever prevails from neglect?—It is proverbial for cases of fever, as it is for its filth.

903. Mention any other district you are acquainted with?—On the Southwark side.

904. Are there many districts there neglected?—There are many causes besides the state of their habitations that claim attention; for instance, the different manufactories conducing to the vitiation of the atmosphere to a very great extent.

905. Have you paid attention to the state of Whitechapel and Bethnal-green?—I have not.

906. Is it very much neglected?—Yes, very much indeed.

907. There is a district towards Gray's-inn-lane, up towards the Small Pox Hospital; do you know that?—Yes; the state of the courts and the alleys, the drainage and the sewerage is very defective.

908. Are you aware of fever existing in that district, arising from neglect of this kind?—There are cases which we may venture to conclude arise from such causes.

909. Is there any other populous district in the vicinity of London, or in the outskirts, you can speak to as similarly situated?—I might mention Islington; so far out as that there are generally very great sources of sickness from similar causes; a number of courts running out of High-street in, perhaps, as unwholesome a state as any in the central part of London, though such places so far out of the centre of London would not be subject to the extent of evils as they would if they were more in the centre.

910. There is a great neglect of sewerage, and draining, and cleansing, there?—Yes.

911. And fevers arise more from that cause?—Yes.

912. Mr. Tufnell.] Do you consider that neighbourhood more unhealthy than those you have mentioned?—No; under similar circumstances they would be less liable to disease; and they are open to a current of air.

913. Mr. Cowper.] Does the nature of the soil produce any effect?—Yes, because of the want of drainage.

914. Mr. Ponsonby.] Is there a great deal of open ground near Islington?—Yes; that would prevent the same causes producing the same injurious effects.

915. Have

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915. Have you always found, in the neighbourhood of unenclosed grounds, the parties are more healthy?—Yes; because when I see a number of individuals occupying a limited space, which applies to a population like London, it must inevitably tend to pollute the atmosphere, let it be ever so carefully cleansed.

916. *Chairman.*] You have been good enough to mention a number of districts, in which you think great neglect in cleansing, and sewerage, and draining exists, and in which you think the health of the inhabitants so materially injured therefrom; can you state about the population of those different districts added together which you think are affected by this neglect?—I think that would be a matter which would surprise people at present unaware of the population of those unhealthy districts; for I found, from a close observation and much attention, in proportion as the poverty of the neighbourhood is, so is its close population.

917. That which is the most populous district is also the most neglected?—Yes.

918. Do you think you could make a tolerable calculation of the number in this district?—Yes, I could do so.

919. You could give it to the Committee at a future day?—Yes.

920. You believe a vast number inhabit those districts?—The population, I feel certain, in proportion to their area, is interesting.

921. And chiefly the working classes?—Yes.

922. Could you give the amount of the number of houses as well as of the population?—I cannot say; this district is a district I took merely from its circumstances; I do not know whether any documents could render me any aid in coming to a calculation in those particular districts; they are not limited to one parish, but in close courts and alleys in the lowest neighbourhoods.

923. Do you think, with respect to the sanitary provisions, as to those populous districts, whether they are old districts that have been neglected, or new ones arising in London and its vicinity, that some fresh regulations for the health of the inhabitants are necessary?—I consider the whole population of London unsafe while the evils of some neighbourhoods exist.

924. Mr. *Cowper.*] What do you mean by unsafe?—The health of all is rendered unsafe for want of some regulation of that sort.

925. Liability to infectious disorders and epidemics is increased?—Yes.

926. *Chairman.*] Do you think that the present regulations are inefficient with regard to enforcing drainage, cleanliness, and ventilation, and due sanitary precautions?—From the attention I have paid to this subject, I feel no hesitation in saying such is most assuredly the case.

927. Does your knowledge upon the subject that you have turned attention to, extend itself to any other large town except London?—No.

928. Mr. *Tufnell.*] Do you think that the condition of the poorer classes has been improving or deteriorating?—In proportion to the population, so in those districts are they becoming more thickly peopled.

929. With regard to their health and their comforts, has it been increasing or diminishing of late?—I consider that from their occupying such neighbourhoods as these, they are deprived of energy of mind and body, consequently their comforts must be diminishing.

930. Is disease more or less prevalent among them than it was?—It is limited to particular seasons, and whether an epidemic occurs or not; but I consider that fever is increasing most assuredly.

931. More than in proportion to the population?—I can hardly answer that without referring to some statistical information.

932. *Chairman.*] You refer particularly to those districts inhabited by the poorer classes that are in a great measure neglected?—Yes.

933. Do habits of intemperance prevail in the districts you have spoken of?—Not to the extent that it did formerly.

934. From that cause there ought to be an improvement?—Yes.

935. Mr. *Cowper.*] Have you observed the locality inhabited by successive generations exposed to the same want of cleanliness?—I do not consider that any of this pernicious effect is hereditary.

936. But where successive generations have been exposed to the same causes, it might act with redoubled force?—I do not think such evils could be propagated by birth.

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937. You do not consider that the children of persons exposed to those evil influences would have a still weaker character than the children of other parents?—I do not think they would.

938. *Chairman.*] Do you not think that the children of parents who have been injured by exposure to malaria, and whose constitutions have been hurt thereby, that the children of such parents would be more likely than the children of parents in other situations to contract disease?—There must be actual disease set up in the constitution to affect the children by the parents.

939. Will not disease in the constitution of a child arise from disease in the constitution of the parent, so that the progeny of an unhealthy, dwindled parent will be an unhealthy and dwindled child?—I do not think so; the inhabitants of those places are suffering under disorder; that disorder may become a disease, and then it would become hereditary.

940. Mr. *Tufnell.*] Without any particular disease, supposing a family to live for three or four generations in the same confined court, the children will become of an inferior description?—I do not think so.

941. *Chairman.*] Do you not think that the children in the east of London are inferior in apparent robustness to children living in a healthy district?—If these children were removed to a spot more congenial to health, they would be healthy and robust.

942. You think that those circumstances act upon the child, and not upon the parents?—Yes, merely from the atmosphere it breathes.

943. It operates upon the child as it grows up?—Yes.

944. Mr. *Cowper.*] Is that an observation arising from experience?—Yes, and from theory.

945. Mr. *Ingham.*] You said you thought the health of London was affected by manufactories?—Yes.

946. What part is that?—I should say the Southwark side, particularly.

947. In what respect is the health injured by those manufactories?—By their tending to contaminate the atmosphere; especially by a trade called bone-boilers, and manure manufactories.

948. *Chairman.*] Do you mean the occupation, or the vicinity of the spot?—The vicinity of the spot to bone-boilers and manure manufacturers.

949. You think that those manufactories should be removed for the sake of the health of the inhabitants?—The manufacturing of the manure, which consists in exposing heaps of animal matter to putrefaction, after the process of boiling, most assuredly might be carried to the country.

950. Mr. *Ingham.*] What is a bone-boiler?—I did not know there was such a trade before.

951. Mr. *Ponsonby.*] Are you aware there is much disease in such neighbourhoods?—I have been among the inhabitants surrounding those places, and it is to a great extent; and is producing a continual injurious effect to a considerable distance.

952. Mr. *Tufnell.*] Is there a general disposition in the lower class to avail themselves of any facilities that may be offered for improvement in the way of drainage?—I have found in many instances they do not take those means to render the sewerage available.

953. *Chairman.*] Their disposition to avail themselves of any advantage offered to them, is in proportion to the intelligence and instruction they have received?—Yes.

954. In proportion as they are instructed and have become intelligent, in that proportion you enable them to make use of those means?—Precisely so; I found it the most difficult matter to convince the occupiers of these neighbourhoods of the injury it is doing them; they are ill, but they do not know why; the especial tendency of a contaminated atmosphere is to deaden the mental and bodily energies.

955. Any kind of instruction, or education, or intelligence that was conveyed to them, would facilitate the means of improving their condition, even upon those physical points of our inquiry?—Very materially.

Lunæ, 30^a die Martii, 1840.

MEMBERS PRESENT.

Mr. Brotherton.		Mr. J. Ponsonby.
Mr. Cowper.		Mr. Slaney.
Mr. Greene.		Mr. Tufnell.
Mr. Ingham.		Sir Harry Verney.
Mr. Wilson Patten.		Mr. Richard Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

Mr. *Francis Moseley*, called in; and further Examined.

956. *Chairman.*] HAVE you been able to ascertain the population of the districts which you spoke of on Friday last, as being in a bad state, and neglected as to drainage and ventilation?—In part I have done so, but it is not yet complete.

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[*The Witness was directed to furnish the information referred to.*]

957. I will now ask you a few questions relating to a district inhabited principally by sailors on their return from their voyages, where they reside till they sail again on their outward voyages, and which district, I believe, comprises certain portions of St. George's in the East; are you acquainted with it?—I am.

958. You are acquainted with the district in which sailors, and parties connected with nautical life, generally live?—I am.

959. What is the state of the district as to the drainage, cleansing, and ventilation, and the comfort of their dwellings, as affected by those matters?—I consider no part of London is more neglected as regards those points, sewerage, drainage, and cleansing altogether.

960. Have you visited those districts yourself?—Yes, all of them.

961. Be kind enough to mention to us the area of some of the districts, and whether it is a dense population?—I would mention a district in the parish of St. George's in the East, bounded by the Back-road to the east, Radcliffe-highway to the south, Bluegate-field to the west, and King David's Island on the east.

962. Between those points you have mentioned, is there a very considerable population?—Very considerable indeed.

963. Describe the state of the district with respect to the points you have adverted to?—The sewerage is most defective in those by-alleys, as I found on inspecting the maps of the Commissioners of Sewers.

964. Just describe some of the consequences of this inefficient sewerage?—Partial drainage of the surface, but the gutters and so on are in a very filthy state, showing, beside the want of drainage, that the scavenger is seldom there at all.

965. What is the state of the cesspools and the receptacles for filth there?—There are heaps of decomposing vegetable matter and offal thrown out of the buildings in those places, and the streets themselves are filthy beyond description.

966. Now, with regard to the cesspools, or privies, and so forth, can you tell us the state of those places; are they attended to or cleansed, or, on the contrary, are they neglected, and stench arising from them?—From what I am informed, they are generally emptied by carrying the contents away; but that is very considerably neglected, so as to occasion a great deal of very noxious effluvia constantly.

967. All those things, from what you have yourself observed, neglected in this

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this district?—From what I have observed in this neighbourhood, they are neglected throughout the neighbourhood.

968. Having described one district, go on to mention another?—I should mention particularly King-street, and Green-bank.

969. Is that inhabited by a dense population, nautical people, and sailors?—It is.

970. What are the inhabitants?—It is principally the homes of sailors.

971. Now go to some other district similarly situated, thereabouts, if such there be?—I should say that different parishes will form one district, and I find it difficult to describe the parishes; they are in several parishes; Rosemary-lane on the north, East-smithfield on the south, Cartwright-street on the west, and Well-street on the east; now this, from my own observation, is without a doubt, with the exception of Whitechapel and Spitalfields, which I rather except from my description, because I consider it has been so amply adverted to already; but this is a neighbourhood most of all deficient in sewerage, (sewerage, I believe I may with certainty say there is none whatever,) drainage, and in also the general cleanliness of the inhabitants.

972. What class is that district inhabited by?—The same as the other district, sailors; the temporary home of our sailors.

973. And their families?—Yes, and their families.

974. Is it a densely-peopled district?—Particularly so.

975. And you consider, beyond a doubt, the points alluded to are particularly essential to their health, and that it is necessary they should be attended to?—No doubt.

976. Should you say that the neglect of them is injurious to them in a medical point of view?—Yes, particularly so, both as regards their general state, independent of fever, it produces a considerable degree of debility in their constitution being thus constantly in so noxious a vapour.

977. And with respect to fever, it has been described to us as being the cause of great evil in that neglected district?—Fever in those districts is more likely to occur, but, independent of fever, the inhabitants of such abodes lose mental and bodily energy.

978. And that affects them from their youth upwards, more or less?—Yes.

979. I need hardly ask you, but I suppose there is no doubt that it increases the virulence of any contagious disorder?—No doubt, and it is the great source of fevers of all kinds, and indeed of all diseases to which the human frame is subject.

980. Do you know that fevers prevail in this district?—Yes, I do, from the knowledge I have of those who are in immediate attendance upon these abodes.

981. In both of the districts?—Yes; I have seen the medical attendant of each of these districts.

982. Be good enough to turn to any other districts, though not so bad, which are affected by a degree of neglect in these particulars?—Shadwell, I will mention next.

983. What parish is that in?—It is a parish of itself.

984. Is it situated on the river?—Yes.

985. Is it inhabited by the class you have mentioned before?—It is.

986. The humbler class of sailors, and persons connected with shipping?—Yes.

987. Is that a densely-peopled district also?—Yes; equally so as the one I have mentioned.

988. Be kind enough to mention the state of that place with respect to sewerage, drainage and ventilation, and the observance of regulations that may affect the health of the working classes?—I should say in this district the evils are in some degree equal to those of the previous districts.

989. Will you mention any particular locality that you think neglected in those respects, or do you apply your observations generally?—It would apply generally in this instance; I am not aware of anything differing from the rest.

990. You speak from personal inspection?—Yes, of every one of them.

991. Do you happen to know the population of this district?—I do not.

992. Will

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992. Will you go to any other district?—St. George's in the East and Wapping, London Dock on the north; Green-bank and King-street on the south; Bard-street and Broad-street on the west. This is an exceedingly filthy neighbourhood indeed; it is low; I saw no drainage at all; very low, and no drainage.

993. No efficient drainage?—No efficient drainage.

994. Are there a great number of narrow courts, and small close lanes, and so on, in this district?—The houses are but very slightly intersected by even these courts, close lanes, and so on; and it is a very ancient part also, where a considerable quantity of filth and vegetable matter, and everything likely to decompose, is laid in heaps about the place.

995. Is it a densely-peopled district?—The houses are not so high, and they are not so crowded as in many other districts.

996. It is inhabited by the poorer class of persons?—Yes; persons connected with the shipping and the docks.

997. Is the health of the people in this district, in your opinion as a medical man, affected by the circumstances by which they are surrounded?—I have no hesitation in saying it must be equally unhealthy with the others, from having visited the neighbourhood.

998. Will you turn to any other district you have not mentioned?—I would now consider the opposite side of the river, Rotherhithe.

999. You have yourself visited the district of Rotherhithe?—Yes.

1000. That is on the Surrey side of the river?—Yes.

1001. Describe to us first where it is?—It is a closely inhabited poor neighbourhood, directly on the opposite side of the river. This neighbourhood is particularly unhealthy, in consequence of a natural peculiarity in this district.

1002. That is from lying low, and the tide throwing back the water?—And having a very wide ditch, the mill-pond, where the tide rises and leaves an accumulation from the river of animal and vegetable matter upon its muddy banks; the tide entirely leaves the muddy banks, and during the heat of the sun of course it is a very fertile source of malaria to the vicinity, which is inhabited by the lowest class of people.

1003. Are there houses all along the banks?—Yes, they are very thickly inhabited.

1004. State generally the situation of the district with respect to cleansing and so forth?—In this district there are several evils to a minor extent than those I have mentioned before.

1005. Mention any that arise from the neglect of the sewerage, drainage, and cleansing?—Some of those ditches are sewers, and therefore they are in an open state; they serve as sewers in the parish; indeed, I think I may say there is but little else.

1006. Is it a populous part of the community?—Yes, quite populous.

1007. What is the state of the cleansing and draining in this district?—I am not able to advert to anything further than those open ditches.

1008. Are those open drains in the immediate vicinity of houses, in your opinion, the cause of ill health?—Quite so.

1009. Do you happen to know that fever does prevail in that neighbourhood?—Yes, I do for certain, having had conversation with the gentlemen who are attending them; I would advert in this district to Jacob's Island, which is surrounded by these ditches.

1010. Is it very thickly inhabited?—Yes.

1011. Does the state of this ditch affect the health of the people, in your opinion?—It is allowed by all in that neighbourhood to be the case.

1012. To be injurious to their health and strength?—Yes, and the source of fever.

1013. Is there any other district you can particularly speak to, with reference to the same points?—I would advert to Lambeth.

1014. Before you go to Lambeth, I would ask a question about these four districts which seem to be inhabited by people similar in their habits and manners; a great many consist of classes connected with the river and ships, sailors and sailors' wives, and so forth?—Yes, it is a temporary home; it is a home to the crew as the ships arrive, and on their departing they take their crew from these neighbourhoods.

1015. If, in consequence of the neglect you spoke of fever, should be generated and attack those nautical men, would it not be more likely to be communicated

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nicated to the crews of ships going out from districts of this kind than if better regulations were attended to?—I consider that the state of these districts is a matter of great national importance to this the first commercial city in the world, from the very circumstance of their crew being taken from a neighbourhood so favourable to the generation of fever; it could scarcely be credited that a neighbourhood so important to London, the first commercial city in the world, could have been in such a state of neglect, where there are no sanitary regulations for such an important population, the population that man the ships of this country, who may be taken on board the ships apparently in good health, and after they have arrived on board, and out at sea, as I know from numerous instances, fever has broken out in the ship, and has been propagated, as is undoubtedly allowed by all authorities in these districts, and sanitary regulations might have subverted such evils.

1016. Now proceed to the district of Lambeth?—I adverted to Lambeth merely for one consideration, that was the existence of a very considerable source of sickness independent of sewerage, and independent of the habits of the people of that neighbourhood; there are numerous manufactories, but one, of one description in particular, that tends materially, in my idea, to the sickness in that neighbourhood, this is called a bone-boiler's and manure manufacturer's.

1017. Is that carried on in the centre of a populous district?—These I advert to are; there are several of them in the centre of a very poor population.

1018. And densely peopled?—Yes.

1019. It is an unhealthy quarter, is it?—Yes.

1020. You say you think these manufactories and bone-boilers, and so on, have very injurious effects upon the health of the neighbourhood?—To a considerable extent round the neighbourhood where they at present exist.

1021. Mr. Brotherton.] Have they been long established?—That I cannot say; my observation has been for about two years directed to them.

1022. Chairman.] What sanitary regulations do you consider would be effective to prevent the evils you think arise from this neglect?—The removal of the materials as soon as the manufacturing process is completed.

1023. Then, for the purpose of completing the manufacture, it does not appear to you necessary that the materials should remain upon the premises long enough to generate any evil to the inhabitants; is that the case?—Converting the putrid materials into manure should at least be carried on away from such a population.

1024. What is the manufactory; is it boiling bones for the purpose of making size?—They make several materials out of the bones.

1025. Then the bones, after they are boiled, are used for the purpose of manure?—Yes.

1026. Do the bones that are left after the boiling, when left in large heaps, engender a noxious smell and air, which is injurious to the inhabitants?—After the glue is extracted from the bones, the remainder is wheeled on to large heaps, where they are facilitated in decomposing by adding further materials, and it occupies a considerable space, as high as the surrounding houses; in that part of the process, it appears to me that some sanitary regulations might be of very considerable advantage to all the neighbourhood, and there are many of these.

1027. If, after the process of boiling takes place, the bones were moved away, so that the subsequent process of being worked up with other materials for the purpose of manure was carried on away from such a district, that would be what you contemplate?—Yes.

1028. With respect to the drainage and cleansing in this district, is that attended to or neglected generally?—I think that this district has an advantage perhaps over other districts; but that these evils are existing over an extensive district, amidst a poor population.

1029. Mr. Tufnell.] Are there more than one bone-boiler?—Yes; I could enumerate them; three in Lambeth, and four in Christchurch.

1030. Is there anything particular in that locality that makes it suitable to the establishment of a manufactory?—It seems to me that if they were in a better neighbourhood they would be indicted for the nuisance; but they are in the midst of a poor population, among whom I have been to ascertain the effects of this.

1031. Chairman.] You say it is a very injurious process?—Yes, it is shortening the days of hundreds.

1032. Mr.

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1032. Mr. Tufnell.] It is the manure that makes it unwholesome, and not the bones?—The process of manufacturing does not consist in the putridity of them, but they make the manure by rapid decomposition, and this decomposition is throwing out foul air; a heap lies there, and they expedite the decomposition by throwing quick-lime over them.

1033. After the bones have undergone the process to get the gelatinous matter from them, are they in a pulpy state or a hard state?—Partly hard; they expedite the decomposition by the use of lime, and this consists in extricating foul air, sulphurated hydrogen gas, which is of all gases most pernicious to health.

1034. Chairman.] Are there any other districts where this practice prevails?—I have mentioned three in Lambeth, and four in Christchurch.

1035. You are not aware of any others?—They may exist a little way out of town, at Rotherhithe; but these I would not mention, because they are further off.

1036. Is there any other district you wish to speak to in a neglected state?—I think that most of the districts I have mentioned hitherto require more attention than the others; I think I have enumerated most of those that may be considered the most requiring attention.

1037. You do not advert to any others at present?—No.

1038. Have you any return from the registrar-general's report of the comparative mortality of any of those districts of which you have spoken?—Yes; I find on looking over the returns of the mortality of London generally, that the mortality bears invariably a proportion to the density of its population, and the filth of its neighbourhood, and hence the neighbourhood of our shipping is the most sickly part of London, for want of due sanitary regulations, hence becoming a matter of great national importance.

1039. You have got in your hand a return for some of those districts, I believe?—This is in reply to a question put on Friday as regards the population. I stated that in these blocks of courts and alleys which I delineated, that the population bears a greater proportion, independent of the closeness of the houses, to the inhabitants of each house than in the wider streets.

1040. They are packed closer?—Yes, the case applies to London; independent of the closeness of the houses, each individual house bears a greater proportion to the population than in the wider streets.

1041. Mr. Ingham.] Do you know the state of the lodging-houses frequented by seamen in the parish of Whitechapel, and other waterside parishes?—In a very neglected state; some of them are very extensive, so much so, that in Rosemary-lane there is sugar-baker's house taken for that purpose, for the reception of the very lowest class of people, and which is very imperfectly drained.

1042. Is it the case that several seamen lodge in the same room?—Yes, many such instances; and in that neighbourhood, I was assured for a certainty, that the floors of some of the rooms at night were completely covered with people.

1043. Do you know yourself at all the sum they pay per night for lodgings?—I cannot say exactly, but a mere trifle.

1044. Do you know the building in Dock-street, called the "Sailors' Home," for providing lodgings for seamen?—I do not know the building; I know there are in Dock-street a great many lodging-houses for seamen, where whitewashing and sanitary regulations are very much needed.

1045. You have not seen the Sailors' Home?—No.

1046. It is a large place, erected by public subscription, where the sailors, for a small sum, may occupy a wholesome apartment, and have the opportunity of cooking their own food?—I have heard of it, but have not visited it.

1047. You have stated in your evidence of the last day, that the health of the inhabitants of a particular part of the town was greatly affected, and that the want of personal cleanliness was injurious to health?—Undoubtedly.

1048. Have you any public baths in the districts you have alluded to?—Not any which I am aware of.

1049. Are you aware of an undertaking, commenced about two years ago, of having a large warm water-bath on the Surrey side of the water, for the use of mechanics and artisans, at a small sum of one halfpenny or a penny per day?—That would be a very essential part of sanitary regulations.

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1050. Are there not, in this part of the town we have been speaking of, many large manufactories where large steam-engines and furnaces are required, so that great heat is employed in these manufactories?—Yes, there are in that neighbourhood, I believe, such as sugar-bakers, and a great many foundries, and other manufactories.

1051. Do you not think that it might be practicable, at no great expense, to procure reservoirs of hot water connected with those establishments, which might be made to supply public baths?—Yes, I think so. I think that baths in this neighbourhood may be generally established, with very trifling expense indeed.

1052. Are there any potteries or glass-houses in this neighbourhood you have spoken to?—I have not turned my attention to that.

1053. Mr. Tufnell.] You are not aware of the bathing establishment on the Surrey side of the water?—No, I am not.

1054. Mr. Brotherton.] Do you know of any reservoirs that would be suitable for baths?—I have no doubt of a supply of water.

1055. Do you know of any reservoirs attached to steam-engines in this neighbourhood?—No, I do not; but I am persuaded that baths can be established generally in these neighbourhoods with very little expense, and would form a very essential part of sanitary regulations.

1056. Mr. Ingham.] I understood you to say, with respect to those districts where the manufactories were that were injurious to health, that if similar manufactories had been in a district occupied by wealthy persons, that they would have been proceeded against?—Yes.

1057. The effect of those manufactories you believe to be injurious to health, and that they would support an indictment for a nuisance?—I think it very probable indeed.

1058. And that parties are deterred from proceeding, they being in narrow circumstances, and the expenses of the proceeding being heavy?—Exactly so.

1059. If there was some legal provision, by which a person proceeding against a nuisance, and establishing a nuisance, should be reimbursed his expenses, would that be essential in a neighbourhood like this?—I think that an authority that would take cognizance of such evils would put an end to these establishments.

1060. That authority being reimbursed his expenses out of the public funds?—Yes, no doubt.

[The Witness withdrew.

Dr. Southwood Smith delivered in a Paper on the Prevalence of Fever in the Metropolis during the year ended 25 March 1838.—*Vide* Appendix.

Jelinger C. Symons, Esq. called in; and Examined.

J. C. Symons,
Esq.

1061. Chairman.] YOU were one of the Assistant Hand-Loom Weaver Commissioners?—I was.

1062. You are the author of one of the Reports on the South of Scotland, France, Belgium, Switzerland, and part of Austria?—Yes.

1063. And author of a work called "Arts and Artizans at Home and Abroad"?—Yes.

1064. In the course of your inquiries, have you had occasion to examine into the districts of Scotland, and particularly the condition of the people in Glasgow?—Yes, I have.

1065. Are you acquainted also with a little publication, called "Vital Statistics of Glasgow," by Dr. Cowan?—Yes, I am.

1066. Are you acquainted with him?—Yes, I am.

1067. Do you believe Dr. Cowan to be an eminent medical man there?—Yes; I know him to be very eminent in his profession.

1068. State what is the condition of the districts inhabited by the working and poorer classes in the town of Glasgow?—Exceedingly bad. I am not aware that I have ever seen a town in which the state of the working classes was worse, as regards the points of cleanliness and health.

1069. In what state is the drainage and sewerage of the densely-inhabited districts of Glasgow?—I am not competent to speak to the state of the drainage

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age further than from the result of the general impression I felt on the subject, particularly in those parts which the working classes inhabit.

1070. Were they neglected?—Yes.

1071. Are those open gutters with filth and dirt and refuse from the houses lying in those courts and alleys?—Yes, to a certain extent.

1072. In one part of your report, page 51, which was written some time ago, you say, "Though in point of wages the cotton hand-loom weavers are thus decidedly inferior to every other class of operatives, yet in point of physical and social debasement, there exists a portion of the population in the district I have investigated very many degrees worse. I allude to the dense and motley community who inhabit the low districts of Glasgow, consisting chiefly of the alleys leading out of the High-street, the lanes in the Calton, but particularly the closes and wynds which lie between the Tron-gate and the Bridge-gate, the Salt-market and Maxwell-street. These districts contain a motley population, consisting in almost all the lower branches of occupation, but chiefly of a community whose sole means of subsistence consists in plunder and prostitution." Is that a very densely-peopled district which you have yourself investigated?—Yes, upon various occasions.

1073. You state you went with the police-superintendent to investigate the state of the people, and visited those districts four times?—Yes, I did.

1074. And you go on to say, "I have seen human degradation in some of its worst phases, both in England and abroad, but I can advisedly say that I did not believe, until I visited the wynds of Glasgow, that so large an amount of filth, crime, misery, and disease existed in one spot in any civilized country." That is a correct account of what you saw?—Perfectly so; and I may state that, in addition to the superintendent of police, two magistrates of Glasgow accompanied me on other occasions, and they would corroborate the evidence.

1075. In those districts did you see filth and dirt lying in heaps, and neglected in such a way as to be likely to generate fevers, and be injurious to the health of those poor people?—Yes; and in fact in the centre of these courts there is an immense dunghill, upon which all sorts of filth are thrown.

1076. Is it within your knowledge that in consequence of this neglect now adverted to, fever does prevail there to a great extent?—I have Dr. Cowan's authority for saying it, and it was the general opinion of the medical men in that neighbourhood.

1077. That the district was very unhealthy?—Yes.

1078. You say, "In the lower lodging-houses ten, twelve, and sometimes twenty persons of both sexes and all ages sleep promiscuously on the floor, in different degrees of nakedness. These places are generally, as regards dirt, damp, and decay, such as no person of common humanity to animals would stable his horse in." That is a correct account of the districts you saw?—Yes, it is.

1079. You go on to say, "Many of the worst houses are dilapidated and in a dangerous state, and are condemned by the Dean of Guild's Court; a sentence of which the execution appears to be generally postponed, and which renders these abodes doubly desirable to the occupants, as the passing of sentence prevents the levy of rent. The lower parts of most of these houses are either spirit-shops, pawn-shops, or eating-houses." That is a correct account of what you saw?—Yes, it is.

1080. "The population of all those districts," you add, "is probably 30,000; it certainly exceeds 20,000; they consist in a great portion of the Irish and of Highlanders." Those are districts you visited yourself?—Yes.

1081. You go on to add, "Many of the younger girls, and there are a multitude of them, who frequent these places, appear to have been driven there by sheer want, and applied to Captain Miller to be rescued from misery in great numbers." That is correct?—Yes.

1082. "No efficient aid can of course be rendered them under existing institutions, and hundreds in a year become inured to crime, and pass through the rapid career of prostitution, drunkenness, and disease to an early grave." Captain Miller is the superintendent of the police there?—Yes.

1083. He went with you, and gave you every facility in seeing these places?—Yes.

1084. You subsequently state, "The spirit-shops in Glasgow amounted, in the

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the last census, to one in every ten houses throughout the city; the proportion is of course greater in the low districts." That is so?—Yes.

1085. Do you not consider that the excessive drinking of spirits there is also a cause of great mortality among them?—Very great indeed; it is one of the main proximate causes.

1086. Do you think that the state of their dwellings and habitations, and the want of cleanliness among them, leads to the spirit of drinking?—Yes; and I should say that the spirit of drinking leads to the want of cleanliness; it acts and re-acts.

1087. Then you give the amount of spirits consumed in England, Ireland, and Scotland; the statement is, that in England the population is 13,800,000; Ireland, 7,700,000; Scotland, 2,300,000. Then you give the number of gallons of spirits: in England, 12,300,000 gallons; Ireland, 12,200,000; Scotland, 6,700,000 gallons. "Thus it appears, that the quantity of spirits consumed in England is seven pints and one-ninth per head on the population; in Ireland rather more than 13 pints per head; and in Scotland 23 pints per head per annum." And you add also, "When the drunkards in Glasgow become too poor to satiate their appetite for spirits, they now resort in great measure to laudanum, which, in an adulterated state, is consumed in considerable quantities, and regularly sold by many of the chemists." Do you believe you have good authority for the statements you have made?—Yes, perfectly; they are correct as to the spirits; I had that from the Parliamentary documents; and with regard to the laudanum, it has been controverted; but, nevertheless, I have it from several persons I believe to be quite competent to state the fact.

1088. *Mr. Brotherton.*] Have you made any comparative statement of the different cases of insanity in different countries?—No, I have not; it hardly entered within the sphere of my duties to do that.

1089. *Chairman.*] You then state the neglected state of these districts, and the consequences, and you go on further to state a part I particularly wish to call your attention to, on the subject we are upon: "Such being the state of things in large districts of Glasgow, it is not surprising that the number of persons who died last year was 10,270 (being at the rate of 1 in 24.63 to the whole population), or that out of that number 2,180 died of typhus fever, which never leaves Glasgow; or that personal outrages, vitriol throwing and assassination, should occur in the open streets; the only wonder is that health and life are half as well preserved as they are." Do you feel confident that is a correct statement?—Yes, certainly; I know that they have been made by official persons with the utmost care.

1090. Having had an opportunity of inspecting the condition of the poorer classes of Glasgow, I observe in another place you add: "It is my firm belief that penury, dirt, misery, drunkenness, disease and crime culminate in Glasgow to a pitch unparalleled in Great Britain:" is that your confirmed opinion, having seen other districts as well?—Perfectly.

1091. *Mr. Tufnell.*] What districts have you seen in England to compare it with?—I have a general knowledge of the lower parts of Manchester, and some of the districts in London.

1092. *Chairman.*] And other parts of Scotland?—Yes, all the large towns in the south of Scotland.

1093. What is there peculiar in Glasgow that should make them so filthy; is it the want of drainage, or are the habits of the people less cleanly than in other districts of Scotland?—There are several causes; there is a great emigration of the Irish and of the Highlanders.

1094. That would be a casual population?—No, I can hardly call it casual; the mortality is very great, and that is supplied by a constant pouring in of the poor and destitute into the town.

1095. *Mr. Brotherton.*] Many families live in those houses of which you have spoken?—Yes, many of those houses are lodging-houses.

1096. *Chairman.*] Did you go into any of the houses to see whether they were in want of ventilation, by passing the air through?—Yes, in hundreds of instances in Glasgow.

1097. Is it your opinion that sanitary regulations, with respect to drainage, and cleansing, and ventilation, and the improvements that are suggested upon these

these points, would be a material benefit to the poorer classes in Glasgow?—I have no doubt that it would remove the present evil.

1098. Mr. *Tufnell*.] What evil would you attack first?—Perhaps spirit-drinking is one of the great causes; the want of education is the first cause, which will hardly enter into the scope of your inquiry; but there is no doubt an immense accumulation of evils that sanitary regulations might cure.

1099. *Chairman*.] You have spoken of the great evils arising in the neglected districts from spirit-drinking, which is not within the scope particularly of our inquiry; but I will ask you one question upon the subject of education. I find one statement, in which you say that "In Anderston, out of 160 children under 12, and above three years of age, 37 are at school, 15 are educated gratis, and 123 are not receiving any education at all. The school fees here are 2s. 6d. a quarter. This proportion of ignorance to education will be nearly the same throughout Glasgow." That is a correct statement?—From the best sources of information I have, that was the case.

1100. Two children out of three, between those ages, receive no instruction whatever?—Yes, that was my impression.

1101. And you believe it to be the case, as a general result?—Yes, very nearly so; certainly between three and 12 years of age; and I may state, in explanation of that fact, in Glasgow very young children are put to work at a very early age, at light operations in weaving.

1102. Do not the factory regulations extend to Glasgow?—Yes, the factory regulations; but not to hand-loom weaving, or the spinning at home, or winding on the cops, which is generally their employment.

1103. Are there many occupations in which the humbler classes of children are engaged, and upon which there is no regulation to prevent them being employed at those early ages?—Many.

1104. Mr. *Brotherton*.] How young are they employed?—At eight years old.

1105. At what age are they taken into mills of any kind?—About the same age.

1106. Are you aware that the Factory Act prevents them being taken younger than nine years of age?—Yes; but I am confident that is evaded in many instances.

1107. And younger children are employed in the factory than nine years of age?—Yes, by a year.

1108. *Chairman*.] Are there any other districts you would wish to speak to with regard to sanitary regulations, or the improvement of their condition, either round Glasgow or the neighbourhood?—Edinburgh stands in need of improvement, but nothing is so bad as Glasgow. The same remark as to the necessity of the regulation of the lodging-houses would apply to Edinburgh.

1109. And as to the cleansing and sewerage?—Yes.

1110. Have you looked through this pamphlet of Dr. Cowan's?—Yes, I have.

1111. You are acquainted with him?—Yes.

1112. Have you any doubt that this is a correct report of the state of facts?—Not the slightest.

1113. I observe he states generally, that in consequence of the neglect of cleansing and proper regulations in Glasgow, fever has been very prevalent of late years?—Yes; and since that has been published, I saw him in the last two months, and he told me that in every point of destitution and mortality the amount had increased.

1114. Here is a statement put in, in page 32, in which he says, "The increasing rate of mortality in the city of Glasgow has given rise to much speculation as to its causes, and many opinions have been promulgated regarding it;" and then he goes on to say, "The following table exhibits the proportion which the total deaths, and the deaths under 10 years of age, bear to the population at different periods, and the per-centage which the deaths under 10 years are of the total deaths." Then there is a return given for 1821: the rate of mortality was one in 39 and a fraction; in 1831 one in 30 and a fraction; in 1835 one in 29 and a fraction; in 1838 one in 26 and a fraction; showing it greatly increased from 1821 to 1838, from one in 39 and a fraction, to one in 26 and a fraction; have you any doubt that that is correct?—Not the slightest; it was made by the town council.

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1115. Now, in 1821, among children under 10 years of age, it is one in 75 and a fraction; in 1831 it amounted to one in 60 and a fraction; in 1835 it is one in 49 and a fraction, and in 1839, one in 48 and a fraction; showing an increased mortality in the younger classes as well as in the others; and he adds to it this remark, "The above table presents but a melancholy index of the state of public health since 1821, and shows how severely, during the last two years, the augmented mortality has affected the earlier years of life." Is that correct?—I believe it is so.

1116. He adds, "The lesson which it affords should not be lost, but should stimulate our civic rulers to the investigation of the causes which have produced such a frightful rate of mortality, a rate which it is believed is unequalled in any city in Britain." Is that your opinion?—It is.

1117. *Mr. Cowper.*] Has there been any epidemic diseases in the town lately?—The typhus fever is the prevailing disease; they had the cholera also.

1118. Is the typhus fever generally prevalent in Glasgow?—Yes, it is generally existing there.

1119. Is it more prevalent at particular seasons than others?—I do not know.

1120. *Mr. Tufnell.*] Is the town well supplied with water?—I believe very badly indeed, except by the Clyde.

1121. *Mr. Brotherton.*] Are there water companies established there?—Yes, I believe there are; there was a dispute about it the last time I was there.

1122. *Mr. Tufnell.*] Are the houses supplied by wells?—No; there is a public pump for the whole district at those points, to which they send their buckets and get water.

1123. *Mr. Brotherton.*] Do you think the mode of building in Glasgow conducive to health?—No; it is very confined, and very unwholesome.

1124. Would not single cottages be more conducive to health than those large houses where so many families inhabit?—Unquestionably, I should say so.

1125. *Mr. Tufnell.*] Has there been any rapid increase of building or population of late?—I am not able to state as to the buildings.

1126. *Chairman.*] There has been a very great increase in the population?—Yes, I believe so.

1127. I believe it has increased more in the last 20 years than any other town in Scotland?—I believe so.

1128. Which would require corresponding improvement in its regulation?—Yes.

1129. From what you have seen, there has not been any corresponding improvement in the regulations?—No.

1130. *Mr. Tufnell.*] Has the attention of the authorities in the town been called to those circumstances?—Yes, they were; but at the time I speak of the town council was balanced, and nothing was done; but there was a general feeling that something ought to be done by the authorities.

1131. In the way of drains, or of scavengers?—It was proposed even to throw new streets through this district.

1132. Are there commissions of sewers there as in London, with power to make sewers?—I believe not; I believe the whole authority is vested in the town council.

1133. *Mr. Cowper.*] Do you know the extent of the powers of the council with regard to those subjects?—No; I believe it is very great.

1134. *Mr. Brotherton.*] In making your calculation of the number of deaths in Glasgow, did you take it upon the population of the last census in 1831, or upon the increased population since that time?—I did not make the statement myself, it was made by the town council; Baillie Paul was appointed to it, and he did it very ably; he assumed that the increase was as great since the last census as before.

1135. *Chairman.*] So as to take it as nearly as possible at the present census?—Yes.

1136. *Mr. Ingham.*] In the miserable parts of the town you have alluded to, has it always been the habitation of this class of people, or were they better houses formerly, and deserted in consequence of any change in trade or other cause?—No, the houses seem to have been built for that purpose; the construction

struction of the houses shows that they were let to one person as landlord, who let them out at so much a night.

1137. *Chairman.*] This report of Dr. Cowan says, in page 12, "We have proved, that since 1816, but more particularly during the last seven years, fever has been steadily increasing in the city of Glasgow, and that its victims constitute within a fraction of 55 out of every 100 patients treated in our hospitals, independently of those treated by the district surgeons within the burgh." That is an accurate account, you believe?—I have no doubt it is.

1138. It goes on to say, "This increase, especially during the last seven years, has taken place not in years of famine or distress, but during a period of unexampled prosperity; a period when the wages of labour have been ample;" and in another part it states, "The expense that falls upon the district by means of persons thrown out of work by the fever has been very large." That is within your knowledge?—Yes.

1139. Then it says, "We may safely assume that the 12,895 individuals treated in the fever hospitals during the last seven years, all, with few exceptions, depending on their daily labour, and extending the benefit of that labour to others, were out of employment for a period of at least six weeks"?—Yes, I believe all that to be perfectly correct; you may implicitly rely upon everything you find in that book; it is attested by all the authorities in Glasgow.

1140. This medical man goes on to suggest the means of remedy, and says, "A few thousand pounds judiciously expended in opening up the districts most densely populated, and in other obvious ways, would greatly tend to alleviate the pressure of our heaviest municipal tax, the fever-tax." Would that be the case, do you think?—Yes, I am quite sure it would.

1141. *Mr. Ingham.*] What is the fever-tax?—For the relief of the poor, and the maintenance of the hospitals.

1142. *Mr. Brotherton.*] Is there a fever hospital?—Yes; a very large ward of the hospital is set apart for that purpose.

1143. *Chairman.*] The concluding part of the report has this statement; after prefacing that the same evils will again arise, he says, "During the interval, however, the moral and physical condition of the inhabitants demands the immediate attention of the municipal authorities, to alleviate where they cannot remove the evils attendant on a dense, a manufacturing, and a rapidly-increasing population." That is confirmed by your experience, the necessity for such improvement?—Perfectly.

1144. Can you state anything with regard to the state of Manchester, and with respect to the more densely-peopled portions of Manchester, the number of persons residing in cellars, or the necessity for improvement?—No, only very generally, and the same as to Birmingham and Liverpool, and other large towns.

1145. From the general view you have taken of the densely-peopled districts in those other large towns, do you think that any of them are so bad as this town you have mentioned, Glasgow?—No, not any, in my judgment.

1146. Are you of opinion that in several of them, nevertheless, improvements may be made by sanitary regulations, and more effectual draining and cleansing?—I have no doubt of it.

1147. *Mr. Tufnell.*] Are the houses inhabited by the lower classes of Glasgow so constructed as to have a free current of air?—No, in hardly any instance of that sort; they build the one against the other, and a court-yard for the reception of filth in the centre.

1148. *Mr. Brotherton.*] Have the poorer classes any conveniences, as privies?—No, scarcely an instance of it; that is one source of revenue to the landlords, the accumulation of dung in those large towns.

1149. This dung is removed?—Yes, which is another cause of fever; the removal of that dung sends out a great deal of effluvia.

1150. The inhabitants of several houses have to go to one privy?—They have no privy; the excrement is flung out.

1151. *Chairman.*] There is no regard to decency in those respects?—No, not in those bad districts.

1152-3. In page 45 in this report it states, "The Mortality Bill of 1837 exhibits a rate of mortality inferring an intensity of misery and suffering unequalled in Britain, and not surpassed in any city that we are acquainted with on the continent of Europe. The rate of mortality in 1832 during the prevalence

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lence of cholera was one in 21.67, but owing to the shorter duration of cholera, less misery and pauperism was produced by it than by fever." Do you believe that to be an accurate account?—Yes, I should think it was.

1154. Do you think, comparing it with towns you have seen on the Continent, it is worse in these parts of Glasgow than almost any part you saw there?—Yes; I can speak more decidedly as to the towns on the Continent; I have investigated them more closely, and I have seen nothing equal to Glasgow.

1155. Not in Lyons?—No, nor in Brussels nor Paris.

1156. Some of the back parts of Paris are in a very bad state?—Yes, during the depressions of trade.

1157. They are not so filthy?—No.

1158. *Mr. Ingham.*] The use of tobacco is more prevalent abroad?—Yes.

1159. *Mr. Brotherton.*] During the prevalence of cholera, were not there public subscriptions to prevent the pauperism that would have arisen otherwise in Glasgow?—I am not aware of that; I was not there at the time.

1160. *Chairman.*] With respect to the ventilation of those districts, did you go into the habitations and rooms inhabited by those poor persons, and find there was very little ventilation, and that everything was stuffed into the windows to prevent the air passing through?—Yes, in Glasgow and all the large towns that was the case.

1161. Are they aware of the evil consequences arising from it?—No, but they have an objection to ventilation rather than otherwise.

1162. It has an injurious effect upon their health?—Yes.

1163. That arises from ignorance and the want of instruction generally; any education which might make them docile upon such points and give them information would be beneficial?—Yes.

1164. Therefore any useful practical education would have the effect of opening their minds to hints which might be useful to their physical condition?—Yes.

1165. *Mr. Brotherton.*] Might not their being employed in mills and warm rooms have a tendency to cause them to prevent ventilation?—Yes, I think it very likely that that may be the case; they are very much heated in the mills, and when they come out they require a greater degree of warmth than other persons would.

1166. *Chairman.*] In fact many of those persons are not occupied in mills?—A great many have no occupation but thieving or prostitution in those worst districts.

1167. And the remarks you made of the want of ventilation, and the necessity of ventilation, apply to the poorer classes in densely-peopled districts in other places as well as Glasgow?—Yes, to a great degree. In the cotton mills, the health of the people is much greater in those mills where the rooms are built of sufficient height and ventilated.

1168. You have, in these most useful investigations abroad upon the state of the working classes, made some remarks upon the state of health in districts where there were lime-kilns?—In Lyons, which had many incidents likely to lead to cholera, and in the direct line of it, with a population of 60,000 or 70,000, I asked the reason it escaped, and I was told that it was thought to be owing to large lime-kilns on the banks of one of the rivers in the centre of the town; that the miasmata were spread over almost all parts of the town, and it was considered that that was one of the chief preservatives against the cholera, in destroying malaria.

1169. Slacking lime is not unusual as a precaution in houses affected with fever in England?—No, it is not.

1170. Did you happen to hear from the medical men there their opinion upon the subject?—No, I did not. I heard it from a gentleman of great respectability there.

1171. Has your attention been called to anything of the same kind in England?—No; but the same thing took place at Avignon.

1172. Have they any manufacture of alcohols at Lyons?—I do not know.

1173. *Mr. Tufnell.*] Do the children of Glasgow appear emaciated?—Yes, strikingly so.

1174. More so than in other towns?—Not perhaps more so than in Manchester; but there was a difference.

1175. *Chairman.*] You think this arose from the want of sanitary provisions?—

sions?—Yes. At Egerton there is an immense manufactory, and the people look healthy there. That is a country district, and the greatest care was taken of them. It belongs to Mr. Ashforth.

1176. You think there is nothing in the system, if well managed, inconsistent with the health of the inmates engaged in it?—Nothing, if the ventilation was well attended to.

1177. Is that one of the works of the same firm that have a mill at Hyde, in Cheshire, of which such a good account is given?—I believe so.

1178. Mr. Ingham.] At Glasgow, there is a large space, where the people may take exercise?—Yes, a large green.

1179. Are there any means resorted to to keep walks for the people?—It is built over, except on this green.

1180. How many acres is the green?—It may be 100 acres.

1181. Is it laid out with good walks?—No; it is a large green; it is merely a park.

1182. Mr. Tufnell.] Is there anything in the situation of Glasgow that should render it unhealthy?—No; quite the reverse. The air is uncommonly good, if you get out of the smoke.

1183. Mr. Ingham.] There is sufficient slope to carry off the filth?—Yes.

1184. Mr. Tufnell.] Are there any natural disadvantages?—No.

1185. It arises from the bad mode of building?—Yes; and the bad habits of the people.

1186. Mr. Ingham.] What is their diet?—They drink a good deal; and that reduces them to a very scanty diet, as far as meat is concerned.

1187. Mr. Tufnell.] Do they live much upon fish?—No; principally potatoes and a little bit of meat or fat stewed up together. The quantity of meat is in proportion to their means.

1188. Mr. Ingham.] And oatmeal occasionally?—Yes, for breakfast, throughout Scotland.

Charles Richard Weld, Esq. called in; and Examined.

1189–90. Chairman.] I THINK you have been engaged in investigating the state of a portion of the city of Westminster?—Yes, I have.

1191. A densely-peopled district, where the poorer inhabitants reside?—Yes.

1192. Close here almost?—Yes, close to this place.

1193. Will you be good enough to state, in the district you have investigated, what is its state, with regard to cleansing and draining, and the ventilation of the houses, and whether it is neglected in those respects in some of those populous places?—The drains are in good order; my answers will apply to the two parishes of St. John and St. Margaret; I cannot speak to any other; in those two parishes the drains are in good order, but the ventilation was decidedly bad in the rooms.

1194. Your observations do not extend to the whole of the parishes?—Yes, they extend to those parishes.

1195. Are you aware of the state of the drainage on the outside of the parishes, where the houses are not so confined?—I do not know anything of the drains outside the suburbs of those parishes.

1196. Were they in those alleys and courts clean or dirty?—In the courts the cleansing was bad.

1197. Was there a closeness about them, and a smell?—Yes, there was.

1198. Is that injurious, in your opinion, to the health of the inhabitants?—Decidedly.

1199. In going up the stairs common to many families, how did you find them?—Very close.

1200. With respect to the habitations of many of the persons you went into, how did you find them as to ventilation?—Invariably the ventilation was bad.

1201. Were there many districts in which there was no air passing through, a sort of *cul de sac*?—The buildings are erected without the slightest reference to ventilation, and I found them extremely close indeed.

1202. Does it appear to have been the object to pack them as close as possible?—Yes.

1203. Are you aware of fever prevailing in any portion of this district?—

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When I visited these two parishes, with a population of 16,000, the proportion of mortality was 1.8 decimal per cent., which was very small.

1204. It was a more healthy period than usual?—Yes, I believe it was.

1205. Had you an opportunity of knowing anything respecting the habits of the persons residing in those poor localities, as to their general habits of cleanliness, and so on?—Yes, I know something of their habits; it appears to me that the great pressure that they suffer from is rent; consequently they are debarred from those comforts they might otherwise avail themselves of. For the sake of saving a shilling or two, they are content to inhabit a small room which is badly furnished, with bad ventilation, and all the other evils that follow as a matter of course.

1206. Do the landlords exact high rents from them?—Extremely high.

1207. Do the landlords appear to give much attention to the decent condition of the dwellings from which they derive so large a rent?—Just the reverse.

1208. What is the rent they pay?—Two shillings and eleven-pence farthing a week on the average, exacted rigorously each Monday morning: in default of which they are turned out; it is very rare they run on two weeks without payment.

1209. Mr. Tufnell.] That is for a whole room?—Yes.

1210. Chairman.] Are there many cases where a whole family is in one room?—Yes, the majority of them.

1211. Those are the working classes?—Yes, exclusively.

1212. Do you mean that the majority of the working classes have only one room for their whole family?—Yes.

1213. To live and sleep in?—Yes.

1214. Both parents and children?—Yes.

1215. Mr. Cowper.] Did there appear to be different families in one room?—No, they appeared to be the same family, as they stated to me.

1216. Do they take in lodgers?—No, I believe not.

1217. Chairman.] Now, with respect to the conveniences appendant to these humble places; are there any that are well-regulated, and kept decent and clean?—In the houses in such streets as Orchard-street and Tothill-street, the privies were pretty good, but in the courts extremely bad, and I frequently found the privies without doors, and filth upon the seats of the most disgusting description; they appeared to have no idea of anything like decency in the courts.

1218. Were they in such a neglected state as in hot weather to be injurious to the health of the people?—Unquestionably.

1219. Mr. Tufnell.] The chief evil appears to be the uncleanly habits of the people who inhabit these places?—Yes; but if you ask me the chief evil the labouring classes have to contend with, it is the high rents. It is a curious fact, that in Manchester there were 26,000 families visited, and the average rent was found to be 2 s. 11 d. without the fraction of a farthing, and for that they have a house to live in; whereas in Westminster, for 2 s. 11 $\frac{1}{4}$ d., they have only a room that does not average 12 feet square.

1220. Mr. Cowper.] Are the gutters of the courts ever cleaned by any of the parish authorities?—No, the courts are not cleaned.

1221. The scavengers do not come there?—No, they do not penetrate those courts.

1222. Sir Harry Verney.] How many of those rooms are there generally in a house?—On the average eight through the two parishes.

1223. Are any of those below ground?—No, the eight are above ground.

1224. Is there generally any cellar?—Yes, but generally they are used as stores, as old-iron stores; a great quantity of soot is deposited by chimney-sweepers in them; they are not inhabited; there are a few instances where they are; a dozen or more in the two parishes; but, generally speaking, they are not.

1225. Are they floored generally with wood, or stone, or brick?—Wood.

1226. Are they generally very old houses?—Very old.

1227. With regard to the rates and taxes of those houses, do you know whether they are generally punctually paid?—I do not know; I am not aware how they are paid; there is no doubt that the rent of the houses bears a very small proportion to that obtained by sub-letting.

1228. Chairman.]

1228. *Chairman.*] The landlord exacts a very high rent, and pays a very small one?—Yes. *C. R. Widd, Esq.*

1229. Including taxes?—Yes.

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1230. *Sir Harry Verney.*] Does the landlord take upon himself the payment of the taxes?—Yes.

1231. And the rates?—Yes; he takes upon himself to pay everything, and his return is in weekly sums obtained by letting his lodging-house in single rooms.

Joseph Fletcher, Esq. called in; and Examined.

1232. *Chairman.*] YOU are one of the Assistant Hand-loom Weaver Commissioners?—I have acted in that capacity, and am secretary to the commission.

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1233. In the course of your investigations in that matter, I believe your attention was directed to the Midland districts of England?—It was, and more especially to Coventry and the contiguous districts.

1234. Can you give the Committee a general account of what the state of attention to cleanliness, and the comforts of the poorer inhabitants, in regard to regulations for ventilation and drainage in Coventry, and any of the districts round, is?—There is a material distinction between Coventry, and the towns in the south, from those in the north; the habits of the people of Coventry are remarkably superior to those of the people of Macclesfield and Manchester; their homes are humble, but their habits of cleanliness, compared with those which prevail in the north, are quite conspicuous.

1235. With respect to the state of the dwellings of the poorer class of weavers at Foleshill, and some districts round there, in your report you state that they were in a very dirty, and poor, and neglected condition?—The habitations themselves somewhat vary; the trade is a very fluctuating one, and it is obvious that the buildings have been erected in times of good trade, therefore a good many of them are of a comfortable structure, but the people inhabiting them, trade being so fluctuating, are on the whole in a very miserable condition; and in the remoter villages they are more miserable than in the towns. In the remoter villages, where the habits of the people are more uncultivated, what is very conspicuous about the houses is the filth, and pools of stagnant water, more especially in the villages of Bulkington and Hartshill.

1236. Those are inhabited by weavers in the silk trade?—They are ribbon weavers.

1237. With reference to the state of those silk weavers, which you have stated is comfortable, is it your opinion that their physical powers and health have been apparently injured by the life they lead, as compared to what it formerly was?—Upon that I have the testimony of the oldest inhabitants and medical men in the town of Coventry. Mr. Abraham Herbert, the mayor of Coventry, who was a weaver in his youth, though now a man of wealth, describes the habits of the weavers of former times as those of greater activity, though of more rudeness; that they were more robust, though more rude; that they had then abundant opportunity for exercise, but that now the lands are enclosed, and they have only the roads to walk upon, or the pot-house to go into; and the effect of this change, both the medical men, Mr. Herbert, and other old inhabitants testify to be decidedly injurious to their physical character; at the same time that perhaps their moral habits are not worse.

1238. It has been stated particularly, that in the neighbourhood of the populous town of Coventry there was a large open space of several hundred acres, on which the poorer inhabitants used to desport themselves, in those games and amusements which gave them health, on times of holidays, which land has been enclosed, and from which amusements they are now debarred?—Yes; it formed part of the old Royal Manor: it is now called the Park, and is enclosed, and forms part of the property of the Marquis of Hertford.

1239. It is to this cause that the mayor attributed this change?—That was one of the most conspicuous of them to which he adverted.

1240. Do you think that they stand in need of some place on which they could get out to take exercise to promote health?—Most assuredly; and it seems possible that that object may be accomplished in an Act now before the House of Commons for enclosing the Lammas-lands. The people cannot go upon the Lammas-lands at all times, but there is a common right during part of the year, and it is proposed that the town shall have the exclu-

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sive property in a limited portion of the soil, abandoning the common right during part of the year over a greater extent, and out of this portion it is designed to reserve a part for public exercise.

1241. Does the same observation apply itself generally to the other populous towns you have noticed, with respect to the reservation of some open space?—Yes; the general observation of the want of such open spaces applies to almost all the large towns, or most of those that have so rapidly risen in our commercial progress, whilst scarcely any one of the cases presents the fortunate circumstance which Coventry possesses, by which it may be supplied. Birmingham is entirely devoid of it, and Manchester and Macclesfield are without any such convenience.

1242. Mr. Cowper.] Do you know what the games and recreations were to which the mayor of Coventry alluded?—Football and quoits, and bandy, and bowls, and cricket, which has been a game used from very early times.

1243. Do any of the inhabitants of the town now indulge in any of those sports?—They have greatly declined among the young men, and the mayor accounted for the change of habits by saying, that the young men instead of indulging in those athletic exercises, from which they are debarred, become more early attached to mates, or, to use, I think, his own expression, went sweethearting much earlier than they used to do; that is their amusement instead of the ruder games.

1244. Chairman.] But it was his opinion that their constitutions were injured by the change?—Yes.

1245. Mr. Cowper.] Do you find generally that there is a want of active amusements amongst the labouring classes?—Yes, it is general among the manufacturing populations.

1246. They have no means for it in these large manufacturing towns?—In large towns they have not; in some of the places in the country even they have no opportunity for athletic exercise; the best exception I found was at Bedworth, five miles from Coventry, where there is an improving trade, a well-fed population, and a kind-hearted rector; there, although rude in their manners, their habits are generally healthy and sound.

1247. What is the name of the rector?—Bellairs.

1248. Chairman.] Are you aware of another benevolent individual who has dedicated a large space to the same purpose, Mr. Strutt, near Derby?—I have heard of it; I do not know it from especial inquiry.

1249. Mr. Ingham.] You are aware that Bedworth was greatly depraved and brutalized before that Reverend clergyman came there?—It was.

1250. What was the first step he took to accomplish the change that has taken place?—He took pains to understand the parish when he first came into it; he is a gentleman of strong purpose, as well as of cultivated mind, and on entering the parish, understanding what it was, he had a meeting in vestry, and told the civil authorities, the constable and churchwardens, and so forth, he should expect them to discharge their duties in like manner that he intended to discharge his; then, by good precept and example, urged those habits of morality and order which he knew to be necessary to their welfare, and pursued the disorderly, through the parish officers, with the fullest rigour of the law; he, as a matter of morality, compelled the civil officers to discharge their duties, at the same time that he discharged his by precept and example.

1251. Did he establish any public games?—No, he did not adopt measures of that kind; they were left to the spirit of the young fellows themselves.

1252. Mr. Cowper.] Do you believe, in former times, the labourers had more leisure than they have at present?—Decidedly they had; they never worked then so long as they are now working, and they must have had more time for play.

1253. Have they now time for playing at those games to which you have alluded?—I will answer with pleasure, if you will have the goodness to point out some particular class of the population to which you allude; the circumstances of each vary so greatly.

1254. The weavers?—In the country districts near Coventry the weavers, however poor, take time to play; and the time that they so abstract from labour is not always so well applied as it might be for their physical benefit and moral health; but they do abstract time from labour which might be employed in healthy exercise.

1255. Do

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1255. Do they take some hours on each day?—They rather take it by days in each week; they absent themselves from work nearly the whole of Saturday, Sunday, the whole of Monday, and a little of Tuesday; then they work excessively hard from Tuesday until the beginning of Saturday, and often through the whole of Friday night.

1256. Mr. Tufnell.] Has that been the general custom?—I believe it has been the custom ever since the trade had its origin; perhaps the time taken for play is not so great as it used to be.

1257. Mr. Cowper.] What have you observed with respect to leisure hours amongst the agricultural labourers?—The agricultural labourer is restrained, by the sort of labour he has to perform, to certain hours; and still more, he is always working under the eye of his master, which the weaver is not; the agricultural labourer is as much tied to regular hours as the factory labourer.

1258. Every day he has some hours at his disposal?—The agricultural labourer has scarcely any hours by daylight except in summer-time; but such is the healthy character of his usual employment, that opportunity for athletic sports is not of the same importance to mere health in his case as in that of the manufacturing labourer.

1259. Chairman.] You have a general acquaintance with the district inhabited by the poorer classes in Manchester?—I have; in the autumn of 1838 I was down there at the time that Captain Jebb was making inquiries as to the petition for a charter to Manchester, and I availed myself of the opportunity that his duties afforded, of inquiring at the different houses into the truth of the signatures, to take an opportunity to go into the houses, and see in what state they were; I first knocked at the door, and then walked in.

1260. In the course of that inquiry, did you have an opportunity of seeing many of the habitations of the lower classes?—Yes, I had, in all the poorer districts.

1261. What is their state with respect to drainage, and cleansing, and ventilation, and the comfort of the dwellings amongst those classes?—With regard to the drainage, by which I must understand that underground sewerage common in large towns, I can know scarcely anything of it; and the Committee will readily acknowledge that I could not, when I mention that the town-council of Leeds, in their own admissions upon the same subject just now, could not find out whether one half the streets of their town were or were not drained.

1262. I meant with respect to surface drainage, whether in that respect they were dirty and wet, or appeared to have underground communications?—The town presents very varying appearances; on the Ancoates side it is much improved by the commissioners of police, who have put down paving of some kind, more or less; but in Irish Town, by the Medlock, and in certain other districts of the town, the old absence of pavement still remains, and in these streets the whole surface, except a little narrow slip, by which people may walk from house to house along the sides, is occupied by a great mass of filth and rubbish, pools of water and refuse, and everything you can conceive to be the offal from houses the habitations of such people.

1263. Is that applicable to several of the most populous districts?—Yes, it is.

1264. Then the smell in hot weather would be very offensive?—Exceedingly offensive, and still more injurious from the houses of that class in Manchester having generally no thorough draught; the houses stand back to back, the partition wall having a separate row of dwellings on each side, without back offices.

1265. Is not that mode of building very injurious to the health of the inhabitants?—Yes, no doubt: the Committee may imagine a partition wall between street and street, and across the end of the street, and enclosing a space so completely, that the inhabitants breathe the foul atmosphere exuded from this filth incessantly.

1266. That is the case with many of the districts in Manchester?—Yes, it is most conspicuously so in the lowest part of the town called Irish Town; the streets are not so filthy in other districts, but as to the want of a thorough draught the houses are quite as bad.

1267. In those districts there is a neglected heap of filth in front of the house, and at the back a wall enclosing whole masses of houses?—Yes.

1268. Can you imagine anything more likely to be injurious to the health of the inhabitants?—No, I cannot.

1269. What is the effect; is there a great deal of fever there?—I have not any statistics of disease in Manchester, nor shall we get them till the office of the

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registrar-general has been at work some time ; but it must have a most injurious effect : judging from the appearance of the people it certainly has ; a great deal of their pallid and care-worn appearance is not so much to be attributed to the factory system, as it is to be attributed to the sweeping together of large masses of people, with little intelligence, under circumstances so unfavourable ; and the evils under which they suffer are produced from causes arising in the towns rather than from injurious influences in the processes of the cotton manufacture.

1270. Occupied as they are in the cotton manufacture, you think if their dwellings were constructed better, and those points which are so neglected were attended to, that their general health would probably be much better, and you do not see anything in that occupation, if properly regulated, to affect them?—Assuredly not, if I may judge from the appearance of persons in the employment of benevolent masters in the rural districts. I have the pleasure of knowing some of the largest manufacturers in Lancashire, and there are instances of some having the largest works, whose people and mills present the appearance, the one of health, and the other cleanliness, with good ventilation, which I should be happy to see in the persons and workshops of every district.

1271. Do you happen to know the state of one of Mr. Ashworth's mills, in Cheshire?—I know Mr. Thomas Ashton's mills, in Cheshire.

1272. Do you believe that to be well managed?—Yes ; those of Mr. Ashworth, at Egerton, near Bolton ; of Mr. Henry Ashworth, at Turton, near Bolton ; and of the Messrs. Gregg also, show, among others, what may be done by good regulation and the kindness of the master.

1273. Do you happen to know the number of close courts built like a *cul de sac* in Manchester?—That sort of construction is less common in Manchester than in Birmingham ; it prevails almost universally in Birmingham ; there the labouring classes call them villages, though they are in the midst of the town.

1274. Do you not conceive that that construction is injurious to health, and that it would be productive of benefit if the air was allowed to pass through them?—Indisputably ; it is the most injurious construction ; and any municipal regulation that should forbid the erection of houses without a thorough draught would be justifiable to any extent.

1275. With regard to the effect upon their own health?—Yes, and ultimately upon the health of other parties in the same town.

1276. Mr. Wilson Patten.] How would you accomplish the object in towns?—It would be very simple : if an Act was passed providing that dwellings erected for the poorer classes should be erected only in streets having a thorough draught, and that the execution of that Act should devolve upon the municipal police, just as in London they have a Building Act, providing that the walls shall be of a certain thickness, I think it would be easily put in force.

1277. Are you aware that in Manchester there are many persons who dwell in cellars?—Yes, I am.

1278. Do you know the numbers given by the Statistical Society of Manchester?—No, I do not.

1279. You do not know that they amount to many thousands?—They must amount to some thousands.

1280. Do you not think that, to inhabitants of that class, inhabiting underground cellars by day and night must be considered injurious to their health?—There can be no doubt they are very miserable habitations ; at the same time they are not quite so bad as our common acceptance of the word "cellar" would indicate ; they have little open areas in front, down which there are steps, and that gives an opening to them, which would not be conceived from the word "cellar," from which you would apprehend they were entered from the inside of the house.

1281. They are something like the cellars in Monmouth-street?—Yes, you go down into a little area.

1282. Mr. Wilson Patten.] Did you not find at Manchester often that the cellar was the best part of the house?—Yes, it was sometimes.

1283. Chairman.] And that all the other parts of the house were worse?—Yes, in such cases they were.

1284. Mr. Tufnell.] Are those cellars paved?—Generally, with brick.

1285. Is there one family generally inhabits a cellar?—Yes.

1286. Do you think there could be any regulation with respect to the form of building the houses themselves?—Yes ; whatever regulations the Legislature should think it right to ordain, on a consideration of all the circumstances ; clearly

clearly understanding that they cannot provide as good houses for the poor as for the other classes ; but whatever regulations it is necessary to ordain for their health, I consider may easily be enforced.

1287. As you suggested just now, that there should be a thorough draught through the streets, do you think a similar regulation should be made as to the construction of the houses themselves?—Yes.

1288. *Chairman.*] For instance, so as to prevent their being built back to back?—Yes. If you think it right so far to interfere with the cupidity of the builders, and the acquiescence of ignorant people, there is not the least doubt you may execute it.

1289. Do you not think that some such regulations, duly considered and properly executed, would be highly beneficial to the inhabitants of all those densely-peopled towns?—I cannot express in terms sufficiently strong my conviction of the utility of some such measure ; for the growth of our manufactures, and the sweeping together of vast populations, have been equally so sudden, that the people were not brought up in or prepared for the new circumstances in which they have been placed ; and unless you render them assistance by municipal organization, for the purpose of good regulation, which they cannot attain for themselves, they must suffer severely. Unless the whole community combine to render the town healthy, and the place well regulated, the most frightful disorders must necessarily arise from a population so feeble and ignorant—feeble morally, and ignorant to secure their own interests—being so suddenly swept together, commonly from a rural origin.

1290. Do you not think, independent of the comforts of the labouring classes, that it is very important to the other classes, when you consider the large sums thrown upon those classes by the hospital, poor law, and other expenses?—A considerable saving of expense would undoubtedly arise from better sanitary regulations ; but the extent of this saving it must be exceedingly difficult to state.

1291. But a considerable saving?—Yes, and not only a saving in the poor-rate, and in the contributions to fever hospitals, and other charitable objects, but I believe a saving would be effected in the present expenses of prosecutions, and in all the machinery necessary for the punishment of crime, which is generated as much by the filthy and miserable habits of those town populations as by their ignorance.

1292. Do you not think that that neglect of comfort and decency in their dwellings you have described in this way, has the effect in many instances of driving them to drinking, as a temporary relief from their misery?—The drinking that prevails in the large towns prevails under many influences. I should be unwilling to attribute it to actual distress, because the factory population of Manchester, with all the evils and disorders under which they are labouring, have paid among them a very large amount of wages, and what might be saved from their expenditure in spirits would go a great way towards improving their condition in other respects.

1293. Do you not think that their discomfort of all kinds, described as you have described it, has the effect of driving them to reckless courses in the way of drinking?—The general want of domestic comfort will have that effect ; but the want of comfort at home arises very much from moral causes : the woman is absent from home during the day working at the mill ; she has not made the home comfortable, and the discomfort of home has very greatly arisen from that circumstance.

1294. And the want of convenience at the back of the house, and the want of ventilation, all contribute to the discomfort of home?—Yes ; and perhaps in the same degree to the inclination to be absent from it.

1295. Are you acquainted with the state of the lower class of the population at Liverpool?—No, I am not.

1296. *Mr. Cowper.*] What remarks have you made with respect to the physical appearance of the poor people employed in those large towns compared with those employed in the country?—They are pallid in appearance, and are slender and thin, and there is a want of that appearance of animal spirits which generally distinguishes an agricultural people.

1297. So that they appear outwardly to be a deteriorated race?—They do.

1298. *Mr. Wilson Patten.*] In your observations have you been enabled to judge for yourself whether that was attributable to the nature of their work in the factories or their residence in these towns?—Judging from the healthy appearance

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pearance of those persons working in the country factories, such as Mr. Gregg's, Mr. Thomas Ashton's, and others, I should imagine that it arises principally from their disorderly habits and the bad circumstances of the town rather than the bad influence merely of the factory employment.

1299. Do you find in the worst parts of Manchester that those employed in factories are a much more deteriorated race than they are in the other more healthy parts of the town where they are also employed in factories?—I am unable to make an accurate distinction of the population, for the hours at which I could see them at their own homes were very few. I could see them in great numbers only on their return from the mills through the chief streets, and to what parts of the town they would ultimately disperse I could not tell. I could see them at home only during the hour of their dinner, and I could not see a sufficient number during that time to answer your question.

1300. Mr. Tufnell.] In those country factories you stated there was more attention paid to the ventilation and the health of the children?—Several of the proprietors I have mentioned, Mr. Gregg, Mr. Ashton, and Messrs. Ashworth, pay great attention to their people; and their factory labour, except some little closeness in some of the rooms, which I believe they cannot prevent the men incurring, because the cotton spins better in a close atmosphere; excepting that, I should have no hesitation in deciding the labour of mills to be as healthy as any labour can be.

1301. You think if the same attention was paid to ventilation in those factories in the town as in the factories in the country, that the health of the people might not suffer more?—Certainly not, from causes connected with their labour alone.

1302. Chairman.] And attention should be directed to the points you have spoken to about the habitations?—Yes.

1303. Do you know anything of the supply of water at Manchester?—I do not.

1304. Do you know of there being any baths accessible to the poorer class?—I do not know it; there must be a great want of them from their appearance.

1305. Do you not think if there were baths or bathing-places to which the people could have resort, it would promote their comfort?—There cannot be a doubt of it, and it would be a subject worthy the consideration of the philanthropist.

1306. Mr. Ingham.] Is there not a great escape of hot water from each large mill?—Yes.

1307. So that there might be a reservoir of hot water provided without any expense, except a vessel to contain it?—Yes; were their habits of a kind to make them desire it, and the master of such active benevolence as to aid in supplying it, such baths would be provided, and would be highly useful.

1308. You say that a great deal of the want of the comforts of home arise from the absence of the woman?—Yes.

1309. Are the women at all familiar with those circumstances that make a home comfortable?—It depends upon what their previous habits have been; the young women employed in the factory in early life, turn out generally bad housewives, and their places present an appearance of disorder; it is not a home that they have; it is a house, but not a home.

1310. Would it not be desirable to mix something of household instruction in all those schools where the females go, so that they might learn something of cleaning the house or cookery, so as to make the husband's home comfortable?—No doubt; but without disputing its utility, the girls, according to the present system, go so early to the manufactories, that they may, before they become wives and mothers, have lost all ability to do anything but sew.

1311. Chairman.] At all events such instruction might be beneficial to them?—Yes, undoubtedly.

1312. Do those remarks you have made with respect to the necessity of enforcing, by some mode or other of legislative enactment, the inspection of dwellings and the regulation of drainage apply themselves generally to other manufacturing towns, with the particular circumstances of which, however, you may not be so familiar?—In every large town I have been in, I have seen circumstances that induce me to think that the same observations apply to all our great manufacturing towns, those especially in the north.

1313. All those great manufacturing towns which have risen up with large populations in the last 30 or 40 years; do you think the same observations apply to them?—Yes; the population has been brought together under municipal institutions

institutions, calculated for a rural people. Manchester has had to this day merely a manorial constitution; that is, until the day it got its charter. Bolton is under merely a court leet. These towns have had nothing but the old leet jurisdictions.

1314. The improvements had not kept pace with the increase of the population, and the necessities of the inhabitants?—Their municipal institutions are quite unfitted for masses of people so large.

1315. Can you state what are the amusements and recreations of the operatives of Manchester?—None athletic, except when a number of the more disorderly steal off to the borders of Cheshire or Yorkshire,—to one of these neighbouring counties,—to have a “mill,” as they call it.

1316. How do they employ the Sunday afternoon?—The whole Sunday is too frequently lost in either drinking or inactive idleness. It is a most painful thing at Manchester, with the full knowledge that there is a vast labouring population around you, to observe that the whole Sunday is passing away without seeing the great mass of the labouring classes, as you would see them here, with their wives and children walking out, and you wonder where they are; they are too numerous at home in their dirt.

1317. *Chairman.*] Have they anywhere to walk?—No; only the dusty roads.

1318. *Mr. Tufnell.*] Is that the case at Birmingham; do the mechanics confine themselves at home on Sunday?—No.

1319. You have seen large classes walking out there, probably?—Yes; there are large classes there very superior in condition; the constitution of the trade of Birmingham is very different from that of the Manchester manufactures; there are great classes of Birmingham men highly paid, indeed, who, if they had moral conduct equal to their earnings, would be in exceedingly comfortable circumstances.

1320. *Chairman.*] Almost every man has a house to himself at Birmingham?—Many of them have very comfortable homes, especially if they happen to have decent wives, which they are more likely to get here than in a factory town. There is nothing but misconduct to prevent there being large numbers of comfortable labourers at Birmingham.

1321. Is there much difference between the wages of Manchester and Birmingham?—I limit my observation to “classes;” at Birmingham trade depends so much more upon individual skill rather than on great combinations of capital; for that skill there is a high price paid at Birmingham, while at Manchester, skill, except among the machinists, is not wanted at all; there is a different arrangement of the classes; the highest classes at Birmingham might be, from the resources at their disposal, a very respectable class.

1322. Are they so?—There is not comfort equal to their earnings.

1323. They are superior to the Manchester men?—Yes.

1324. *Mr. Cowper.*] At Manchester is there any place, except the dusty roads, where the people can breathe the fresh air?—I believe not.

1325. That inconvenience is constantly increasing, by the population spreading itself all round the town?—Yes.

1326. Is there considerable negligence or want of regularity in the attendance upon religious worship among the poorer classes of Manchester?—I am informed that there is; and it must inevitably be so, or you would see them in the street going and coming, or walking out afterwards, which you do not; they are at home.

1327. I am told that on Sunday there is a growing want of attention to dress and cleanliness, and that sense of propriety and decency generally shown among the humbler classes in many districts, but not at Manchester and many of the large Lancashire towns?—It is not so prevalent as it ought to be in the largest factory towns, but if you take a view of all the circumstances in which these poor creatures are placed, you will not be very much surprised at this result.

1328. Do you not think that whatever their circumstances are, that negligence of this kind is likely to be attended with the worst result to their moral feelings and comforts?—A population so extensively demoralized can neither be happy in themselves nor safe to the community of which they form part.

1329. *Mr. Ingham.*] Do they work until a late hour on Saturday?—I think only until four o'clock on Saturday afternoon.

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1330. Mr. Cowper.] Have you met with any expressions of discontent with their condition?—Discontent among the lowest classes of the people does not express itself in complaints of those things into which you are now investigating; discontent shows itself in passions, not in reasoning; and the discontent which they express is not a complaint of any such grievances as you are investigating, but they immediately find another subject for their excited passions, and express their dissatisfaction with the constitution of the country, and the frame-work of society.

1331. Mr. Tufnell.] Has there been any spread of benefit societies, or are they general in that district?—They are by no means so numerous or general as one would wish, that is, not those that are of a permanent and satisfactory character; very often in the Coventry district they have such societies, and in Birmingham, and among the Spitalfields population; but these are chiefly what are called Birmingham clubs; an association for a year, either for subscription during the year to a common fund, to supply the wants of any who may be suffering from sickness, or on the understanding that when such sickness occurs they all subscribe to the relief of the sufferer; the contract among them lasts only for a year; it terminates with the year, and is re-commenced again; and if it has been by a regular subscription, the stock at the end of the year is divided; such clubs can never be of any use to the old man.

1332. Are not they all admitted at a certain age?—As each is a self-constituted body, annually renewed, the members, from feelings of self interest, will load themselves only with those who are not likely to be a burden beyond the average.

1333. Mr. Cowper.] It is a mere speculation?—It is a mutual insurance for a year.

1334. Chairman.] They are not registered under the Act?—No.

1335. They have no regulations to prevent their officers cheating, or becoming refractory?—No.

1336. Nor to compel them to lodge the money in the savings bank?—No; and it is proverbial the losses they sustain, through defalcation, and the very insufficient custody in which their funds are placed.

1337. Mr. Tufnell.] Are those Birmingham clubs of very large extent?—They vary exceedingly; sometimes they are numerous, and sometimes they are not at all so; it depends upon their locality, whether they be in towns or villages; a large portion of the manufacturing population are dispersed in villages; some of the town clubs are, I believe, extensive, some, for instance, in Spitalfields.

1338. Do they provide against sickness and want?—Not against want, merely sickness.

1339. You do not know the amount generally subscribed?—No, but it is exceedingly trifling; I think it is about sixpence a month.

1340. Are there any efficient clubs in those districts in which they insure themselves against want of employment, where a man deposits at one period, so as to enable himself to have an allowance when out of work?—No, I think not, except in the form of trades' unions, which are for a very different object. There are mutual assurances, as connected with trade clubs, to a very great extent throughout the country, but that is quite a different subject of consideration from the mutual insurances against sickness.

1341. They have very few trade-clubs to give themselves an allowance when out of work?—Very few, except in connexion with trade policy.

Mercurii, 1^o die Aprilis, 1840.

MEMBERS PRESENT.

Mr. Brotherton.
Mr. Cowper.
Mr. Ingham.
Mr. Wilson Patten.
Mr. Ponsonby.

Mr. R. A. Slaney.
Lord J. Stuart.
Mr. Tufnell.
Mr. R. Walker.

R. A. SLANEY, ESQ. IN THE CHAIR.

Mr. J. W. Unwin, called in; and Examined.

1342. *Chairman.*] YOU are clerk to the Commissioners of Sewers for the Tower Hamlets?—I am. Mr. J. W. Unwin.

1343. You were examined before the Select Committee on Sewers in 1834, were you not?—I was. 1 April 1840.

1344. Is the plan you produce that of the district of sewers of which you are the clerk?—Yes.

1345. There are in your district eight levels, are there not?—There are seven levels.

1346. The accounts of those levels are kept distinct, are they not?—They are.

1347. Just as much as if they were under distinct commissions?—Yes.

1348. Are these the levels; first, the Spitalfields and Wapping level, the Limehouse level, the Upper Limehouse level, the Nightingale-lane level, the Tower-hill level, the Lower Wapping or Greenbank level, Hermitage-street level, and the Hackney-brook level?—The Spitalfields, and Wapping, and the Nightingale-lane have been united.

1349. There are seven levels; the Spitalfields, Wapping, and Nightingale-lane levels are now one?—Yes.

1350. Will you enumerate the other six?—The Lower Wapping or Greenbank level, the Tower-hill level, the Hermitage-street level, the Limehouse level, the Upper Limehouse level, and the Hackney-brook level.

1351. Those plans you produce are plans of the sewers of the whole district?—Yes; the levels, I believe, are not distinctly marked out on those plans.

1352. Mr. Tufnell.] Are all the levels under one board?—Yes; but the accounts are kept separate.

1353. *Chairman.*] Those lines which are marked blue are the old sewers?—Yes; which were prior to 1835.

1354. Those marked red are new sewers, which have been made since 1835?—Yes; some of them not being yet quite completed.

1355. The sewers marked red and marked blue comprise all the sewers within the district you speak of?—Certainly.

1356. Take first of all the Spitalfields, Wapping, and Nightingale-lane level; it appears to begin at a place called the Meeting and Burial-ground, near Walberge-street. There are laid down in that map a number of streets, Richard-street, James-street, Catherine-street, Lower Chapman-street, Chapel-street, Ann-street, Walberge-street, Cornwall-street, and many others, in which no sewers are laid down, either old or new; is that an accurate account?—There are none cleansed by the Commissioners; but in Lower Chapman-street there is now one about to be constructed.

1357. That will communicate with the sewer in the New-road?—Yes, in Cannon-street Road.

1358. Are the streets mentioned, in which, at the present time, there is no sewer, inhabited by the poorer classes, who are considerably crowded?—They are generally; but I should state that some of the land-owners in those streets have drains which have been constructed by themselves, communicating with

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the sewers; I know they have in Chapman-street, where we are going to construct a sewer now, and also in Cornwall-street.

1359. Mr. Tufnell.] Do you give them every facility to do it?—Yes; and we do everything we can to induce them to do so; but in some instances we cannot induce them to do it even when they have sewers.

1360. Chairman.] Are Great Prescott-street and Chambers-street in your district?—Both of them.

1361. In Cambridge-street, Mansel-street, and several other streets near, and Great Alie-street, there appear to be no sewers laid down?—No, not in any of those streets certainly, but there are sewers in Leman-street into which they drain; they are quite at the extremity of the district.

1362. There is another district not a great way from Spitalfields church, including Dean-street, George-street, and several others, apparently in the midst of a very populous district, Chicksand-street, John-street, George-street, Hen-eage-street, and a number of small streets that appear to join to those, in which also there is no sewer laid down; is that the case?—In those streets there is nothing but the underground drainage, which has been constructed by the owners; there are no sewers in those streets certainly; there has recently been a sewer constructed in Petticoat-lane, at the joint expense of the Commissioners and the City of London, which is productive of great benefit.

1363. Is there a good deal of population in those streets?—Yes, of the lower class.

1364. There is a district comprehending Fleet-street, South-street, Slater-street, Anchor-street and other streets, is there any sewer in that district?—I should think not; there are drains communicating with the sewers.

1365. Along the line of New Nichol-street and Old Nichol-street and Nelson street there appears to be no sewer laid down?—No, there is none.

1366. Coming to Bethnal-green, Satchwell-street, Tyson-street, Charlotte-street, Tyrall-street, Hart's-lane, and Union-street, all of those appear to be small houses in a densely-inhabited district?—They are not densely populated there; there are fields.

1367. There is no sewer among those?—No; and I question whether one would be very beneficial there.

1368. In Coventry-street, Pott-street, Cross-street, Wentworth-street, and the district in that neighbourhood, not very far from Dog-row, there appears to be no sewer laid down?—There is none there, certainly.

1369. There is a district of Dock-street, Collingwood-street, Collingwood-place, and Pleasant-row; there is no sewerage along many of those streets, is there?—No; there are, no doubt, many streets in the district of the Tower Hamlets in which there are no sewers.

1370. This district, comprehending Bethnal-green, and Whitechapel, and Mile End, and so forth, is inhabited by the humbler classes, in a great measure, and is very densely inhabited?—It is, except Bethnal-green; there are parts of Bethnal-green which are principally fields and gardens.

1371. The whole of the dwellings are of the lower description, and are densely put together, are they not?—Yes.

1372. Is it within your knowledge, there are many places there in which there are lodging-houses, in which many families reside together?—I believe it is so, but I cannot speak to that from my own knowledge.

1373. Is Limehouse within your district?—Yes, part of it.

1374. There is a plan laid down in which there are three colours, blue, red, and yellow?—The reason of that was, that the yellow was an after suggestion.

1375. Do the red ones mean those which have been lately formed, or which are in contemplation?—The blue ones are all old ones, and some of those marked red have been done, but not all.

1376. Are the yellow done at all?—No.

1377. Along Gill-street, and Jamaica-place, and Rich-street, there are no sewers at present?—No, certainly not; there is a sewer at the back of Gill-street.

1378. Along Church-row there is none laid down?—There is none laid down; but I do not know that district very well; I had rather the surveyor was called upon to speak to that.

1379. Mr.

1379. Mr. Tufnell.] Is that plan made by the surveyor?—Yes, it was made in the year 1835.

1380. Is it filled up periodically?—Yes, it shows the whole district at one view: it was prepared with a view to the improvement of the drainage of the whole district; it shows the sewers then in operation, and those which were then projected.

1381. *Chairman.*] There is the district including North-street, Chesterfield-street, with several small streets coming into it, and Samuel-street, James-street, Richard-street, William-street, Rosetta-street, Anchor-street, and Edward-street, all of which appear to be streets through a populous district, and where there are no sewers laid down?—There are a great many houses of a very poor description; I am not aware of any sewer at present; the probability is, that it is drained by the owner of the houses, but I cannot speak to that.

1382. With respect to the district of Queen-street, between which and the river is London-street, which runs at right angles to it, and comes down from Rose-lane to the river; is there any sewer?—There is not; but probably those are the cases in which the owners have made drains to drain their own property, with which I am not acquainted.

1383. What population is there in the district over which your power extends?—I cannot state it this moment.

1384. Have the population and buildings extended, in the district over which your commission reaches, within the last 10 or 12 years?—I should think they have, very much.

1385. There is a considerable increase to the population throughout that district, and a number of new streets and additional houses?—Yes, generally, I should say that the buildings and population have increased; but I cannot say particularly.

1386. The population are in general of the humbler class?—In a great measure.

1387. Supposing the street is filled with those poorer sort of houses, in which a number of those people dwell, if steps are taken for the purpose of affording them any sewerage, is that done by means of your commission taking any steps, or by application of the landlord or the inhabitants?—It is usually done by application of the landlord or the inhabitants; where there are cases of a very extreme nature the Commissioners are the moving parties in the first instance.

1388. By a case of an extreme nature, do you mean where it is a case of extreme emergency from the health of the district being affected, or a large increase of population?—A large increase, in point of population.

1389. It does not appear that one of the causes for the Commissioners moving in the matter is a pressing emergency, arising from the health of the district being affected, but only an increase in the buildings?—The whole matter is taken into their consideration.

1390. They do not therefore usually, and in ordinary cases, set about to consult upon the constructing of sewers for new places unless there is application made by the owners and inhabitants?—Yes; all the new sewers laid down in that year were at the suggestion of the surveyor, they directed the surveyor to make his report, and upon that report they were undertaken.

1391. A good many of them appear to be in districts where there are old houses?—Yes, in some instances; but not always.

1392. You were understood to say, that usually the moving cause for new sewers is the application of the landlords and inhabitants, but that in some cases the Commissioners began where there was an extensive series of buildings?—Yes, that is the case.

1393. Do the landlords of those smaller districts, and the owners of those smaller houses, built in rows and inhabited by the humbler classes, apply to you for sewers to be brought up to their districts, or do they not?—Sometimes they do, sometimes they do not.

1394. If a sewer is brought up into their district are they obliged to pay the sewer's-rate?—Yes.

1395. Do they pay in all cases?—They pay in all cases where they are benefited by the sewers.

1396. You hold them liable in all cases where they avoid a damage, do not you?—I was asked that question on a former Committee; they are, I conceive,

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liable where any benefit is derived; the benefit of actually communicating applies to very few parties.

1397. You consider that they are liable to pay if they avoid a damage?—Yes, or receive a benefit.

1398. And that you conceive to be the case if they have the means of passing off water which would otherwise be pounded?—Yes.

1399. Do the landlords of the populous districts, in which there are streets inhabited by a number of these poorer classes, pay to the sewer-rates whether the sewerage comes up that street or not?—Certainly; if they have any benefit whatever they pay for it.

1400. Mr. Tufnell.] Do you know what proportion there is exempt from the sewer-rate in your district?—There is a very small proportion of our district exempt; the water runs off from that part into the parish of Tottenham.

1401. Chairman.] The denomination you gave in the beginning, namely, levels, implies that all within the level deriving a benefit contribute to the sewers which drain that level?—They do so.

1402. Do the owners of those houses within any one level, where there is no sewer up their street, pay equally per cent. with the inhabitants of the street up which the sewer comes?—Certainly; they are all equal in amount on each level; there is no graduated rate, if that is what is meant by the question; an unequal rate would become unlawful, because unequal.

1403. Supposing there are two streets, up one of which a sewer runs, and up another, of which no sewer runs, the owners of the houses pay equally in each case?—They do.

1404. Do you think they derive an equal benefit in the one case and the other?—Decidedly they do, unless there are private communications with the houses.

1405. Do you mean to say that the owner of a house in a street up which a sewer does not run, and which may be half a mile from a sewer, derives as much benefit from the sewers as the inhabitant of the street up which a sewer runs between the houses?—I should say most decidedly; they derive one and the same benefit from the sewer, unless they have private communications; there is the surplus drainage.

1406. With respect to the power you have, supposing you carry a sewer up any of those densely-peopled streets, have you any power now of enforcing a communication from the houses with the sewer which is made?—Certainly not.

1407. Are there, in your knowledge, many houses there of the poorer class which have a sewer near them, where they might take advantage of your sewers, and might communicate with them, but who do not?—There are a great many; I would instance the case of Rosemary-lane.

1408. Is that the case in many other instances within the district?—In a great many instances they do not take advantage where the sewer is actually coming by them.

1409. The surface water does flow through the channels, and so on; and so far they have an advantage?—Yes.

1410. Are you acquainted with any district in which the health of a particular locality has been improved by your making underground communications?—I cannot answer that question.

1411. Are you aware that there are several districts in which great neglect of cleanliness prevails in the houses which have one of your sewers near them, which might have a great influence?—I am afraid I cannot answer that question.

1412. Do the landlords of many of those dwellings take advantage of those sewers when they come near them?—Sometimes they do, and in some instances I am afraid they do not.

1413. Have you any power to prevent receptacles of filth being sunk below the level of your sewer?—Certainly not.

1414. Do you know of any instances where they are so sunk?—I do not.

1415. What is the amount of the sewer-rate, in Spitalfields for instance?—Ninepence in the pound on the rack rent.

1416. Is that per annum?—No, made as occasion requires.

1417. Can you state what is the average annual amount?—Speaking from conjecture

conjecture, I should say about 1 $\frac{1}{2}$ *d.* in the pound per annum on the rack rent is paid for the sewer-rate. Mr. J. W. Unwin.

1418. Mr. Patten.] Do you know the proportion that bears to the sewer-rates in other parts of the metropolis?—I do not. 1 April 1840.

1419. Chairman.] Is the amount in your several levels about the same as that of Spitalfields?—I think it is about the same.

1420. In your opinion, from your extensive knowledge of the subject, do you consider that the Commissioners of Sewers in that district have sufficient powers for the purpose of carrying out the sewerage and drainage of this populous district, or are there any additions to their powers which you think they should have?—I think there are some amendments of their powers which might be suggested, but I am not prepared to go into that at present; I should instance one, no rates being made without the presentment of a jury, that was all very well in the reign of Henry the Eighth, but does not apply now.

1421. Mr. Tufnell.] You say you make sewers on the application of landlords and inhabitants, are you generally able to accede to the applications which are made?—Yes, almost always.

1422. It is not from the fear of increasing the rates you are obliged to refuse them?—No; we find no difficulty in getting in our rates.

1423. Chairman.] When a new sewer is made on the application of proprietors or inhabitants, the proprietors bear a proportion of the expense, do they not?—Not always; sometimes they do, sometimes they do not.

1424. On what principle do you decide?—Each case is decided on its own merits; we usually have about one-third from the landlords.

1425. Do the Commissioners decide upon that?—Yes; it is a matter of private arrangement.

1426. The Commissioners have the power of refusing unless the land-owner comes into their terms?—It is very seldom that the Commissioners refuse to construct a sewer where they think it will be beneficial.

1427. But where they do construct a sewer, a portion of the expense is required of the landlords?—Yes, under the circumstances I have mentioned.

1428. The amount collected in 1831, according to the account which you put in in 1834, was 27,000 *l.* in those seven levels; can you state, distinguishing year by year, what the amount has been in the several years since 1831?—Yes; there have been rates made in 1834 and 1838; an account shall be made out.

1429. Do you know a place called Johnson's Change?—I do not.

1430. Do you recollect some time ago a cesspool overflowing in one of those courts, and its contents being allowed to remain upon the surface several weeks, and a fever being generated in consequence?—I have no recollection of the circumstance.

1431. Do you know Campden-gardens?—No, I do not.

1432. Do you know Punderson's-gardens?—I know it only by name.

1433. Do you know Hare-street-fields?—I do; that is not very densely populated; there are a number of houses, but very few persons living in them.

1434. Do you know that in wet weather a large portion of that neighbourhood is completely inundated; that in all the houses forming the square, and in the neighbouring streets, fever is constantly breaking out, and that the character of the fever in the neighbourhood has lately been very malignant?—I never heard that before.

1435. Then if that has occurred in the midst of your district it is a matter you never heard of?—Just so.

1436. Do you know Baker's Arms-alley?—That is in the parish of Hackney; that is in our district; but it is a very open place.

1437. If it is the fact that there is a narrow court with a dead wall about two yards from the houses, as high as the houses; that the principal court is intersected by other courts extremely narrow, in which it is scarcely possible for air to penetrate close to the dead wall; that between the wall and the houses there is a gutter, in which is always present a quantity of stagnant fluid full of all sorts of putrefying matter, the effluvia from which are most offensive, and the sense of closeness extreme; that all the houses are dark, gloomy, and extremely filthy; that at the top of the innermost courts are the privies, which are open and uncovered, the soil of which is seldom removed, and the stench of which is abominable; you have not heard of that?—No, I have not heard of any of

Mr. J. W. Unwin. those circumstances; I have heard of very few complaints of fever in the Tower Hamlets.

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1438. Have you ever seen "Reports on the Sanitary State of the Labouring Classes, as affected chiefly by the situation and construction of their Dwellings, in and about the Metropolis. Extracted from the 4th and 5th Annual Reports of the Poor Law Commissioners"?—Never.

1439. Have you ever seen the report of Dr. Arnott, Dr. Kay, Dr. Southwood Smith, and a number of other medical men, particularly with reference to the district referred to?—Yes, I have seen that; and I think I read that portion with regard to our district.

1440. Do not you recollect that there are most fearful accounts of fever prevailing in that district?—No; I had a report sent to me, which I understood came from Dr. Southwood Smith, and there was a communication I think from the Secretary of State upon it.

1441. Mr. Tufnell.] You state that you are able to comply with every application made to you for sewers?—As far as the funds go.

1442. Then in the opinion of the Commissioners this district is sufficiently drained?—No; the Commissioners are improving it constantly.

1443. But there is not a great deficiency in their opinion?—I think so.

1444. Has there been any representation made by medical men of the sufferings of the poorer classes in that district?—No; we never had any communication from any medical man on the subject.

1445. Nor from any board of guardians?—I think, a short time ago, there was a complaint by the guardians of the Stepney Union respecting a sewer requiring arching, but I am not aware of any other.

1446. Has that been complied with?—It is under consideration now; there is a difficulty in arching it.

1447. Are there any works now in contemplation?—There are some going on, particularly that in Rosemary-lane.

1448. Mr. Patten.] Are improvements constantly going on?—Yes, for the last ten years; I can show the amount of additional drainage done within the last ten years, showing the number of feet of sewerage constructed year by year.

1449. Mr. Tufnell.] You say that those only benefited by the sewers are rated to them, is it a difficult point to ascertain whether parties are benefited by them or not?—There is now and then a doubt; we had a case at Upper Clapton, in which a man conceived that because he resided 27 feet above the sewer he was not benefited; it was tried in the Court of Common Pleas, and we succeeded.

1450. Mr. Patten.] You have the right of rating every one; the only remedy against that is by action at law?—Yes, that is the case as to all rates.

1451. Chairman.] There is no check upon you as to the amount of the rate?—No; I apprehend that is the case with all rates.

1452. Mr. Tufnell.]—Has this division of the levels long existed?—Yes; it is the most unfortunate part of our system. I was going to say up to the year 1829 we attempted to make one general rate on the whole of the Tower Hamlets, and we found it much more beneficial, but the Court of King's Bench quashed the rate, and we have since been obliged to divide it into levels.

1453. Under what Act is that?—The 28th of Henry 8th, c. 5.

1454. There is no local Act for the Tower Hamlets?—No.

1455. Have you any power of making a general rate without another Act?—No; that power is extremely desirable, I think.

1456. Has it been in contemplation to apply for that power?—Yes, but no steps have been taken.

1457. What is the number of the Commissioners?—About 150. We have 120 Commissioners who have qualified; a great many, all the larger rate-payers, attend, and take part in the business of the court.

1458. What is the average attendance?—I should say, from 30 to 40 at a court.

1459. Mr. Cowper.] In what does the inconvenience of the divisions into levels consist?—It is so difficult in densely-populated districts to say to which level the house ought to be rated. There are some streets in two or three levels; I can instance the case of Prescott-street, I think the one end is in Nightingale-lane level and the other in Tower-hill level, and that produces a difference in the rates, and an unpleasant feeling in the inhabitants.

1460. Have

1460. Have you, under your present system, a larger establishment of collectors, and so on, than you should have if it were put together?—No, I think not; but the detailed part of the business is more complicated, and we found it more convenient to have one rate; but after the decision of the Court of King's Bench we could not.

1461. *Mr. Tufnell.*] Is there any great difference in the rates of the different levels?—Only in the parish of Hackney; there they have a great deal of open ground, and there are no arched drains as there are in the others.

1462. *Chairman.*] Is there any system of inspection by agents employed by your commission, or in any other way, to see that the sewers are kept in order?—There are inspectors, out-door officers, whose business it is to attend to them; and there is a quarterly inspection made of all the open sewers, and a report made to the Commissioners.

1463. *Mr. Patten.*] Does the tide rise in any of your drains?—Yes; it is kept out by trap-doors.

1464. Does the tide come up a considerable distance?—Yes, if it were let in it would; it sometimes happens that pieces of wood prevent the trap from shutting down, and then the tide gets in and goes a good way up.

1465. Have you observed the effect of that on the general drainage?—No; the surveyor can speak to that more clearly.

1466. *Chairman.*] You state, that it is the duty of some persons to report quarterly the state of the sewers and open drainage?—Yes.

1467. Is it their duty to report any evils arising from the open drains to the health of the inhabitants?—No, merely their carrying off the water; but the Commissioners themselves are resident in the district.

1468. Are the inspectors builders, or of what class of persons?—Generally, I believe, they are carpenters, working men, superior labourers.

1469. They are in the employment of the Commissioners?—Yes.

Mr. Beriah Drew, called in; and Examined.

1470. *Chairman.*] OF what district of the sewers are you clerk?—The Surrey and Kent; from the Ravensborne to the Mole.

1471. Does that comprise all on the southern side of the river?—Yes, it does.

1472. The commission of sewers with which you are connected comprises the trust for all Southwark, Lambeth, Rotherhithe, Deptford, and all that populous district?—Yes.

1473. Do you apprehend the powers of the Commissioners to be such as have been stated by the last witness?—We have larger powers; we have a local Act, which gives us power over private drainage. There are frequent complaints by parties which regard to private drains, which are used by a number of occupiers of property, on which complaints the aid of the Commissioners is sought, for the purpose of making them do that which they ought: that is exercised by the Commissioners under the local Act of Parliament only, not under their general powers.

1474. *Mr. Walker.*] What is the date of the Act?—There are three Acts.

1475. *Chairman.*] They appear to have been in 1809, in 1810, and 1813?—Yes.

1476. Your commission extends from the River Ravensborne, in Kent, to the Ember branch of the River Mole, in Surrey, and the district is designated the Sewers of Surrey and Kent?—Yes.

1477. In your district there are comprised the parishes of Deptford and Rotherhithe, Bermondsey and Newington, the Borough of Southwark and parts of Lambeth, Camberwell, Battersea, and Clapham?—Some of those are parts of parishes—part of Battersea, part of Clapham; that is what is called the rateable district.

1478. It is a very populous district, and there are vast numbers of the working classes and poorer inhabitants dwelling within it?—A great number.

1479. Supposing new buildings take place within that district (buildings of streets and habitations for the working classes), do the Commissioners consider that they have the power, or do they exercise the power, of carrying sewers up streets of that nature without application from the landlords or inhabitants, or do they provide for those habitations?—They certainly wait for applications,

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conceiving it to be as much the duty of the land-owner to make drains as to build houses.

1480. Suppose applications are made, on what terms do the Commissioners of the Sewers carry up the sewers there?—In some instances contributing a portion, and in other instances not contributing at all.

1481. If the land-owners or the owners of those houses make no application to the Commissioners of Sewers, do they conceive it their duty to act without such application?—There may be instances, but not generally: they generally wait for an application; they think generally it would not be right for them, with public money, to improve the property of private individuals.

1482. Are there not within your district many streets with small houses abutting upon them, and inhabited by considerable numbers of the working classes, in which there has been no application made by the owners?—Yes, the greater number.

1483. And in which, in consequence, there have been no sewers made?—No public sewers; the Commissioners have no power to call upon the landlords to make sewers.

1484. Are there many districts, such as those described, in which there are no sewers, and in which great evil arises from the want of some sewerage, and some additional power for making them?—I cannot say, of my own knowledge, that I am aware of any; we have no complaint of that kind, with the exception of the arching of a sewer, which was made to us recently by the guardians of the poor of Christchurch: that was for the arching of an existing sewer.

1485. You have not heard of any other complaints?—No.

1486. Suppose a sewer is carried up into one of those streets, have you any power to oblige the owners of those houses or the inhabitants to communicate under ground with the sewers?—We have no such power.

1487. Are there many cases in which, though your sewer does go up one of those populous streets, the houses do not communicate with the sewer?—A great number; but still I would observe, the parties obtain a considerable benefit by the sewer going up there; all the tract in question is under high-water mark, in consequence of which it is important to drain the land.

1488. It is a general advantage derived, but not the same particular advantage as if there were communications by under-drains from each house?—Not generally speaking.

1489. Are there many districts with which you are concerned in which there is no communication by under-drains with the sewer?—There are a great many sewers to which there are no underground drains.

1490. It is a surface drainage only?—Yes, I should think so; but that is not a point which comes so much under my notice as that of the surveyor.

1491. Have you any power to prevent cesspools or receptacles for filth being made below the level of your sewers?—Not any.

1492. With respect to the covering over of open sewers in your district, it has been stated to the Committee, that from some being left open the odour from the stench is the cause of illness, are you aware of such being the case in the vicinity of many districts where there are a considerable number of houses?—No, I am not aware of any particular case, though the arching of sewers must be beneficial to the health of the neighbourhood, I should conceive.

1493. No complaints have been made to you with respect to the necessity of covering several open sewers, on the ground that the stench and the smell were unhealthy?—There have been several complaints of that kind, but they are by no means numerous; we have miles and miles of open sewerage, some of them in a very populous district, but we are in a large manufacturing district; the tanners and leather-dressers, and so on, live in our district.

1494. What is the amount of the sewer-rate levied, as nearly as you can state it?—Something under 6 *d.* in the pound; perhaps 5 *d.*

1495. That would be on the rack rent?—Yes.

1496. Taking one year with another?—Yes.

1497. Have there been considerable improvements made of late years?—Very considerable.

1498. Will you make a return of the number of yards of additional sewerage which have been made each year within 10 years?—Yes, I will do so.

1499. Is the rate made on the same principle as in other districts, that all who

who receive the advantage pay?—Yes; but we have succeeded in getting rid of the levels, which was extremely inconvenient; it is in two parts now.

1500. Are the accounts kept separately for the two?—Yes.

1501. Does all the property within your district pay at the same rate for sewerage?—Yes.

1502. Houses that are immediately adjacent to one of your sewers, and could easily communicate by means of an underground drain, pay the same as those at a considerable distance, and which could not communicate without difficulty?—Yes.

1503. Mr. Walker.] Did you state that Clapham was in your district?—A very small part; that which lies down on the low level in the Wandsworth-road.

1504. The rural village of Clapham does not pay to your district?—No.

1505. Mr. Tufnell.] Have you any plan with you?—No, I have not; our district runs from Deptford to beyond Richmond in Surrey.

1506. Chairman.] Do you recollect an application being made to you respecting a sewer in East-street, Lambeth-walk, and several other streets leading into it; Saunders-street, John-street East and West, Frances-court, and Fountain-court, and a statement made that a fever prevailed in that district; and that improvement was requisite by a sewer being carried up?—No, I do not.

1507. It appears to have been made to the guardians of the poor, and a communication made by them to your Board?—I do not recollect the fact; I know of it from the circumstance of having some conversation upon it with Dr. Kay some time ago.

1508. Has any sewer been made along that district?—Up Lambeth-walk I know there is; but I would rather refer that to the surveyor.

1509. Mr. Cowper.] Do you remember any representations having been made by any Board of Guardians on the subject?—I think only one, and that was Camberwell.

1510. Any by any medical person?—No.

1511. Nor any complaint made of any inconvenience from a general want of sewerage within your district?—No, not of a general want of sewerage.

1512. Mr. Tufnell.] Do you remember a memorial presented to the Commissioners of Sewers from the guardians of the parish of Camberwell, in the year 1838?—I do.

1513. Is that just shown you that report?—I believe it is.

1514. Was anything done in consequence of that memorial?—The subject of the drainage of Camberwell was then under the consideration of the Commissioners; since that a line of sewerage has been formed under the public road from Camberwell-green to Walworth.

1515. As far as you remember, is that the only representation which has been made by the Board of Guardians?—With the exception of the arching at Christchurch, to which I referred before.

1516. Do you know whether the Boards of Guardians consider it part of their duty to represent the defective state of sewerage?—I do not know.

1517. Chairman.] The Commissioners have no power of enforcing a communication between the houses and the sewers?—Not at all.

1518. Do you not conceive some such power would be very advantageous?—I do indeed.

1519. Do you not think the want of some such power renders inefficient, in many instances, the advantage to be derived from your sewers?—I think so.

1520. It rests now entirely with the opinion or the will of the owner, or the occupiers?—Entirely.

1521. There is no general power of enforcing a communication between the houses or rows of houses with the sewer?—No.

1522. Mr. Tufnell.] You afford every encouragement to such communication?—Yes; the quantity of sewerage we have made within the last few years has given very great opportunity of doing that which did not exist in the old sewerage, a deeper sewerage having been made under the power of the local Acts of Parliament.

1523. Does there appear a great desire on the part of the lower classes to avail themselves of the sewer?—The lower classes have very little to do with it.

1524. Is there a desire to avail themselves of it on the part of landlords?—I am sorry to say not.

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1525. *Chairman.*] Do not the landlords of houses occupied by the lower classes do as little as possible for them in this way?—I am afraid it is so.

1526. In proportion as they are inhabited by the poorest and most destitute, has not the neglect of these houses by the landlord been generally greater?—In some districts it is so, certainly.

1527. *Mr. Tufnell.*] Have you not a power of inflicting a fine on any person who communicates with the sewer without your consent?—Yes.

1528. Is that ever exercised?—Yes.

1529. Under what circumstances?—For damaging the sewer.

1530. *Chairman.*] When they express an intention of communicating with the sewer, do you object to it?—We object to their doing it, we do it for them.

1531. What do you charge them?—We charge the expense; it depends upon the level; some of our sewers are 12 or 14 feet down; the cost of getting at them is greater in proportion.

1532. *Mr. Cowper.*] If a proprietor of a house wishes to communicate with the common sewer, he must do it at his own expense?—Certainly.

1533. *Mr. Tufnell.*] There are regulations with respect to the mode of communicating with the sewers?—The individual has no power of breaking up the street or a public pathway; the Commissioners of Sewers have that power; whenever an application is made to them, they direct the surveyor to estimate all that which lies under the public way, the opening the sewer and so on, and that expense is paid to the Commissioners, but the Commissioners no further interfere; they do that to assist the individual.

1534. Have you a regulation as to the nature of the expense?—It depends upon the circumstances.

1535. *Chairman.*] Is there any regular system of inspection as to the state of the sewers and the other drains?—There is a quarterly report by the surveyors.

1536. How many surveyors are there in this district?—Three for the whole district.

1537. Is it their business to make a quarterly report of the particular portions of the district which fall under their view?—Yes; and to direct the labour of the workmen.

1538. Is the system of inspection regular?—Yes.

1539. That inspection goes to the state of the sewers, and the prevention of anything impeding them?—Yes.

1540. It goes to the open drains as well as the sewers?—Yes.

1541. Is it their duty to report on the state of the sewers or open drains affecting the health of the inhabitants?—I should conceive not.

1542. Do they in fact do so?—I am not aware of any instance in which they have done that; occasionally, there are instances in which they say it is a nuisance to the neighbourhood, and therefore they pray the Commissioners to consider it in that light.

1543. It is not considered as a part of their duty?—No.

1544. *Mr. Cowper.*] Do you consider that there are any additional powers required by the Commissioners of Sewers for the performance of their duty?—I think in a populous district like ours there are many suggestions which might be made upon that subject, but I am not at all prepared to go into that; I think I suggested before the former Committee the power of calling upon the owners of land to arch over drains, the Commissioners of Sewers paying a proportion of the expense.

1545. *Mr. Tufnell.*] When it is in contemplation to build any new streets for the lower classes, is it the duty of any person to report on the expediency of making a drain through those streets?—No.

1546. That rests altogether with the speculators?—Yes, entirely.

1547. *Mr. Cowper.*] Under any circumstances would the Commissioners of Sewers think themselves justified in laying down new drains after the new streets had been finished?—If it was to improve the neighbourhood, but not for the improvement of those houses only; if the owners of such row of houses were to come forward and say, "it will improve the neighbourhood, and I am willing to contribute towards the expense of doing it," it would be done, but not solely for the benefit of those houses.

Mr. *William Baker*, jun. called in; and Examined.

1548. *Chairman.*] YOU are Clerk to the Commissioners of Sewers for the Poplar district?—I am. Mr. *W. Baker*, jun.

1549. You were examined before the Committee in 1834?—I was. 1 April 1840.

1550. Your district differs from several other districts, for you state that it is more a question of the drainage of a marsh than the sewerage of a city?—Yes; we are now apparently in a state of transition from a marsh to a manufacturing district; there are extensive manufactories being established that probably will lead to an increased population. At present there are not many houses for the residence of labourers.

1551. If there should be an increase of buildings, it will be necessary to have an increase of drainage; will not it?—Not an increase; I apprehend there are abundance of sewers; what we wish to do is, to simplify the drainage; to improve the drainage; we are from time to time making very important substitutions.

1552. Are those on the old line of sewers?—Yes.

1553. You assess all who are benefited by surface drainage?—Yes; almost the whole of our district is below the level of the river.

1554. It is done by means of sluices?—Yes.

1555. What is the amount of the sewer's-rate on the average?—About 2*d.* in the pound, not on a strictly rack rent; it is something less than the rack rental; possibly approaching nearer to 1½*d.* in the pound; we have a 6*d.* rate once in three years on the rental; not strictly a rack rental.

1556. The population is increasing, you say?—Yes.

1557. Is Limehouse within your district?—A small portion of Limehouse.

1558. What is the condition of Limehouse?—It has been improved within the last few years; a sewer has been arched over near Park-street, which was a considerable improvement.

1559. Are there not some improvements of that nature still required?—Not in that part of Limehouse which is within our division; a part of the parish is in the Tower Hamlets; there are undoubtedly plenty of sewers within our commission which would be benefited by being arched over.

1560. Do you consider that you have the same powers, and no more, than the same powers spoken of in the other district. Suppose there were new houses or buildings erected within your district, do you wait for the application of the owner of the houses before you make a sewer up into that district, or do your Commissioners commence it on their own discretion?—We have had no streets made; we have had detached buildings and houses; generally speaking, I agree in Mr. Unwin's general description of the principles applicable to us.

1561. Suppose a sewer made by the Commissioners up a street inhabited by the poorer classes, have you the means of enforcing a communication by means of drainage through your sewer, or not?—Certainly there are no means of enforcing it.

1562. Would it not be highly beneficial to the health of the inhabitants that you should have the power?—I think it would; but we have heard no complaints on that subject.

1563. If there have been any cases of fever and illness to the poorer classes, arising from such causes within your district, you are not cognizant of them?—No; but I think the district is so limited they could not have occurred without my knowledge.

1564. Mr. *Tufnell.*] Have you a plan of your district?—I have.—[*Producing the same.*]

1565. There is no distinction made in the plan between the old and the new sewers?—No; upon the occasion of forming the West India Dock timber pond it was considered desirable to substitute a new main sewer for the old one, on the south side of the timber pond, in a direct line from the east end of Alfred-street to the outlet at Blackwall; that was a substitution for the pre-existing sewer.

1566. Is this an open sewer?—The sewer called the Great Field Sewer is open; we have had frequent applications of late by parties to arch over the sewer or ditch which bounds the Ferry-road.

1567. Many of those are merely field drains?—Yes; there are no houses at all near them.

1568. *Chairman.*] You have not the power of obliging the inhabitants to communicate

Mr. W. Baker, jun. communicate with the sewers?—No; the Commissioners gladly avail themselves of every opportunity they have of improving the drainage, and also of arching over the old sewers.

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1569. Mr. Tufnell.] What is the number of your Commissioners of Sewers?—I think about 60.

1570. Chairman.] Is Limehouse in your district?—A small portion of Limehouse is.

1571. Is not there a sewer partially covered, here and there, running all the way from Shoreditch?—That is within the Tower Hamlets commission; that comes close to the confines of our district.

1572. That passes through a densely populated district, does not it?—I am not able to speak to that, not being within our district; the district is populous in some parts of it, not in all.

1573. Mr. Tufnell.] Do you know the population of your district?—No, for it comprises a portion of two parishes; the population is very small. Perhaps I ought to add, that the two-pence in the pound rating I have described embraces the expense for keeping up a great portion of the embankment to keep out the water. I beg to say we have never received any complaints from any boards of guardians or medical authorities.

1574. Chairman.] Did not the cholera break out in your parish at first?—I believe it did; in the parish of Limehouse, in which I reside.

1575. Mr. Tufnell.] Are any new sewers intended near the Ferry-road?—At present the sewer runs by the side of the road, and is a boundary to it; but we are endeavouring to have that sewer as far as possible carried down the road, instead of by the side of the road.

1576. Is it considered that there is any deficiency of drainage in your district?—No, I think there are abundance of open sewers and drainage; the object is to simplify it, and to arch over any where houses are built.

1577. Not to extend the line of drainage?—No; in consequence of the appearance of a sewer in Limehouse, a strong representation was made to the Commissioners of the Tower Hamlets, and they arched over the sewer which was considered to be so objectionable.

1578. Chairman.] It is stated to this Committee that in Limehouse, in Church-row, there is a private drain running in front of the houses; that the drain has not been opened for 20 years, and that they cannot get the inhabitants in one mind to get it cleansed; have you any power to enforce the cleansing of that drain?—Certainly not.

1579. If the inhabitants of the row in such a case were, one to cleanse before one house and another another, there is no power to compel them to do it simultaneously?—No.

1580. Would not such a power be very beneficial to the health of the neighbourhood?—A power to enforce the simultaneous cleansing of sewers would be one of the most important powers the Commissioners can possess, and remove that which is now felt to be a great source of inconvenience.

1581. Is not some such power requisite?—We have felt very much the want of such power; the proceedings of the Commissioners have been greatly embarrassed in consequence of not having such a power.

Mr. Joseph Ellison, called in; and Examined.

Mr. J. Ellison.

1582. Chairman.] DO you reside near Bradford, in the West Riding of Yorkshire?—I do.

1583. Bradford is a very populous town, where the occupations of persons are a good deal connected with the stuff and woollen trade?—Just so.

1584. In the year 1831 the population of the parish appears to have been 71,000; is the parish very populous round the town?—Yes.

1585. Has there been a great increase within the last nine years?—There has been a very considerable increase; I should think the per centage will be greater since 1831 than it was between 1821 and 1831.

1586. If the increase has been at the rate of one-third in those 10 years, then the population would amount to almost 100,000?—I have no doubt it will.

1587. Is there a very great proportion of those consisting of workmen, artisans, and persons who get their bread by labour?—The majority of the population

population consists of workmen and labourers that have to earn their own subsistence by their labour.

1588. Is there a very considerable increase in the suburbs of this town and round it of houses for the class of persons you describe?—A very considerable increase.

1589. What is the state of this populous and increasing town, with respect to drainage, sewerage, cleansing, and the clearing of nuisances away from the houses of the poorer inhabitants?—There is no public drainage or sewerage at all; every thing which is done is done by private individuals, therefore I am sorry to say the sewerage is extremely defective; in fact, I may say there is no sewerage at all.

1590. Do you mean that in this populous town they have no general system of sewerage and drainage to carry off the filth and wet, and so forth, from the houses of the inhabitants?—I do mean to say that.

1591. In consequence of that is the sewerage and drainage very much neglected and very imperfect?—Very much so, indeed.

1592. Do you not think that such neglect and want of system is very injurious to the health of the inhabitants?—I am quite sure of it; that opinion has been repeatedly expressed by the medical men of the town and the neighbourhood, and by the parish authorities; it is a general complaint.

1593. Is it to your knowledge the opinion of the medical men, that fevers and other disorders arise from such neglect?—It is within my knowledge; I am very sorry to say that typhus fever prevails at the present moment in Bradford and the suburbs, and the medical men give it as their opinion that it is mainly owing to the defective state of the drainage and sewerage.

1594. With respect to the cleansing and carrying away offal and filth, and preventing their accumulation in the close courts and narrow alleys in which many of the humbler classes reside, is that carried into effect in the town of Bradford?—It is attended to only in what is called the township of Bradford, which comprises only a very small portion of the town, for the parish within 20 or 25 years has spread out on every side into the township of Bowling, the township of Horton, and the township of Manningham, and there is no power there to regulate as to offal or manure, or anything of that kind.

1595. Is that in consequence very much neglected?—Very much neglected indeed.

1596. Is that, in your opinion, injurious to the health of the inhabitants?—There can be no doubt of that.

1597. And to their comfort, and cleanliness, and decent appearance?—Certainly.

1598. What is the state of the paving of the courts and alleys, is that attended to, and are there means for the water to go off, or does it lie in puddles mixed with refuse in a stagnant state?—That is attended to within the township of Bradford, but it is not attended to at all in the suburbs, which are by far the largest portion of the town. I will explain the way in which the suburbs have sprung up: an individual who may have a couple of thousand pounds, does not exactly know what to do with it, having no occasion for it in trade; he wishes to lay it out so as to pay him the best per centage in money; he will purchase a plot of ground, an acre or half an acre; then what he thinks about is, to place as many houses on this acre of ground as he possibly can, without reference to drainage or anything, except that which will pay him a good per centage for his money; that is the way in which the principal part of the suburbs of Bradford has sprung up; cottages have been built by speculators with that view, and with that view only, to pay a good per centage on the money laid out.

1599. The owners get as much out of the people who are tenants, and give them as little as they can?—Exactly so.

1600. There is no system of paving, or cleansing, or sewerage carried on?—None at all.

1601. Is there any regulation as to building in such a way as to leave open spaces for the air to pass through, or prevent courts being built without a current of air being enabled to pass along to the end, or their not being built back to back?—None whatever.

1602. Are they neglected in those respects?—Very much.

1603. Would not some regulation for the purpose of guarding against the evils

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evils referred to, be of some importance to the health of the inhabitants?—I think so, for Bradford may be taken as a fair sample of many towns which have sprung up within the last 20 years; I do not think any local Act will be able to compete with the evil, I think it must be a general Act.

1604. Some general power to enforce drainage and cleanliness and sanitary regulations, you think absolutely necessary?—Absolutely.

1605. You feel that they are requisite in this town with which you are acquainted?—Yes; it is a matter of daily complaint among all parties.

1606. Are there many houses built back to back, and without the means of ventilation?—Yes; they are built in fact without any general plan; the only principle that actuates the builder is to make the buildings pay as large a percentage as possible.

1607. In consequence of these defects you think the health of the inhabitants is much injured?—There can be no question about that at all.

1608. In consequence of their health being injured, are not the poor-rates increased?—The poor-rates have increased very much lately.

1609. Wherever the head of a poor family is carried off by fever or other complaint, are not his family thrown for partial relief on the poor-rates?—Undoubtedly they are; I am guardian of the poor, and have heard hundreds of applications made where they have applied on that very ground.

1610. Do not you think regulations, such as have been referred to, would be the occasion of saving to the parishes?—Certainly.

1611. Therefore, even in an economical point of view, they would be advantageous?—Yes; it would be advantageous even as a matter of expense.

1612. Mr. Tufnell.] The expense of making sewers would, in your opinion, be less than the expense on the parish on account of the bad state of the town?—I mean to say, that eventually it would occasion a saving.

1613. Chairman.] Suppose a new suburb springs up, as these have done, do not you think the most economical mode would be to have some system laid down by which due regulations should be made for building, for drainage, for sewerage, and for cleansing, and that some such regulations would repay the proprietors as well as all persons concerned, and also the parish, by means of the saving which would accrue?—I do think so.

1614. Mr. Tufnell.] Are you aware of the expense of drainage?—Yes, I believe I am; the expense of sewerage and draining at Bradford would be very trifling; I do not know any town that might be more thoroughly drained than Bradford at less cost; there is a valley runs through the centre of it, and there is a rivulet runs through the centre; the town rises, upon each side there is an inclined plane rising very rapidly; they might drain it into this natural sewer at very little cost.

1615. You are aware that the question refers to underground drainage?—Yes, it will equally apply, and more indeed, for that will decrease the expense; there is no occasion to make it so wide.

1616. Chairman.] The expense of drainage or sewerage would be much less in cases where a suburb or new buildings were laid down on a plan, and sewers laid down by regulations beforehand, than if they were applied subsequently to a town built before?—Much less, no doubt, and they would be much better done.

1617. It is therefore important that some rule should be laid down?—Yes; I am sure that nothing would give more satisfaction, generally, to the large towns than a measure of that kind; they have been crying out for it these many years, but what is everybody's business is nobody's, and therefore they have never applied.

1618. Mr. Ingham.] They have never applied for a local Act?—There were a number of commissioners appointed under a local Act some years ago, but the powers they possess are so limited that they are not equal to the powers of a surveyor under the Highway Act, and they consider their powers obsolete. There are 70 commissioners; if a meeting is called there may be half-a-dozen got together, but the door must be locked to keep them in the room; they do not possess the power to take down a single building, or widen a street, or put down a drain.

1619. You are probably aware, that the powers enumerated have been given to

to commissioners in various towns under recent Acts?—No, I am not aware of that.

1620. They have not made application to the Legislature for any improvement of their Act?—No; they have debated the question; they have debated whether they should apply for a charter of incorporation, or for extended powers; but the commissioners at present have no powers equal to those of a surveyor under the Highway Act. I was told by a person conversant with Bradford, before I left home, that the population of Bradford exceeds 120,000.

1621. Mr. Tufnell.] Do you know what disorders are most prevalent in Bradford at present?—Typhus has been most prevalent.

1622. Is that on the increase?—It has been on the increase.

1622*. Has it been so more than in proportion to the population?—Yes, I should say even more than in proportion to the population.

1623. Have you any statistical information upon the subject?—I have no returns, but I am as well acquainted with Bradford as most men.

1624. Chairman.] Have you heard it stated by medical men that typhus is on the increase there?—Yes.

1625. Have you heard that attributed to want of cleanliness?—Yes; that is considered as the main cause.

1626. Do you not think that the comfort and health of the working classes are very much diminished by their being obliged to reside in such neglected dwellings as those referred to, without cleansing or ventilation?—Yes; and I can say that the working classes there are aware of this, and they very often tell me that they are satisfied there is one law for the rich, and that there is another law for the poor.

1627. Does that arise from the neglect of these things?—That is one cause.

1628. Is there any open ground within a short distance of Bradford, this populous increasing town, in which the people are in the habit of taking exercise and amusing themselves?—There is at present a piece of open ground, about 20 acres; I am certain it is under 30 acres; as far as I can judge I should say it is about 20 acres: this piece of ground is called Fairweather-green; it is within about a mile and a half of Bradford; it is the usual place resorted to by the lower classes; in all their sports they resort thither; it is, in fact, the only place they have, and I am exceedingly sorry to say that there is an Act before the House of Commons for inclosing it.

1629. Will the inclosure of that common you have spoken of be injurious to the comfort, amusement, and exercise of the humbler classes in this large town?—I should say it would be very injurious.

1630. Will it be viewed by them with feelings of dislike?—Very great dislike; I am sure they would make the same remark I have just made if it was allowed to pass into a law, that there is one law for the rich and another for the poor.

1631. Mr. Ingham.] Who is the proprietor?—Mr. Lister is the largest proprietor, and there are several others.

1632. Does the town of Bradford lie within the same parish or manor to which this waste belongs?—Yes; it is in the parish of Bradford.

1633. What is the chief occupation of the population of Bradford?—The chief occupation of the working classes is combing wool, a very unwholesome employment; they are obliged to work in their own dwelling-houses; a steam arises from it; they use combs, long iron spikes made very hot, and charcoal to heat those combs; the occupation is exceedingly unwholesome, and I should say, therefore, recreation in the open air was, on that account, much more necessary; and it is the very place those parties resort to; if that place is inclosed there will be no place in the neighbourhood of Bradford to which they can go to take exercise but the open roads.

1634. Mr. Tufnell.] Is there any petition from the inhabitants of Bradford against the inclosure of this open ground?—I do not think there is; but there is a very strong feeling against it; Mr. Lister is a very influential man; he has brought in the Bill. The only reserve for the purposes of recreation is three acres for 120,000 souls; it is not large enough for a cricket ground.

1635. What are the games they play at there?—They play at cricket, and a game

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game we call spell and nur; they will drive a ball 10, 11, 12, 13 and 14 score; they cannot play at those games in three acres.

1636. *Chairman.*] They are games which require a greater space?—Yes; the ground is exactly suited for this purpose; if it had been set apart for the very purpose, it could not have been more suitable.

1637. *Mr. Ingham.*] Has there been a public meeting of the inhabitants for the purpose of resisting this inclosure?—I do not think there has been; I will state why. This ground has been latterly used by the Chartists, and it has got into bad odour, but I do not think that a good reason for inclosing the ground. I am happy to say, that Chartism is very rapidly dying away, but if the lower orders have not places where they can engage in sports, it is the very thing to drive them to Chartism; there cannot be a better thing than to keep their minds engaged in matters of that kind.

1638. *Mr. Tufnell.*] Is the town well supplied with water?—No; it is not.

1639. *Chairman.*] Is there a company for the purpose of supplying it?—There is a company in embryo, about to apply to Parliament for a Bill to supply the town with water; the only reason they do not apply this Session is, that times are so very bad, they are deferring it till there is an improvement in the trade.

1640. Is the ground referred to, in a situation particularly suitable for building land?—No; I think not.

1641. *Mr. Tufnell.*] You state, that disease among the lower classes has been on the increase; can you refer the Committee to any returns, showing in what ratio it has increased?—No, I do not think I can; I am sure there are no statistics of that kind kept at Bradford, but it is a matter of general notoriety. There is another disease as well as typhus, which is at present exceedingly prevalent in Bradford, which medical men attribute to the same causes, namely, the small-pox; it is very prevalent, not only among infants, but among adults; and latterly, it has carried some people of considerable property and influence off. A lady, lately, died at the age of 40, and the wife of my gunsmith, who was quite well when I saw her one week, was dead the next.

1642. *Chairman.*] Have you heard the medical men state, that they considered it more virulent in consequence of the neglect of these precautions?—That is their opinion.

1643. *Mr. Ingham.*] Is there any part of the population engaged in the iron-works?—In the suburb, in Bowling, a considerable number are engaged in the iron-works.

1644. *Mr. Walker.*] What is the distance from Bradford?—About half a mile; and there are other iron works at Lowmoor, about a mile and a half off.

1645. Do the workmen reside at Lowmoor or Bradford?—They reside mainly in the neighbourhood of the works.

1646. Is this open space you refer to, accessible to the workmen in the iron-works, as well as the people in the town?—It is the very place they go to; it takes in the population for five or six miles round, it is the only place for the purpose in the whole neighbourhood.

1647. Do not you think, that in these depressed times of trade there is a lack of spirit pervading the community?—Yes, there is rather a want of spirit; if the trade had been good, and there had been none of this sort of agitation, such a Bill would not have been brought in as that for the inclosure of this common.

1648. *Mr. Ingham.*] Is not the iron trade thriving?—It is not so good as it has been; the demand for pig-iron, especially, is beginning to slacken; my remark will apply to Lowmoor more than Bowling; the Bowling ironworks are mainly engaged in the manufacture of steam-engines, and they have taken the lead, and I do not think they will very soon slacken.

Joseph Fletcher, Esq. called in; and further Examined.

1649. *Chairman.*] DO you know that the state of the drainage, sewerage, and cleansing is neglected in many large manufacturing towns in which the humbler classes reside, and also in the suburbs of towns?—I have been aware of that from different sources previous to my present occupation,—in connexion with the Hand-loom Inquiry Commission. I was assistant secretary to the Municipal Boundary Commission, which had before it a number of municipal subjects, and was also employed under the Municipal Commission, which investigated the whole municipal system of the kingdom, with some reference to the Commissions under local Acts as well as to the operations of the old corporate system.

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1650. You are aware that there is a deficiency of those regulations in many of the large towns?—There is a deficiency both of the powers to be exercised and of proper authorities to exercise them.

1651. Will you be kind enough to point out the deficiencies you consider there are, first of all in the powers, and next, in the authorities requisite for the purpose of putting them into action where they are in existence; first of all, with respect to the powers in places in the neighbourhood of London?—In the metropolis the Committee are aware of the constitution and powers of the various Boards of Sewers. But the municipal system of London, if system it can be called, is exceedingly intricate; the old corporation of the city presides over only about 250,000 inhabitants out of the whole metropolis; their powers are very various; and even in the city of London the sewers are vested in a distinct corporation, and there are several other bodies in the city who have their peculiar portions of municipal administration. Out of the city of London, independently of various Commissions of Sewers, there are municipal bodies of great variety, both in their purposes and in their constitution; these have never been the subject of any investigation, so that I cannot state minutely what they are; but in the borough of Mary-le-bone, for instance, the number of Boards to whom the paving and lighting, and the cleansing of the streets is variously entrusted is quite surprising; and the number of local Acts is not less than 80.

1652. With respect to the power of ventilation, cleansing, and sewerage in the other larger towns, will you have the goodness to state the information you possess?—The powers possessed by the authorities in whom they are vested are exceedingly various; they form no system, and never have formed a system. The old bodies, in whom all municipal powers were vested, were either the corporations of the towns, or the manorial jurisdictions of the country; under some of the manorial jurisdictions have accumulated large manufacturing populations, forming now some of the largest towns in the kingdom; such as Manchester, Birmingham, Bolton, and several of the large towns of Yorkshire. Other towns possessing ancient municipal constitutions have also some of them grown up to be places of immense size, such as Liverpool. Under the recent Act for the Amendment of Municipal Corporations, all those towns which had the old municipal constitutions have received something that may be called a municipal system; the constitution and the powers of all of them are now similar. When I say the powers of all of them are alike, it is with this exception, that the Act, though it gives to all those municipal bodies a power to receive, yet it confers on none a power to demand the authorities now exercised by the coexistent Boards under local Acts.

1653. Will you take an instance of one or two, and state what their powers now are, and how far you think them equal to what they should be?—Without papers before me, I could scarcely give an individual instance; there are co-existing powers even where there are old corporations. There are Boards of Commissioners co-existing with them, exercising part of the municipal jurisdiction; while in some of the large towns which have grown up under the manorial constitutions, the whole of what municipal authority is exercised, is vested in Commissioners under local Acts, such as the last witness mentioned to be now in force to some extent in Bradford.

1654. The local Acts which have been obtained in various of those populous towns are different from each other in power and extent?—They are.

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1655. Are they also in many instances unequal to the objects for which they were obtained?—In a great many instances; with regard to the constitution of the local Boards which they erect, they are various, from the circumstances under which they have been passed. As large populations have accumulated, some sort of municipal regulation was found absolutely necessary, and part of the inhabitants, whichever party was the strongest, or whichever party in the town thought it right to try first for an Act, would form a plan among themselves according to their local interests and feelings; the party which in this way reduced into form the plan, brought it to the House of Commons; a measure not made by the House on any system, but made in the country, under the influence of the local feelings and purposes of the parties themselves, without control or direction. The House of Commons rather registered their enactments than formed a municipal constitution for them upon any system; the consequence is, that the territorial extent of the jurisdiction of these commissions under local Acts is often exceedingly arbitrary, and it may be said, in some instances, perfectly absurd; for they include, perhaps, only the centre of a town, or but part of its suburbs, or only half a town; or there will be three or four commissions existing contemporaneously. Such is the state of the municipal regulation in many large towns at this moment; and I have before me a singular instance of the course pursued in constructing the local Boards. This is an Act of the 11th George the 3d, c. 44, intituled, "An Act for the better Paving, Repairing, and Cleansing the Streets, Lanes, Alleys, and other Public Passages within that part of the Town of Wakefield, in the County of York, which lies within the East end of Westgate-street and the South side of Northgate Bar, and the North end of Kirkgate Bridge, (except so much thereof as is repaired by the West Riding of the said County of York,) and the extreme part of the Township of Wakefield aforesaid, leading from Wiengate towards East Moor, for preventing Nuisances and Annoyances therein, and for Widening and rendering the same more commodious."

1656. That is an instance of powers which are confined to particular districts?—Yes; a second Act, I believe the only other Act for Wakefield, simply extends the powers within those limits, still not including the whole town.

1657. Would it be advantageous, in your opinion, that there should be a general enactment, the provisions of which might be carried out by local authorities under certain regulations, without their being obliged to apply for a special Act of Parliament in every individual instance?—Assuredly, in present circumstances, when our whole municipal system is undergoing reorganization; when that of the country has been completely changed by the alteration of the poor-laws, and that of the towns completely altered by the Act for amending the Municipal Corporations: these changes have caused a more strict appreciation of municipal duties, and a more strict regard to the administration of municipal revenues; sometimes duties, which were formerly discharged irregularly, are now not discharged at all, because there is no regular authority for discharging them, or for defraying the cost of their discharge; the enactment, therefore, of some system, which should give to constituted authorities, where there are proper authorities, a complete, systematic, universal, and perpetual power for municipal regulation, is certainly worthy of the deepest consideration; though in some instances, I doubt whether it will be found that there are any authorities existing worthy to be trusted with that system of powers which might be instituted.

1658. With respect of some system of regulation as to buildings, with regard to ventilation and sanitary regulations for the health of the inhabitants, do you not think that some such regulations ought to be laid down as might generally be adhered to in those populous districts, for the sake of the health of the inhabitants?—That some such system is highly important for the health of the inhabitants, and for the prevention of most intolerable nuisances in the large and growing towns, I cannot doubt in the least; there are scarcely any of the great towns in the north which do not exhibit that too offensively to the eye, and to every sense, to be doubted.

1659. Are there any powers now equal to the emergency?—In some towns there may be; but the whole are so irregular, that they want reducing to form.

1660. In

1660. In these respects you think there ought to be some general regulations laid down, which might be enforced by the local authorities, for the sake of the health of the inhabitants?—A complete system by which the public could secure the cleansing, draining, and paving of the streets, and perhaps the proper construction of the dwelling-houses to be erected, both upon a good ground plan, and upon a structure which shall secure all the first requisites of health, would be very desirable.

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1661. The question respects not the ground plans for the construction of buildings, but merely the prevention of the construction in such a form as shall be highly injurious; do you not think that such a requirement would be beneficial?—I used perhaps terms not sufficiently explicit; I meant the ground plan merely of the streets and not of the individual houses; they should be of sufficient width, and care should be taken that the houses should have a thorough draught, and not be built back to back, without back offices; these matters, regarded with a view to prevent public nuisances, injurious to the public health, are subjects of municipal government which it would be no violation of principle to interfere in regulating, and the enforcement of such regulation would materially contribute to the health of large towns, and the welfare of the population.

1662. On the same principle as the power which now exists in London of enforcing the thickness of party-walls to prevent fires?—Yes, precisely so; and not only is there that instance, but in the local Acts which already exist in the irregular system I have described, there will be found contained in one or other of them, all, and more than all the purposes contemplated; for instance, in the Blackburn Act of the 42d of Geo. 3, is found an enactment as to the construction of the flues in the houses. That Act provides, that no flue in a house shall be carried within five inches of any piece of timber; and that should any such flues now be existing, they shall be altered; which is certainly going to the extreme of interference with property.

1663. *Mr. Tufnell.*] Are you aware of any regulation of a similar nature in any other Act?—In most of them there are special provisions against the construction of flues outside the building; against projections into a thoroughfare, and in fact every interference with the private purposes of the builder where such interference prevents a nuisance to the public, or a supposed danger. It is not the Commissioners of Sewers alone to whom I refer, but to the Commissioners for Paving, Watching, and Lighting, and so on; all these purposes are contemplated by the local commissioners in the several towns.

1664. *Chairman.*] With respect to some system of inspection, does it appear to you, from your knowledge of those matters, that there is any system of inspection existing at present in those large towns, with reference to drainage and cleansing, and other regulations applicable to the health of the poorer inhabitants, or is some such system wanted?—Assuredly it is wanted; the supply of that inspection has never been a subject in contemplation, where the power for conferring the benefits has never existed, and that, I apprehend, is very commonly the case.

1665. Even if powers sufficient for the enforcing of those objects were given, would not some system of inspection be also necessary?—Yes; especially in the large towns; it is within the cognizance of all, that every manor, and every town, has commonly its leet jury, who annually present everything obnoxious to remark as a nuisance which comes to their knowledge, and which is thereupon ordered to be removed.

1666. Are there everywhere powers sufficient for those purposes?—I think not.

Veneris, 3^o die Aprilis, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Cowper.
Mr. Greene.
Mr. Ingham.

Mr. Mackinnon.
Mr. Slaney.
Mr. Walker.

R. A. SLANEY, ESQ. IN THE CHAIR.

Dr. James Williamson, called in; and Examined.

Dr. J. Williamson.

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1667. *Chairman.*] THE Committee understand you are a physician, residing in Cheshire at present?—I am residing in Cheshire on account of my health; but I still have a residence in Leeds, and am connected with the public institutions of that town.

1668. Are you acquainted with the state of the town of Leeds?—I know it intimately.

1669. Are you acquainted with this report of the condition of the town of Leeds and its inhabitants, which was made by the statistical committee of the town council a short time since, which was published in October 1839?—I am a member of that committee, and am acquainted with the report.

1670. This report has been reprinted in the Quarterly Journal of the Statistical Society of London?—I believe it has.

1671. For January 1840?—Yes.

1672. Being a member of this statistical committee in the town of Leeds, you can inform the Committee generally, whether that report to which the Committee is going to refer is accurate in its details?—I believe it is.

1673. Have you the means of knowing the general accuracy of the report from the respectability of the parties who conducted it?—I have.

1674. From what you know, from the general condition, and the state and respectability of the parties conducting it, have you any doubt whatever it is substantially correct?—I have no doubt that it is substantially correct.

1675. There is a description, in that report, of the condition of the streets in Leeds; have you any doubt that that part of the report is correct?—I am quite confident, from my own knowledge of the state of the streets, as well as from my being assured from others of the fact, that those details have been collected with very great care, and that the statements in the report are correct.

1676. Now the Committee wish to call your attention to the different wards. With reference to the north ward, which is reported to contain 80 streets, they say 37 are good, 14 middling, 15 bad, and 14 very bad. By the term "good," is meant the state of the surface. The word "middling" is intended to apply to streets that are paved, and which are now and then swept by the occupiers of the houses. "Bad" is understood to be a term applied to half-paved streets, which are never swept; and the "very bad," to the broken and undulating surfaces of those which are, at the same moment, a street, a pond, and a midden or a dunghill, never swept, never cleaned nor drained; all-absorbent, in the fullest sense in which such term is applied. It is stated, that the condition of some of the streets and dwellings in this ward is proverbially bad. Is that the case?—It is strictly true.

1677. They refer to the Leylands, Skinner's-lane, George-street, Union-street, Ebenezer-street, Golden-buildings, Harper-street, Wellington-yard, and Boot and Shoe-yard. All the streets and dwellings in this ward are stated to be more or less deficient in sewerage, unpaved, full of holes, with deep channels, formed by the rain, intersecting the roads, and annoying the passengers; some ill-lighted; some without lamps, with cellars sometimes so dangerously exposed, that passengers are liable to frequent accidents, and sometimes rendered untenable by the overflowing of sewers, and other more offensive drains, with ash-holes, &c. exposed to public view, and never emptied; or being wholly wanting, as is frequently the case, the refuse is accumulated in cellars, thrown
into

into the streets, or piled against the walls. Is that an accurate description?—*Dr. J. Williamson.*
It is an accurate description of the condition of the streets.

1678. It is stated, that in the Boot and Shoe-yard there are a number of rooms, inhabited by 340 inhabitants; the number of rooms being about 57, with an average of six persons to each room; the annual rental being 214*l*. That there are three out-offices, from one of which, during the period of the cholera, 75 cart-loads of soil were removed by the order of the Commissioners, and which is reported not to have been cleaned out since. There is no water within a quarter of a mile; very few of the inhabitants possess vessels in which to hold or to attach water. Is that a correct description?—It is. If the Committee will allow me, I will add a fact or two in confirmation of the statement. The Boot and Shoe-yard terminates in a *cul de sac*; there is no free passage of air through it; there is no means whatever for the regular perfilation of the yard. From that yard I have reason to know, as one of the physicians of the Fever Hospital in Leeds, that cases of malignant fever are continually being sent to our Fever Hospital.

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1679. Does that arise, in your opinion, from the neglect of these regulations as to the cleansing, drainage, and ventilation?—In some instances I have reason to believe that the fever did originate in that neglect; when, for instance, persons in previously good health visited and lodged in the houses, and were very soon afterwards seized with fever, and those who nursed them, from healthy districts, were in succession attacked; and in further confirmation of the fact, I may state that in an adjoining yard, where all the circumstances of the people are very similar, there was one house which for many years had been the seat of fever of a very malignant character. Three years ago the attention of the Commissioners of Police was directed to the effect of the extremely imperfect drainage of the surface water; at that time a better escape for the refuse water was provided, and since that period, I believe, we have not had a single case of fever from that particular locality.

1680. Can there be any doubt that the circumstance which you have confirmed with respect to the cleansing, draining, and ventilation of this district, has the effect of making any disorders of a contagious nature more virulent, and less likely to be cured in that district?—I have had extensive experience in reference to that locality favouring the dissemination and aggravation of cases of malignant disease, and I have no doubt whatever of the injurious operation of consequences to the public health.

1681. Are the inhabitants of the district which has been described, chiefly of the working or the poorer classes?—Almost altogether so; the great proportion of them are the settled population, but they are mixed up with a large portion of the more vagrant population.

1682. Does not the character and station of the inhabitants and persons inhabiting this district more particularly call for attention in the drainage and cleansing of the courts and close places in which they live?—The scanty means of support on which many of them subsist, and their peculiar exposure to the causes of mental and physical depression, render them, under such circumstances of imperfect drainage and cleanliness, very liable to serious diseases, and seem peculiarly to call for precautionary measures.

1683. Now the Committee wish to call your attention to the district called the North-east Ward, containing 93 streets, which are of the following character: 27 good, 19 middling, 31 bad, and 16 very bad; it is stated that the bad are very numerous, and consist chiefly of streets half middling, and the other half very bad, having dangerous excavations, cellar-steps unprotected, bad drainage, little or no sewerage, here and there pieces of stagnant water, ash-holes exposed, out-offices without doors or seats, very unsafe, and filthy dark passages and flights of steps forming thoroughfares from one street to another, worn out and exceedingly dangerous. Is that a correct description of the state of that district?—It is.

1684. Then it goes on to say, that there are several horrible places in this ward, which are utterly impassable for filth of the most offensive description. In Mabgate, a considerable distance alongside the Beck is unprotected, and not long since a child was drowned there. Is not the Beck a kind of open sewer or rivulet into which the filth of the town flows?—Precisely so; a beck is a brook or rivulet; at the same time the river is used extensively for mercantile purposes, it serves as a common receptacle for refuse matter.

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1685. Is it open?—It is. I have to state in connexion with that fact, that the river Aire, the Beck or brook, which was adverted to in the report, and another small brook, receive all the refuse water and much of the filth which is poured into the drains from the town.

1686-7. Is this district likewise inhabited chiefly by the working and poorer classes?—It is.

1688. Now turning to the East Ward, another ward of this town, it is described as in rather a better condition; they say, however, that of 122 streets, 17 are middling, 28 bad, and 42 very bad. They say there are a large number in as bad a state as those previously described; that many Irish families live in some parts of this ward, and keep pigs in the cellars which they themselves inhabit. Is that an accurate description?—I believe it is.

1689. The South Ward, the Kirkgate Ward, the Mill-hill Ward, and the West Ward, are stated to be in a better state than those which have been adverted to, but still that in each of them there are several streets which fall under the designation of middling, bad, and very bad. Is that an accurate description?—I believe it is so; those parts of the town are chiefly occupied by persons in more easy and affluent circumstances.

1690. In the North-west Ward, however, it states that there are 77 streets; that 32 are good, 23 middling, 17 bad, and five very bad: the report goes on to say, that in this cursory description of the superficial state of the wards, more credit is allowed to the heading "good," than in common fairness ought to be; then it goes on to say, the condition of all those where the population is extremely dense, where the traffic is necessarily great, and where there is hardly sufficient fall for sewerage, even if it were attempted, may be easily imagined. The attention of the town council is directed to the following points for consideration in this part of the survey: first, the want of out-offices for the accommodation of the inhabitants, and the necessity of some surveillance over those which may be said to be public, for the purpose of maintaining the general health; secondly, the offensive practice which prevails of allowing the conveniences outside of public-houses to remain exposed to public view; thirdly, the intersection of the public streets with clothes lines; fourthly, the cellars and steps which are unprotected in public causeways; fifthly, the state of the sewerage, and the consequences which ensue from a general want of it. Now, without going into details on the first of those points, you are aware that very great want of supervision and improvement is stated by the town council. With respect to the three first points, the want of out-offices, and decent accommodation for the inhabitants, the offensive practice of allowing the conveniences to remain exposed to public view, and also the intersection of public streets with clothes-lines; you are aware of that, are you not?—I am.

1691. And the town-council report most strongly as to the necessity of improvement in those respects; do they not?—They do.

1692. Do you recollect this fact, which is stated in the report: the intersection of the streets with clothes-lines is an anomaly in street regulations; in the township of Leeds, out of the total number of 586 streets, 276, or nearly one-half, are weekly so full of lines and linen as to be impassable for horses and carriages, and almost for foot-passengers; is that a correct statement?—It is.

1693. They state the want of any distinct place for the working classes for their important domestic purposes?—There is no place for washing or drying clothes sufficiently near the town to be generally available by the working classes.

1694. They state also, without going into minute particulars, the necessity of some improvement, with respect to the cellar openings and steps of the causeways; that many accidents have occurred for want of due precaution; is that the case?—It is so, and has been so.

1695. Now the last point to which the Committee will revert is the most important of them all, and that is with respect to the state of the sewerage. They state that although a great deal of doubtful information has been rejected, yet much valuable matter has been obtained; and the general result is summed up in these words, showing that the sewerage and drainage of the township of Leeds is exceedingly deficient, and altogether inapplicable to the wants of so large a population; is that a correct statement?—The extreme deficiency of the sewerage and drainage is universally admitted.

1696. They

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1696. They enter into particulars with respect to various streets and wards, showing the inefficiency of the present system, and the necessity of some improvement; do you, from your medical knowledge, believe that to be necessary for the health of the inhabitants?—I am quite satisfied, from a very careful observation, that the health of the inhabitants suffers very materially from want of a proper sewerage, not only in the occasional breaking out of malignant diseases, but in the deteriorating effects of foul air, and noxious emanations from the surface, upon the general health and comfort of the people.

1697. Now with respect to the general neglect of sewerage, the Committee is going to call your attention to some particular instances: The report says, that in the spring of 1839, during several days of uninterrupted wet weather, that this sewer in Regent-street was engorged, and emptied itself into the cellar dwellings of that densely populated and lowly situated neighbourhood, producing all the results of malaria, and rendering the health, and even the lives of the inhabitants precarious; have you any doubt of the accuracy of that statement?—I am not able to confirm the report from any experience of my own, nor do I recollect the particular facts, but I presume it is correct.

1698. Have you any doubt, from the character of the persons making that report, that it is correct?—I believe it is so. I have frequently traced the irruption of disease to the reflux of the contents of drains to their sources.

1699. It is stated that so fatal were the effects, that the registrar of that district made a report, that during the period in question, there were in that neighbourhood two births to three deaths, whilst in all the other districts there were three births to two deaths. Then they go on to say, other populous districts are shown in the report to be wholly without sewers, or so inadequately provided, that they could derive no advantage from them; is that a correct statement?—I have no doubt that the relative proportion of births and deaths is a correct report, but I am not prepared to support the inference which is drawn from it, because there may be other causes to which it is ascribed than those co-operating.

1700. You think that though the inference might be a mistaken one, yet the fact is correct?—I think it is extremely doubtful whether it did arise exclusively from that cause.

1701. It says, other populous districts are shown in the report to be wholly without sewers, or so inadequately provided, that they could derive no advantage from them; you have no doubt as to that, have you?—I have not.

1702. It is said that in some of the areas of the houses, the cellars and dwellings are seldom dry; that with respect to several streets, the inhabitants of the town from time to time have vainly attempted to repair these streets with shovelsful of ashes, and soil, and refuse water standing in every hole where a lodgment can be made, there to remain until absorbed by wind or sun, a perpetual nuisance to the eye, and a perpetual fever to the whole body. Now, without exactly drawing the same inference, do you know that to be the general condition of many of the streets there?—I believe that these statements will apply to many of the streets, figuratively.

1703. They state that there are some streets on the York-road, where every house has a sump-hole under its cellars, full of deposit, long since stagnant; that there are parts upon the north-east and north wards, the cellars of which are humid and dark, with undrained land and regurgitating sewers, and they state these various descriptions of the neglect of sewerage and drainage to be the cause of ill health to the inhabitants; do you believe those statements to be correct?—I have no doubt those statements are correct.

1704. Now, they state that the population of the north-east ward, which is of a very bad description, which the Committee had before, is 16,269, and that of those 15,399 consist of the working classes; have you any doubt of the accuracy of that statement?—I have no doubt that that is true.

1705. They state the difficulty, under the present powers, of remedying these evils, and they say in one part of it that in many instances, where the property of one street is in many hands, one-half of the landlords have originally completed their respective parts as regards paving and sewerage, but the cupidity, obstinacy, or poverty, or all combined, of other owners, or even of a single one, has prevented the improvement of the whole; have you any

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doubt that that would be the case?—No; I have no doubt that such difficulties exist, and I will mention a fact in corroboration of this statement: the owners of property in a considerable street were anxious to have their street drained; but the only sewer with which they could connect the drains going through their street belonged to the proprietor of an adjoining street, who not being satisfied with the premium they proposed to give him for allowing the drains of the new street to be connected with his sewer, no drainage was effected, and the only provision which the greater part of this street now has, for the removal of its foul water and other filth, is in the construction of a number of sump-holes or cess-pools, from the emanations from which I have frequently observed serious injury to arise to the health of the inhabitants.

1706. Then the obstinacy or cupidity of one individual prevented an improvement which would have been of great advantage, in a sanitary point of view, to a very considerable population?—Certainly.

1707. Then such a system, in your opinion, requires some remedy?—There seems nothing but a new legislative enactment adequate to meet such an evil.

1708. The general conclusion of the town-council upon this part of the case is, they say, one thing is certain, that the greater part of the town is in a most filthy condition, which demands an immediate remedy; a remedy which does not seem attainable under any local Act now existing, but calls for an especial enactment, which is doubtless required not only for Leeds, but, more or less, for every town in the empire. Can you confirm that portion of it that relates to Leeds?—I can, most certainly.

1709. Does your observation, as far as you have had an opportunity of forming an opinion, with respect to other large towns that you know, confirm that opinion with respect to those towns?—I believe the circumstances of many other towns in this respect are similar, and require some remedy.

1710. Now the Committee wish to call your attention to another point, and that is as to the construction of the houses in some of these districts and the ventilation; the Committee are informed that there are a great number of houses, inhabited by the poorer classes, that are built as it were back to back, so as there is no current of air. Is that the case?—It is a very common mode adopted in the construction of the houses.

1711. Is not that very injurious to the health of the inhabitants, by not allowing to densely-crowded houses, such as those inhabited by the poorer classes frequently are, and also not kept very clean; is it not highly important that there should be some mode in which air might pass through, so as to ventilate them?—I conceive it is of the greatest importance to their health, and also to their moral and social condition.

1712. You think this construction of their houses is injurious to their health?—Exceedingly.

1713. Now are there not in this town, as well as in many others inhabited by the working classes, a considerable number of alleys and courts in which the houses are near together, and in which they are built in a *cul de sac*, where there is no open space at the end?—Connected with a few of the principal streets, there are numerous lateral alleys or yards in which a free circulation of air is entirely prevented by their close construction, and their partial closure at their extremities.

1714. Is not such a construction also likely to be very injurious to the health of the inhabitants?—I am quite satisfied it is.

1715. Are you aware that at present there is no power, by means of either sanitary regulations or legal enactment, for preventing such construction?—Having been many years extremely anxious to promote improvements in the dwellings of the operative classes of Leeds, I have made many inquiries to ascertain if the law would assist any authorities to enforce a better mode of construction of houses and streets, and I have found that no adequate provision exists for that purpose.

1716. Would it not then be of the first consequence to the welfare of the working classes, that there should be some general regulation laid down, either in a general building Act, or some Act generally applicable, not for interfering with the general construction of houses, but for preventing their being built in such a form and manner as experience has shown is highly detrimental to the health of the poorer inhabitants?—The working classes are now exposed to the evils arising from cupidity and defective arrangements of many of their landlords,

lords, and they appear to me to require the protection of some such general enactment improve their condition.

1717. Such general regulation might be carried out by local authorities in such a way as might be found most practicable?—There would be no difficulty, I should consider, in doing that.

1718. Such a regulation would fall under the general principle recognized by our law, that you shall so use your own property as not to injure your neighbours; would it not?—Certainly.

1719. In consequence of the neglect of such provision, and other necessary provisions and sanitary regulations as regards the state of the working classes, have you any doubt that fever and disorders are generated and increased, causing thereby great expense, subsequently, to the other classes?—I am quite sure that contagious diseases are frequently engendered from such causes, and propagated from the lower classes to those under more favourable circumstances, and that the general atmosphere of towns so situated as Leeds, impregnated as it is with those offensive exhalations, must prove directly injurious to the health and comfort of all classes; and also that the exposure to these alleged causes of disease of the poorer classes must entail upon the other classes of society a very great augmentation of expense in maintaining the former when sick, and in meeting the various other casualties arising out of their illnesses.

1720. That is to say, that a great expense is cast upon the richer classes by means of the illness, the weakness, the debility, and the loss of their parents, consequent in many cases from fevers, and from disorders generated by this neglect?—Certainly.

1721. Now in this district of Leeds it is stated, that nearly 13 out of 17 of the whole town consist of the working classes; is this the case?—That is true I believe.

1722. In a town so situated care with regard to sanitary regulations seems more peculiarly necessary; does it not?—Undoubtedly.

1723. But in this instance it seems very greatly and grossly neglected?—Very opprobriously so.

1724. Does there not want, in your opinion, some increased powers for drainage and sewerage in this town, under some general Act, the provisions of which might be enforced by the local authorities?—It would be one of the greatest boons imaginable to such large towns, if the evils complained of could be met by a general enactment.

1725. Are you aware that, under the local Act of Leeds, there is no power, even if a sewer comes quite close to a house, to oblige the proprietor of it to communicate with it by means of an underground drain?—In the local Act of Leeds there is no such power.

1726. Do you not think that some such power would be a very material advantage to the health of the district?—Unquestionably.

1727. Do you know many instances of neglect in landlords of these sorts of dwellings, tenanted by the working classes, that neglect to communicate in the way that has been mentioned?—I know a great many instances of neglect on the part of landlords of ever attempting to connect their respective properties with sewers by means of under-ground drains.

1728. In a town inhabited by so a large a portion of the working classes there is no doubt a vast number of children?—A large portion of the inhabitants, of course, are children.

1729. Is it your opinion that the neglect of cleanliness, decency, and the removal of filth and dirt from the courts and houses in which these poor persons reside has an injurious effect upon the moral character of the people, as well as upon their physical condition?—I am quite sure that the physical depression arising from these causes exercises a very powerful influence in producing a morbid state of the animal feelings, and in lowering the moral tone of the people.

1730. Do you think that it has a more peculiar effect upon the young population who are just coming into life, and who are exposed to the evils consequent upon being in these dirty, neglected, and miserable dwellings and courts?—I should conceive it has a less prejudicial effect of a moral kind upon the children than upon adults; but, physically, it is more injurious to the earlier periods of life.

1731. Do you not think, that if the children go to any schools where they may be well instructed and well taught, where cleanliness and decency of

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1732. Was not the same cause a tendency to drive the adults from their homes to public-houses and spirit-shops, instead of finding their comforts by their fireside?—I believe it does, and one can scarcely wonder at men being tempted to frequent the public-house when one inspects the wretchedness and squalor of some of their dwellings.

1733. With respect to the children, you consider that the example they see around them in their homes and the streets where their dwellings are situated, has a considerable effect in doing away with the advantage which they would receive from good instruction at the schools?—I am quite sure it has.

1734. Are you of opinion that no system of good instruction carried on at the schools, even if extended to all the children of these poorer classes, would be effectual unless some improvement took place with regard to those points which affect the situation of the dwellings which has been spoken about?—I believe the benefits arising from education would be very much neutralized by continued neglect on these points.

1735. Are there any considerable schools in Leeds for the children of the working classes?—There are several large public schools for the working classes; day schools and Sunday schools.

1736. Are there any play grounds of an adequate size appended to the schools for the children of the working classes in which they might take exercise during those hours which intervene between the hours of study?—With the exception of the infant school, I am not aware that any of the public schools at Leeds have such grounds connected with them.

1737. Does it not appear to you that some such provision would be of great advantage to the children of the working classes, giving them the means of exercise, and the means of having their minds at ease, during the period they were not at their lessons?—I believe it would be very beneficial to their health, and a direct means of promoting their moral improvement.

1738. Is there any open ground reserved in the vicinity of Leeds to which the humbler classes can resort, either as a public walk to go to with their families on a Sunday or on a holiday, or to which they could go for the purpose of exercising themselves in any of the sports or amusements which they may occasionally resort to on a holiday?—There is a considerable open ground about a mile from Leeds, called Wood-house Moor, which is open to the working classes, and where some of them are frequently found taking exercise.

1739. Is that tolerably well drained; have any pains been taken with it, either for draining or laying it out, so as to have a good gravel-walk or seats, or any of that kind of accommodation which would be useful in the vicinity of so large a town?—Three years ago it was drained, chiefly for the purpose of furnishing employment to the working classes, who were then suffering from the want of work, but it has no accommodation in the shape of seats, nor is it laid out in walks.

1740. Mr. Cowper.] Are the working classes in the habit of repairing there on Sundays?—I do not think it is particularly the rendezvous of the working classes on Sundays; those of them who take exercise are generally found walking on the public roads in two or three directions from the town.

1741. It is not frequented by the labouring classes on a week-day, is it?—Not to any great extent.

1742. Chairman.] Are there any regulations with respect to their conduct, and so on, so as to prevent riots, and yet at the same time ensure their having the use of it for amusement?—This ground is used occasionally for public purposes, as at the elections, when provision is made for the keeping of public order by the appointment of the police, but that is not the case on ordinary occasions. It is also used by the military.

1743. Are there any fairs, or meetings of that nature?—There is annually a fair.

1744. Are

1744. Are there any regulations at that time with respect to the police, so as to prevent drunkenness and disorder?—There is no special regulation.

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1745. What is the state of Leeds with regard to the supply of water?—It is exceedingly deficient; Leeds is supplied with water principally from the river, the contents of which are exceedingly impure, from a few public wells, and by water-carts.

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1746. Do you not consider that a due supply of good water is one of the first necessities, and one of the first advantages towards a good state of the health of the working classes in many populous districts?—I think it is impossible to over-estimate the importance of a plentiful supply of good water to the working classes as a means of promoting their health and comfort.

1747. Leeds is considered the first town in the kingdom as regards the woollen trade, is it not?—It is the leading town as regards the woollen trade.

1748. And it has been increasing in population most rapidly within the last 30 years, has it not?—It has nearly doubled its population within the last 30 years; in fact, it has doubled its population.

1749. And during that time, it appears from the account given in this report, and which you have confirmed, that no due provision and regulation has been made with respect to drainage, sewerage and cleansing, ventilation and building, and for the supply of water for this vast community?—Certainly not, with the exception of a better supply of water.

1750. Do you not think, as a medical man, resident in the town, and cognizant of the state of the inhabitants, that these matters call most imperatively upon the Legislature for some assistance?—I very decidedly think so; and no subject of greater real importance could engage the attention of the Legislature.

1751. The Committee have called your attention to the effect of this neglect upon the health and upon the moral condition of the adults, and also upon the children in Leeds; now have you any doubt that the consequence of this neglect has also been to cause in the minds of many of them great discontent and dissatisfaction?—I have no doubt it has; though, in reference to most of them, I fear there is an apathy or a want of perception of the evil results of the peculiar circumstances under which they are living.

1752. Mr. Cowper.] Will you explain the nature of the effect produced by a confined and impure atmosphere upon the health of the persons exposed to it?—Our impure atmosphere acts injuriously upon the health of those exposed to it; at one time, from the existence of some subtle influence, apparently of the nature of a poison, generated by the decomposition of animal and vegetable matters, in situations defectively drained or sewered, or by the assemblage of a large number of living persons in a very confined atmosphere; at other times, the foul air operates prejudicially upon the health by the excess of carbonic acid gas, the product of respiration, and which is deleterious to human beings. The mere circumstance of excessive moisture, especially if conjoined with deficient light, is prejudicial.

1753. And the exposure to these injurious influences weakens the frame and constitutions of the persons who are exposed to it?—Certainly; it weakens the frame, and predisposes to many diseases, and directly induces others.

1754. What effect has it upon the digestive organs?—Its effect on the digestive organs is very perceptible, though it is probable, in such instances where it operates prejudicially upon the digestive organs, it acts through the medium of the general constitution, and amongst the humbler classes such causes act more intensely, from defective or improper diet.

1755. Have you observed that in the treatment of these persons, you are obliged to have recourse to less violent remedies than you have to people living in a purer atmosphere?—Persons living exposed to this peculiar noxious influence seldom bear the use of those active depleting measures which are sometimes necessary for the removal of disease.

1756. Do you believe, that when two generations has successively inhabited a district of the nature to which you have alluded, that the children become weaker and smaller in stature than other children do?—I can have no doubt that the exposure of several successive generations of persons to such circumstances, must permanently enfeeble the system and deteriorate the offspring.

1757. Mr. Greene.] Do you know the state of the sewerage of the larger streets in Leeds?—Some of the larger streets in Leeds are comparatively well sewered, but these are the great thoroughfares.

1758. To what extent do you mean to say the sewers of those large streets

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go; are they merely side-drains on each side of the street to carry off the surface water, or do they consist of one large sewer passing down the centre of the street, for the purpose of carrying off all the foul water from the several houses in the street?—The drains in the streets comparatively well sewered, to which I have alluded, traverse the middle of the streets, are large, and receive the supply of foul water from the houses on each side of the streets, but having been constructed at different times, they are not always well adjusted to each other.

1759. In many respectable houses, at some little distance from those sewers to which you have adverted, how do they get rid of the supply, and empty their privies, and matters of that description?—The contents of their privies are periodically carried away by carts, and cess-pools are frequently formed, in connexion with those houses, to receive the refuse water proceeding from them.

1760. Does your last observation apply also to the streets which you have said have very good sewers?—No, it does not apply to the streets which have very good sewers, the inhabitants of such streets having sufficient means for the removal of their refuse water by these common under-ground drains.

1761. How many streets in Leeds should you say were well sewered?—I really cannot tell; but certainly not half of them.

1762. You said the town of Leeds was supplied with water from the river; do you mean merely by drawing it from the river, or is there any water-works by which it is thrown up to the houses of the several streets?—There are water-works to throw up the water from the river into four or five reservoirs, from which it is conveyed to the different parts of the town; but the supply is so extremely scanty that it was found necessary three years ago to apply to Parliament for an Act for a new water-works company, which was obtained, and another and more ample supply of good water is expected to be brought to the town in the course of two years.

1763. At the present moment is there any supply of water in these poorer parts of the town?—These poorer parts of the town are most miserably supplied with water, chiefly from the river.

1764. Do you mean by means of the water-works?—By means of the water-works, and by means of carts which hawk water about; and I will mention, to show the extreme scarcity of water in Leeds, that some poor families have paid as much as 2 s. a week for the water which was hawked about in carts.

1765. Mr. Walker.] The water is supplied from the river Aire, is it not?—Yes.

1766. The river at Leeds is full of impurities, is it not?—It is; it receives all the foul and excrementitious matters from the various sewers.

1767. And likewise all the impurities from the dye-works and mills?—Yes; and from all the various manufacturing operations.

1767*. The water is pumped from the river and lifted up to the reservoir, is it not?—Yes.

1768. Is there a good system of filtration adopted?—A very imperfect one exists.

1769. Consequently the water which is used by the inhabitants is of a very impure description, is it not?—Decidedly.

1770. Must not that have a very detrimental effect upon the health of the inhabitants?—Certainly. Under the provisions of the new Act for the establishment of a new water-works company, arrangements exist for the gratuitous supply of the poorer classes with purer water.

1771. How far does that extend?—It extends nearly through the whole township of Leeds, and through parts of some of the adjoining townships of Hunslet and Holbeck; those are populous townships adjoining, and forming parts of the borough of Leeds.

1772. From what part of the district does the supply arise which is contemplated by the new Act of Parliament?—Its source is about eight miles from Leeds, in a north-westerly direction, in the neighbourhood of Harewood.

1773. The supply from that quarter will be of a purer description?—It will.

1774. Have you any public baths in Leeds?—We have two public baths in Leeds; one which contains bathing accommodation of a superior order, which is principally resorted to by the better class; and another bathing establishment, the

the terms of which are low, and which is to a certain extent used by the working classes. *Dr. J. Williamson.*

1775. Are the working classes obliged to pay something for the accommodation?—They are. *3 April 1840.*

1776. Can you state the amount?—I think 2 *d.*, but the working classes also bathe in summer a good deal in the river and in the canal.

1777. Is there a general disposition in the working classes to avail themselves of that recreation?—I should not think there was; there is a remarkable apathy among all classes upon the importance of bathing, as a means of preserving health.

1778. Do you consider that a very important element?—I consider it has a very important relation to the health of the community.

1779. Have you great numbers of Irish workmen in Leeds?—I believe we have from 4,000 to 5,000 Irish persons who live in Leeds; they are chiefly of the operative class.

1780. They are probably the very poorest class?—They are many of them of the very poorest class; some of them, however, are very skilful artisans, and in better circumstances.

1781. Does your answer refer to the township and borough, or to the township only?—To the township only; the township and borough contain nearly 10,000.

1782. Are they generally employed as artisans or common labourers?—They are employed, some of them, in the various processes of manufacture, especially in the worsted and woollen trade, and others are employed as labourers.

1783. Do you see any marked difference between the apparent comforts existing in the dwellings of the Irish and the English operatives?—The domestic comforts of the Irish are generally much fewer than those of the English labourer.

1784. Do they generally reside in entire houses, or do they huddle together in families in one building?—They congregate very much together in families and in lodging-houses.

1785. Does their residence in Leeds occasion apparently any improvement in their habits, after having sojourned there for some time?—I think I have observed, in many of the Irish, an improvement with regard to their character and habits of life after many years' residence.

1786. Are the habits of the working classes of Leeds at all acted upon by the temperance societies?—I know that many of the most abandoned and profligate members of society have been reclaimed by temperance societies; but I should not think that hitherto the temperance societies have effected any general amelioration in the habits of the working classes in Leeds; but they probably have, in some degree, checked the progress of intemperance.

1787. *Chairman.*] Does the use of ardent spirits still prevail to a great extent?—It does, to a great extent.

1788. Chiefly amongst the poorer classes?—Chiefly amongst the poorer classes.

1789. You have before said, that you thought they were driven to it in some measure by the neglect of comfort in and about their homes?—A great many of the habitual spirit-drinkers are those whose circumstances of life are the most destitute.

1790. Are there many lodging-houses of the lower class in Leeds?—There is a great number; but I cannot say the precise number.

1791. What is the state of them. Are you acquainted with the state of them with regard to cleanliness, whitewashing, and ventilation, and other sanitary regulations as regards the lodging-houses to which the poorer classes resort?—I have visited several of them in the course of my duty as one of the physicians of the Fever House, and their condition was for the most part very defective, and often dirty and neglected.

1792. What was the state of the internal part of those lodging-houses that you have looked into?—They are frequently crowded with inhabitants. In some instances 16 persons were found in a room from 15 feet by 13 feet, and 9 feet high, with one small window, which, during the day and night, was kept entirely closed. The same room served as the day and sleeping apartment.

1793. Then the ventilation was entirely neglected?—The ventilation, in many cases, was entirely neglected.

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1794. Now, with respect to cleansing, whitewashing, and other obvious regulations for health in these crowded lodging-houses, are they neglected or attended to?—Except during times of public alarm, on the approach of serious epidemics, or when the officers of the Fever Hospital, or some benevolent person, casually interfered, the whitewashing and cleansing of these places is very frequently overlooked.

1795. Is there any system of regular inspection as to the state of these receptacles for the poorer classes, or any system of enforcing better ventilation or better cleansing?—There is none but of the most incidental nature.

1796. There is no regular system?—There is no regular system.

1797. Can you have any doubt that the neglect of such a system of regulation, with respect to sanitary provisions of these crowded lodging-houses, is the cause of disorders being circulated amongst so dense a population?—I have had many proofs of the diffusion of malignant disorders from these lodging-houses, to all classes of the population.

1798. You think then that some power of enforcing the due inspection and regulation would be necessary to prevent the spread of contagious disorders?—I think it would be highly beneficial and useful.

1799. Do you not think it is quite as necessary for the advantage of the humbler classes as it would be for their richer neighbours?—Quite so.

1800. You are acquainted, from visiting professionally the town of Bradford, with the general state of it, are you not?—I am.

1801. Is not Bradford a large town, in which the inhabitants are occupied for the most part in the manufacture of woollen stuffs from the West Riding of Yorkshire?—It is.

1802. The population is nearly 100,000, is it not?—It is.

1803. And has rapidly increased within the last few years?—Yes, that is the fact.

1804. Now, without entering into a minute account, will you state to the Committee what, in your opinion, is the state of the town of Bradford, the most populous districts of it, inhabited by the working classes, with regard to the sewerage, draining and cleansing, ventilation, and sanitary regulations of their houses?—I have never examined the town of Bradford, in reference to this subject, with the same attention as I have the borough of Leeds. I know nothing of the under-drains; but I have noticed that the surfaces of many of the streets are unpaved, and like many of those described in the statistical report of Leeds, present continually accumulations of animal and vegetable matter, which must act very perniciously upon the health of the people. In many of the streets of Bradford, which I have occasionally passed through, occupied chiefly by the working classes, there appeared the same characters of discomfort and want of cleanliness that have been described in connexion with Leeds, heaps of putrescent animal and vegetable matter, filling the air with foul exhalations.

1805. With respect to the close courts, and the houses built without any means of thorough ventilation, does that occur also in Bradford, in many instances, the same as it does in Leeds?—I should think not in so many instances as in Leeds. Bradford seems to present great facilities for the effectual drainage of the town, but I conceive it is much neglected in that respect.

1806. Then the general necessity of some legislative enactment, conferring powers for the purpose of sanitary regulations, appears to you to be applicable to the populous town of Bradford, as well as to Leeds?—It does.

1807. Are there any other towns as to the state of which you can give the Committee any information?—Huddersfield, Dewsbury, and some other of the large towns of the West Riding of Yorkshire, I have some acquaintance with, though not of so minute a nature as with regard to Leeds; and I am decidedly of opinion that they would benefit very largely by some such general enactment as has been suggested.

Richard Cobden, Esq. called in; and Examined.

R. Cobden, Esq.

1808. *Chairman.*] DO you reside at Manchester?—I do.

1809. Are you well acquainted with the committee of the Manchester Statistical Society?—I know the whole of the members of the committee intimately.

1810. Do you know that within a few years past, they have been engaged in

in minute inquiries into the condition of the working classes, in several of the populous towns in the neighbourhood?—They have.

1811. Do you know that they have made a minute inquiry into the state of the working classes, and into the state of their dwellings at Manchester, at Salford, at Bury, at Ashton, at Staleybridge, and at Duckinfield?—I do.

1812. Do you recollect a report of the Committee, entitled, a "Report of the Manchester Statistical Society, on the Condition of the Working Classes in an Extensive Manufacturing District"?—I do.

1813. In the years 1834, 1835, and 1836?—Yes.

1814. It was read at the statistical section of the British Association at Liverpool, in the year 1837, was it not?—It was.

1815. Now, from your knowledge of the persons composing that committee, have you any doubt that it is substantially correct?—None whatever.

1816. The population of those towns is stated, in page 5 of the report, to be, Manchester 200,000, Salford 55,000, Bury 20,000, Ashton 22,000, Staleybridge, 17,200, Duckinfield 8,600; total, 322,800. The report states that the class of houses visited by the committee's agent, and which alone this inquiry comprises, was that inhabited obviously by the working population, and those below the rank of shopkeepers. Are you cognizant that that is the case?—That is the case.

1817. A curious fact is stated in page 6, as to the proportion of the working population, that is, the population considered with reference to the total population of each of the six towns, which turned out to be 64 per cent. in the borough of Manchester, 74 in the borough of Salford, 71 in the borough of Bury, 81 in Ashton, 90 in Staley-bridge, and 94 in Duckinfield. It states in page 8, that the proportion of the working population residing in cellars, is in the borough of Manchester 11½ per cent., in the borough of Salford eight per cent.; is that an accurate account?—I believe it is.

1818. You are aware that the society also gave an account of the state of Liverpool, are you not?—I am.

1819. Do you recollect facts being stated at the meeting at Liverpool, with regard to the numbers of the population at Liverpool who reside in cellars?—I do; and the fact was disputed by the Liverpool gentlemen present; they employed their own police to ascertain the facts, and the next day they corroborated the Manchester report, and found that the account was understated; the numbers living in cellars was understated.

1820. It appears that the first report that was given, and which was at first disbelieved, was that in the parish of Liverpool, there were 1,964 courts, and 6,506 cellars; and that in portions of four other townships, including principally the limits of the borough, there were 307 courts, and 987 cellars, making a total in the borough of Liverpool, according to the first account, of 2,271 courts, and 7,493 cellars. That was the account given by the Statistical Society of Manchester, the first time. Have you any doubt of the truth of it?—None whatever.

1821. Now, there is an account given in a letter from Mr. Whitty, the head constable, and which is cited in this report on the condition of the working classes, in a note, and it states (it is dated September 1837), "I have great pleasure in fulfilling the promise made to you during the conversation in the Statistical Section, as to the inhabited cellars of Liverpool; I had an accurate return made to me this morning by the inspectors, and the following is the result: North division, 4,004 inhabited cellars; South division, 3,858; total 7,862; showing an excess, in reality, over the former statement, of upwards of 360." Now, do you remember that circumstance?—I do.

1822. So that in consequence of that circumstance, no doubt remains whatever upon your mind as to the general accuracy of the report?—None whatever.

1823. Now, it is stated, in the same account so cited, of the number of the inhabited cellars, that no court was counted in which two or more families did not reside; and that above one-third of the whole numbers contained six or more families; and few of the courts had more than one outlet. Do you remember that?—I do.

1824. Is not that a state of construction which evidently would be very hostile to the health of the inhabitants?—Exceedingly.

1825. Now the report goes on to say, that no cellars were included in the

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above number, in which the occupants did not sleep, as well as live by day; nor was any account taken of those occupied as gin-shops; and these were the observations upon it, made in the report: "The great proportion of the inhabited cellars were damp, dark, confined, ill ventilated and dirty." Is that a correct account?—It is.

1826. A calculation is then entered into, from which the following is an extract: that there would be 31,000 persons inhabiting cellars in Liverpool, out of a total population of 230,000; or taking the working population at two-thirds of the whole, that would be about 20 per cent. of that portion of the community. Have you any doubt of the accuracy of that statement?—I have none whatever.

1827. Is not this account a melancholy account, as it regards the healthiness of the construction of the dwellings of these poorer inhabitants?—I think it is.

1828. Now can you have any doubt that the result of it is a very considerable injury to their health?—I should not doubt it.

1829. Do you recollect that in Mr. Witty's letter, which showed a greater number of inhabited cellars than in the former account, there are these words: "Allowing five inmates to a cellar,—and that number is rather under the average, the number of persons living in cellars in this town will therefore be 39,310;" that is, referring to the increased number, which the second inquiry had shown was the case?—Yes.

1830. There are then some remarks to show that poverty is not always the reason why the poorer people like to get into cellars, but that having an outside door, and a complete domain of their own, is one of the causes?—That is stated by Mr. Witty, I am aware.

1831. Could you, without going minutely into the subject, give the Committee your opinion as to the state of drainage, cleansing, and ventilation of the dwellings of the poorer classes, in the more confined districts of Manchester?—It is not a subject upon which I am prepared to speak with any accuracy at all. In large towns rapidly increasing, such as our manufacturing towns are, there will be necessarily a great number of streets not paved, and not soughed, which of course must be exceedingly prejudicial to health; but in those parts of Manchester which are under the management of commissioners appointed for the purpose, I should say they are as well cleansed and soughed as any town of the same magnitude in the kingdom, or, in fact, as any town can be.

1832. From your knowledge as a member of the Statistical Society of Manchester, have you any doubt of the accuracy of those statements which have been referred to?—I am sure they may be relied upon.

1833. In a table, which is table the third in the report of the committee of the Statistical Society of Manchester, in reference to the opinion as to the working classes, the number of persons resident in cellars in Manchester and Salford are stated thus, viz.: In Manchester, 14,960; that is to say, persons occupying cellars, and also others boarding with them; and in Salford, 3,335; is that correct?—I believe that to be correct.

Edmund Ashworth, Esq. called in; and Examined.

E. Ashworth, Esq.

1834. *Chairman.*] WHERE do you reside?—At Turton, near Bolton.

1835. The neighbourhood of Bolton has very rapidly increased in its population within the last few years, has it not?—It has, very much so.

1836. What is the population of Bolton?—Within the borough, about 50,000.

1837. Does not a considerable portion of this population of Bolton consist of the working classes?—A very considerable portion does.

1838. Has a great increase in the habitations and buildings for the habitations of the working classes taken place within the vicinity of Bolton lately?—A very considerable increase has taken place within the last 15 or 20 years.

1839. Are many of those habitations run up without much regard to any particular rules, referable to their formation, as regards the health of the inhabitants?—I consider a great portion of them are built more with regard to economy in the outlay than convenience to the inhabitants.

1840. Are

1840. Are many of them built back to back, so as that no thorough ventilation can take place?—A very great portion of them are built back to back, and consequently there is no thorough ventilation; beside which, the water-closet conveniences are crowded, perhaps in the centre of a street of houses, making the space of ground, which otherwise would have been a cottage, into a public receptacle for the whole street.

1841. Is not such a construction, in your opinion, and the opinion of medical men whom you have conversed with, highly injurious to the health of the working classes?—Such a construction is, in my opinion, very injurious, but I have had very little conversation with medical men on the subject.

1842. Now, with reference to the mode of laying them out, with regard to sewerage, drainage, and the facilities of the wet and dirt being carried off; is there a considerable neglect as regards all those provisions?—I consider, speaking generally, that there is a very great neglect, in towns like Bolton and Manchester; there are Acts for the sewerage and drainage of the streets, but I have much to regret the inefficient manner in which the provisions of those Acts are enforced.

1843. Then there are no building Acts, either local or general, which prevent this mode of building, back to back; or prevent courts being built without any ventilation to them?—I am not aware of any building Act which applies to Manchester.

1844. Do you not think that some such regulation as would have the effect of preventing the construction of dwellings injurious to the health of the working classes, would be proper and right?—Looking at the interference which such an Act would have with individuals building single cottages, it would be objectionable; but where communities are likely to be crowded, I think as a sanitary regulation, it would be highly desirable.

1845. The question only refers to crowded districts and dense population?—I was looking to the country districts, where a man might build a single cottage.

1846. But with reference to crowded districts and dense population, you think such a regulation would be proper, do you?—I think it would be highly desirable.

1847. At present is it not in fact the case, that several small owners lay out a number of dwellings intended for the reception of the humbler classes, without reference to the healthy construction of the houses, and without reference to drainage or sewerage?—It is undoubtedly the fact that houses are built in the way I have previously mentioned, but various parties do that; some as individuals, for the sake of investment, and others from the effect of a limited capital in their own manufacturing concerns.

1848. But from some cause or other, this effect, injurious to the health of the working classes, does result?—Decidedly so.

1849. In the borough of Bolton, which you are well acquainted with, are there many schools for the education of the children of the working classes?—A few years ago, we established a British school in Bolton, which has been well supported, but subsequently the Methodists established one under their own supervision, to which there are no play-grounds.

1850. Then, generally speaking, there are no play-grounds appended to the schools, in which the children might take exercise?—There is nothing but the streets.

1851. Would not some such circumstance be advantageous to them, both with respect to health and recreation?—Decidedly so.

1852. Is there any reserved space in the vicinity of Bolton, or any open ground in which the people can walk with their wives and children on a Sunday, and other days, for fresh air, or in which they may take exercise at any other time?—There are none.

1853. Mr. Baines.] You formerly had a moor there, had you not?—Yes, we had.

1854. Has that been enclosed since?—Yes, it was enclosed 25 years ago.

1855. Was that done without any reservation for the benefit of the public?—It was.

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1856. Do you not think, in all cases of this kind, where there is immense population, it is desirable that a reservation should be made in enclosures?—I consider it very desirable, and should have been very glad to have seen an Act of Parliament obtained similar to the one which Mr. Buckingham, a few years ago, proposed for the public recreation for the inhabitants of the towns.

1857. Are you aware that there is provision in an Act that has been passed two years ago, for setting apart ground of that kind for the purposes of recreation?—I am not aware of it, but if I may be allowed, I would state a few of the reasons on which I ground my previous opinions. Many of the working people employed in factories and other workshops of our neighbourhood, obtain good wages as a whole family, because frequently the various branches, both of the boys and girls, are employed; and it not unfrequently occurs, that a family may have forty or fifty shillings per week of income in one cottage; the houses, built back to back, afford only one room to live in, and do the cooking, washing, and other necessary domestic operations of the houses; in such cases, when the head of the family and the boys come from work on Saturday evening, the necessary domestic occupations of washing or cooking, being obliged to be carried on in the same room, renders it extremely uncomfortable, and consequently the father of the family is induced to go out for recreation and amusement to the public-house; besides which, there is little room for filling such a cottage with furniture; and I have remarked that families, with large incomes, have not unfrequently, in such cottages, a very small amount of furniture; and I have further remarked, that in our own establishment, when a family has removed into a larger house, they have frequently occupied the spare rooms with a better class of furniture, which of itself induces them to better habits, and a more respectable feeling in society.

1858. *Chairman.*] What is the supply of water?—Ample, and good and cheap.

1859. *Mr. Baines.*] Will you inform the Committee whether those persons with incomes of from forty to fifty shillings per week, cannot find more suitable cottages than you have described for them to live in?—They might, with some inconvenience to themselves, by going to a little distance; and in giving this answer, many might say, these people could do so, but young people brought up in a small cottage, have no feeling of the inconveniences arising from it, and consequently do not desire an enlarged one.

1860. Do you not think that persons desirous to invest money in building a better kind of cottages, might do it advantageously?—The most advantageous investment in cottages, is the smallest size of cottages.

1861. *Chairman.*] Do you think it would be unfair to impose on those persons the necessity of due accommodation, necessary for the health of the inmates of these places?—A law, enforcing a back-door, would almost of necessity enforce two dwelling-rooms below stairs.

1862. *Mr. Walker.*] The class of operatives who earn the gains of 40 s. per family, are engaged in factory employments, are they not?—Decidedly so. Factory occupations for the junior branches, the father of the family in factory employment, or any other trade in the neighbourhood.

1863. Probably the principal reason of these parties occupying such small houses, and being possessed of such great gains, may arise from the owners of the factories having built such cottages for the accommodation of their hands?—Such is frequently the case, but not always.

1864. Is it not very common for the owner of a factory to impose a necessity on his operatives to live in his houses?—Very frequently it is.

1865. May not that operate very largely in obliging these individuals to live in these small cottages?—It may in many cases.

1866. *Mr. Cowper.*] Are there any cottages of a better description usually taken by these persons?—Not unfrequently so. But the working population have so long lived in small uncomfortable cottages, that the taste for better kind of cottages is scarcely appreciated.

1867. Then better kinds of cottages are very rarely built?—Better kinds of cottages are very rarely built.

1868. *Mr. Baines.*] And that you attribute to their not being so profitable
as

as cottages of a superior grade?—There are two inducements; the one, the fact of the small cottages being more lucrative to the builder, and the other, that they are cheaper to the occupant. I have known a man and his family, with a good income, go from a good cottage to a bad one to save a shilling a week; but in our own case, for 20 years, we have continued to make every successive lot of cottages more expensive and more convenient; and the most expensive cottages are the most sought after by our own people; and thus, a man with a very moderate income will desire to bespeak beforehand the first opportunity of getting into a better cottage; and families who have obtained the privilege of a better cottage, when I have inquired subsequently into their previous condition, they have scarcely been able to account to me as to what has been the inducing cause to their improved condition, but when questioned further, have acknowledged that the opportunity of putting better furniture into their houses has imperceptibly accumulated a large and valuable stock of furniture.

1869. *Chairman.*] Then you think that an improvement in the convenience and comfort of their cottages would have a very considerable effect upon their moral and social condition?—Decidedly so.

1870. And doubtless would have an effect also upon their comfort and contentment?—As a natural consequence, it would have.

1871. *Mr. Walker.*] How do you reconcile those two answers; first, that inferior cottages are the most profitable; and, secondly, that there is a great desire to possess better cottages?—It is according to the tastes of the different classes of people. The ways of men are as various as the roads they take.

1872. *Chairman.*] Is there a great demand for both kinds of cottages?—Yes, there is. I can mention a circumstance. Two young men were at school together, both in our service. One asked me to get him a cottage at 1 s. 6 d.; he then paid 2 s. 6 d.; therefore he fell off 1 s., and the other asked me to go from 2 s. 6 d. to 4 s. 6 d.

1873. With respect to the social character and moral condition of those two classes, do you not think that the one who goes to the improved dwelling with additional conveniences is rather a more respectable character than the other, who goes from the better kind of dwelling to the lower sort of dwelling?—I can explain it, for I asked the young man who went to the better cottage, how he could account for the difference. He said he had become religious, and he attributed all to that. I asked him, how that became his condition, and why it was not the condition of his school companion; he said, his school companion fell into bad company, and attended to trades' unions and meetings at public-houses, while he himself preferred a more religious and better class of company.

1874. *Mr. Ingham.*] Have you any building societies in the neighbourhood?—There are.

1875. Among the working people?—They prevail considerably among the working people, but more fully among the shopkeepers and better class of people; but I do not consider building societies of much service in this country.

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Lunæ, 6^o die Aprilis, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Brotherton.
Mr. Patten.
Mr. Ponsonby.

Mr. Slaney.
Mr. Tufnell.
Mr. Vigors.
Mr. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

Dr. James Williamson, called in; and further Examined.

Dr. J. Williamson.

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1876. *Chairman.*] YOU have been good enough to give the Committee an account of the poorer dwellings at Leeds, and also generally with regard to Bradford, that there appears to be a very considerable want of drainage, cleansing, and ventilation. From your experience as a medical man in those crowded districts, the Committee will be glad of your opinion on any practical points?—It appears to me that it is of primary importance that the streets should be thoroughly paved and provided with under-ground drains, and with such a surface drainage as will facilitate the escape of the foul refuse of the streets into the under-ground drains; that they should universally pervade the town, and that there should be a proper relation preserved between the size of the main drains and of the smaller contributory drains, which empty themselves into them, and that some power should exist which would oblige every proprietor to connect each dwelling-house with the main drain.

1877. Are you aware that at present no such power exists in many districts?—No such power exists in the districts with which I am acquainted.

1878. Not even in the London district?—I believe not; some additional power should be vested in proper authorities, the nature of which it is not for me to point out, by which persons about to erect buildings should give sufficient security not only for the proper drainage of such buildings, but for the width of the streets, and to a certain extent for the interior arrangements of the houses, so as to provide the means of necessary ventilation.

1879. That is to say, that the form of the buildings shall be such as shall not be injurious to the health of the inmates, and of the neighbourhood?—Certainly.

1880. Further than that, you would not go in the interference, probably?—The proprietors of cottage-houses should also be compelled to provide suitable out-offices or privies.

1881. You refer to those conveniences the neglect of which would be injurious to the health of the inhabitants?—Certainly; it would also contribute materially to the prevention of disease and the promotion of the general health if some power were given to competent authorities to enforce whitewashing, and to remove such local sources of contagion and ill-health as may be pointed out to them.

1882. So that if fever was known to prevail in a particular locality, and the neglect of some useful precaution was found to keep up that fever, you would have some competent authority enabled to remove that nuisance, for the sake of the community?—Certainly.

1883. Mr. Tufnell.] You are of opinion that in every street the public should make a main drain, and the proprietors be obliged to make a sewer into that main drain?—By a main drain I not only include the great drains pervading the principal streets belonging to the public, but every drain which traverses an entire street; the construction of such would, in some instances, devolve upon the proprietors of houses to which they were rated; in other cases I conceive it would belong to the commissioners, or to the local authorities of particular towns.

1884. With

1884. With regard to the expense which would be involved, supposing that no street could be formed of houses of an inferior description, without a main drain being brought through the centre, and drains from each house, would not that have the effect of checking enterprise and preventing persons building those houses?—I think the expense would never be such as to prevent legitimate speculation, and it strikes me that some check ought to exist to lessen the effects of the avarice and neglect of many proprietors.

1885. *Chairman.*] At all events, upon whomever the expense was cast, whether upon the proprietors or the public, or in different proportions on each, you think there ought to be such drains communicating with each house as would assist the health of the inhabitants and prevent their being injured by the neglect of cleanliness?—That is my opinion decidedly.

1886. *Mr. Baines.*] And this you think would be beneficial to all classes of society in a town, both to the richer and to the poorer classes?—The richer would participate both directly and indirectly in the advantages, as well as the poorer classes.

1887. The rich perhaps by being relieved from the danger of that contagion which is very often spread, owing to the deficiency of sewerage, and the poor from the comfort they would enjoy, and also the freedom they would experience from those contagious diseases?—Certainly.

1888. *Chairman.*] Do you not think that under proper regulations, either local or general, some system of inspection as to these matters, periodical or otherwise, would be necessary and right in order to take care that if the powers were given, they were properly put in force, for the security of the health of the inhabitants, and more particularly of the working classes?—I have often arrived at the conclusion, and the opinion has been strengthened by more recent observation, that the establishment of local boards of health in all communities of a certain amount of population, invested with certain powers to enforce sanitary rules, to obviate nuisances, and to inquire into the origin and history of epidemic diseases, would be a most important provision for the security of all classes of society; and I should strongly recommend that in any proposed legislation on this subject, powers should be given for the constitution of boards of health, and that to such establishments authority should be given to inspect those parts of such towns as were reported to be unhealthy, to visit the lodging-houses, and to take cognizance of all new causes arising which might prejudicially affect public health.

1889. Do you not think that the altered circumstances of the country, within these few years, and the vast increase of the population, more especially of the working classes, crowded as they are in many towns, calls most strongly for some system of inspection such as you have spoken of?—Most decidedly.

1890. Does not it consist with your information, having been an inhabitant of one of those towns, that, in consequence of a want of that system, the working classes suffer materially from the inconveniences referred to?—I am fully satisfied that they do.

1891. Under the present system, are not a great number of houses speedily run up by small landlords and others, with the purpose of making the largest possible gain, and without any reference to drainage or ventilation, or many of the circumstances most necessary to be considered for the health of the inmates?—Nothing is more common than the construction of large rows of cottages for the occupation of the working classes, on the principle of mere building speculation, and the object of interest on invested capital seems to be the only object which is contemplated by the projectors.

1892. Do you know of cases in which the neglect of the provisions which you have pointed out is notorious?—I know of many such instances.

1893. And where the inmates, in consequence, suffer the evils you refer to?—Certainly.

1894. *Mr. Baines.*] Do not you think that the establishment of boards of health would very much check that pernicious kind of speculation by which persons are huddled together in the unhealthy manner referred to, and by which their health is consequently very much impaired?—I think it would; and I believe that nothing less than the consciousness that parties were building under the eye of a competent and vigilant board of health, and the apprehension that gross evils and defects would by means of that board be brought before the public, would prevent the continuance of the present system, in which the health and comfort of the working classes are so frequently lost sight of.

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1895. Would it not be very easy, in almost all those large towns, to form boards of health of that kind from the medical officers of the town who attend the infirmaries and other public institutions, and from the magistracy and police of the town?—It would; and I should propose that all regularly educated medical men, of a certain standing in such towns, should constitute the members of such boards of health, together with such parochial or municipal authorities as could conveniently be conjoined with them.

1896. From what you have seen of the disposition of municipal authorities and medical gentlemen who interest themselves in the public health, you apprehend that it would not be difficult at all to form such establishments?—I am quite convinced, from what I know of the medical profession, that they would most cordially support the formation of such boards of health, and diligently carry out their views; and the fact of the town council of Leeds having specially appointed a committee, still in existence, and expended several hundred pounds in obtaining information with reference to local nuisances affecting public health, is the strongest evidence of the interest felt by the municipal authorities on the subject of the health of the people.

1897. From your knowledge both of the profession, and of municipal institutions in other places, do you not suppose that what has been done in Leeds would be readily done in other places if there was a legislative sanction, and legislative encouragement given to such proceedings?—I am quite sure that there would be an efficient co-operation in other places if the necessary legislative power were given to secure the several objects of such boards of health.

1898. So that that altered state of society to which the Chairman has alluded, would be met by a corresponding disposition on the part of the authorities of those places, and the medical officers in those places, to put the towns on an improved system corresponding with that altered state of society?—I feel quite confident that it would.

1899. *Chairman.*] A general Act laying down proper regulations, which might be put into force by municipal or other local authorities, is what you contemplate?—Certainly.

1900. In which case general rules would be laid down, no further interfering with property than would be absolutely necessary for the benefit of the community?—Undoubtedly.

1901. *Mr. Tufnell.*] There has been a great deal of speculation lately in house building in Leeds, has there not?—There has been during the last 20 years.

1902. Particularly in houses for the poorer classes?—There has.

1903. Should you say that they were in an improved state, compared with the houses for the poorer classes built some time ago, or worse?—Some of the cottages are built upon decidedly an improved system; but I should not be justified in stating that there was any important improvement in the general style of cottage building.

1904. Are not the streets wider?—The streets are wide, compared with the alleys and courts, and the mode of construction so much adopted some years ago; and probably the width of the streets is not so much a subject of complaint as the absence of paving and sewerage.

1905. You consider the width of the streets to be an essential object with regard to ventilation?—Very important, certainly.

1906. So far there has been an improvement?—There has been an improvement in the width of the streets, but no corresponding improvement in other respects.

1907. Have many alleys and courts been built?—Some of the old alleys and courts have been rebuilt, but not with any increased width; and from the increasing value of land in many of the commercial towns, there is yet too strong an inducement to construct confined courts near the principal streets.

1908. *Chairman.*] In consequence of small spaces of ground becoming of more value in a densely-peopled town, is not there a temptation to build closer, and not to give that space which there would be, supposing it was in the beginning of a town?—Certainly.

1909. So that it seems probable that as towns advance in population, and in the value of the spaces left open, they will take less care as to the mode of construction, unless some authority steps in?—Just so; I understood the question to refer to the old alleys which have been rebuilt; in those instances there has been no attention paid to the greater width of such alleys or courts. The new streets

streets which have been erected, which are not so much in the central or more valuable parts of the town, are wider; but, on the present system, these wider streets will eventually be deteriorated by the construction of confined courts in immediate contiguity with them.

1910. Mr. Tufnell.] You stated on Friday that the houses are in a very neglected state, and that there is no system of inspection; are you prepared to suggest any particular objects to which attention should be directed?—If it would not interfere too much with the liberties of the people, I should strongly recommend that lodging-houses should be under some species of local regulation, a certain class of them licensed, if possible, under the direction or with the permission of the magistracy; that all lodging-houses which afford accommodations at a certain minimum sum per night, should be annually licensed, either by the magistrates or under the direction of the guardians of the poor, and that such houses should be constructed on some plan consistent with the health of the inmates, and licensed to accommodate a certain number of persons only.

1911. Mr. Brotherton.] Would they be public institutions or private?—They would be as much public institutions as taverns or inns.

1912. Mr. Baines.] You mean that you would have an inspection by which care should be taken that persons were not crowded together in such a way as to be dangerous to the public health, as is too much the case in the town of Leeds and many other large towns you are acquainted with?—Certainly.

1913. You have spoken of cottages in the close part of the town, such as the-Boot-and-Shoe Yard in Leeds, and other places of that description, being very much crowded, and crowded in such a way as greatly to endanger the public health, particularly in times when epidemics prevail; has not that arisen in a considerable degree out of the altered state of the town? Formerly, when those buildings were erected, they were only inhabited probably by one family; now there are frequently ten or a dozen families crowded into one house which was originally intended as a dwelling for a single family; is not that the case?—That is the case.

1914. That you believe to be one of the things which ought to be under the superintendence of a board of health, or of some other institution which should guard against the dangers that arise out of that altered state of things in large towns?—Certainly.

1915. You spoke of cottages being now built in a more open situation, and the streets being wider; that is rather arising out of an altered state of population, than from any disposition on the part of the persons who erect those cottages to afford more healthy situations to the inhabitants?—Certainly; most of the lodging-houses with which I am acquainted are in the older parts of the town, and until within the last few years they were occupied, I believe, by single families.

1916. Mr. Tufnell.] The number of lodging-houses has increased?—Certainly the number of lodging-houses has increased.

1917. Have you ever heard the question mooted of the practice of licensing lodging-houses?—I never have.

1918. You would not have a licence refused if the conditions were complied with?—Certainly not.

1919. It would be obligatory on the magistrates to grant the licence?—Yes; I think they should be persons of good character, and there should be sufficient security afforded that the state of their houses would not be hostile to the health of the inmates. It would, probably, be better that the licence should emanate in the first place from some other authority, but that the magistrates should have the power of taking away a licence, sufficient proof having been offered of the unhealthiness of a house, or of the bad character of the keeper.

1920. You would have the regulations refer to whitewashing and cleansing?—I would enforce periodical whitewashing and cleansing, and such might be effected under the direction of a board of health.

1921. Chairman.] Do not you think that perhaps a better way to distinguish those houses than the amount which was paid, would be their being liable to contagion or disease, from the mode in which they were kept, so that the regulation would be general, that lodging-houses in which diseases were known to prevail, or had been found to prevail, should be under such regulations as you have referred to?—I fear that would be too vague an arrangement to be found practically beneficial. Besides, a lodging-house might become unhealthy from some accidental cause.

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1922. Suppose, for instance, a house was found to have been visited by a fever, and that it had continually threatened the breaking out again there, that would be a sufficient ground for the board of health immediately taking steps for its being cleansed, and so on?—Yes, that would be important; but it would be still more effectual if you could place such establishments under those regulations which would prevent the introduction of contagious diseases.

1923. Suppose it to be a private house, in which due sanitary regulations were totally neglected, and fever was found to prevail from time to time, so that the inmates who came in one after another took the fever, would it not be proper that there should be some authority to require that that should be cleansed?—It would be beneficial if such authority existed; but I should be doubtful how far the permission to examine private houses would be generally acceptable. The class of houses to which I have particularly referred as lodging-houses, are those which are used chiefly by the vagrant and more destitute population, who are found in large numbers in the great towns, and by whom many of the most malignant diseases are imported and carried out again.

1924. Such a regulation would be, in your opinion, of great value to the health of the community?—I am quite satisfied that it would.

1925. That would be conducive also to the health of the humbler classes themselves, who are continually going into those places to lodge?—Certainly. It would be beneficial chiefly to the humbler classes, whose lives and health require the protection which such enactments would afford.

1926. Mr. Baines.] And not only in the particular town, but as those vagrants pass from town to town, it would be beneficial in other places as well as in the particular locality to which you refer, as they may be made the medium of carrying the contagion to other places?—Certainly.

1927. Mr. Tufnell.] Have you had an opportunity of observing whether the spread of malignant disorders has been greater in the town of Leeds of late than formerly?—Malignant disorders have within the last few years, I think, increased; for a few years previously there appeared to have been a diminution of malignant diseases; but, of course, such diseases vary periodically, and depend on other causes as well as on those of a local nature; their recurrence is not to be entirely accounted for by causes merely of a local nature.

1928. Do you consider a low diet as one?—Yes; and local nuisances, deficient drainage, or bad ventilation; epidemic diseases are often occasioned by the condition of the atmosphere and occult terrestrial influences.

1929. Taking the last 10 years, would you say that the physical condition of persons of this class was better or worse than it had been previously?—During the last 10 years it strikes me that the physical condition of such classes is somewhat improved; the number of cases of scrofula, and of chronic diseases generally, has diminished.

1930. Mr. Baines.] To what causes do you attribute that improvement?—The improvement which has taken place in the food and in the clothing of the inhabitants of the large towns, has, I have no doubt, partly contributed to such improvement; the practice of vaccination, which, though not general, is extensive, has also contributed in some degree. The diffusion of better information as to the causes of disease, and the formation of habits of temperance and providence, have co-operated to a slight extent.

1931. You think that the food and the clothing of the inhabitants has improved within the last 10 years?—My general impression is that it has, with the exception of the last year or two.

1932. Chairman.] Does that apply itself to all classes, or particularly to the humbler classes?—To all classes. There is one considerable class of operatives in the towns of Yorkshire with which I am acquainted, who have not presented that improvement in their health or circumstances which has been indicated in many other classes of the working people; I allude to the weavers, who furnish a large number of cases to the public medical institutions, and who generally present a very low condition of health.

1933. Mr. Tufnell.] But, upon the whole, notwithstanding the increase in the towns of the population, and neglect with regard to sewerage and drainage, you consider that the state of the health of the population in those towns has improved?—I cannot speak from any statistical data; but my impression is, that the health has improved rather than otherwise; and I think I have seen a decided diminution in chronic, those forms of disease which are principally connected with debility.

1934. Chairman.]

1934. *Chairman.*] Are you aware that the average mortality, taking the kingdom generally, has decreased, and that, with respect to London, there is a considerable decrease?—Certainly, I am. I am afraid there is no diminution in the amount of infantile mortality in the larger towns.

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1935. *Mr. Baines.*] Are there not in the large towns more deaths in children under two years of age than in other parts of the kingdom, as far as you have had an opportunity of comparing them?—I have no doubt that there is a larger proportion of deaths in the large towns of children under two and under five years of age than in the rural districts, and this calculation is confirmed by the comparison of the statistics of several places.

1936. To what do you attribute that circumstance?—Many causes concur in producing that result; amongst others, the facility with which the contagious diseases of children are communicated in great communities; the impure state of the atmosphere in large towns; which seems to be peculiarly detrimental at the first periods of life; the inadequate attention which the children in large towns receive from their parents, and the fact that such children are frequently the offspring of dissipated or destitute parents.

1937. And probably, in part, to the mothers of families being employed more from home than they are in the rural districts?—Certainly; I include that under the statement of the want of sufficient attention of their parents, who are, in many instances, employed in factories.

1938. Suppose there was an establishment such as you have alluded to, a board of health, in the large towns, would not one part of their duty be to keep statistical accounts, by which you would be able, more particularly than you can at present, to mark the progress of health and disease, and thereby to take measures by which anything that was pernicious might be removed, and anything beneficial extended?—I believe that the institution of such boards of health would most effectually conduce to those purposes, and would be the means of ascertaining and accumulating many most important facts with regard to the origin and diffusion of epidemic diseases. In the course of a few years many most interesting facts relative to the influence on health of certain localities, employments, and social circumstances would be established, and many practical inferences of direct application formed.

1939. While infirmaries and fever hospitals are used for the purpose of curing diseases already existing, would not a board of health derive a great part of the advantage that you attribute to it from preventing disease itself?—Certainly, I believe it would have many opportunities of extinguishing the first principles of disease, when introduced into large communities, and save a great amount of wealth and prevent suffering to all classes.

1940. While those institutions to which you have alluded, that is fever hospitals and infirmaries, are attended with considerable expense to the more opulent part of the inhabitants, would not great economy arise from the establishment of boards of health, by preventing in the first instance those diseases ever occurring?—Certainly; and such boards of health would be especially useful in obtaining from the various medical institutions in places with which they were connected, proper registers of the various diseases prevailing at different periods, and in different situations and professions; and the existence of such boards of health would afford the means of sanitary precautions, and thereby much pecuniary saving would accrue both in the prevention and cure of disease.

1941. *Mr. Tufnell.*] Are you aware that in London a regulation exists of sending the pauper children to a school out of town?—I am, and I have had the pleasure of visiting that school at Norwood.

1942. There is no regulation like that prevails in any town that you are acquainted with?—I am sorry to say I know of no similar school.

1943. Would you think that a salutary regulation?—It would be a most beneficial and humane regulation, if it could be adopted in relation to every large town.

1944. Do you see any reason why it should not be adopted in such towns?—I cannot see the least objection, and I believe that there could be no difficulties in the adoption of such a plan in connexion with most large towns.

1945. Either with regard to the conduct of it or the expense?—Certainly.

1946. *Mr. Baines.*] Such an establishment conduces both to health and education?—The effect of such an establishment must be permanently to improve the physical condition of a class of persons remarkable for their stunted growth and feeble stamina, and effectually to instruct their minds.

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1947. And to elevate the character of persons in the humbler walks of life?—Certainly, and to render apparently the most hopeless and unpromising members of society useful and moral persons, to lay the foundation of future happiness and virtue in the sound principles of religion, and to qualify for the duties of life by instructing them in various trades.

1948. You have said, that, supposing boards of health to be established in the large towns, benefit would arise in the various ways you have described; and you have also alluded to the advantages that would arise from the collation of the reports made by the different officers of those boards of health, and the way in which those collated reports would be made conducive to the public health; do you think that would be an advantage of considerable magnitude?—I am quite sure it would be an advantage of the highest importance, not only to the health of great communities, but to the general interests of medical science. The study of the statistics of life is yet in its infancy, and can only be effectually advanced by a systematic examination and record of the causes and modifications of disease in many different situations. I stated that cottages have within certain districts of the town improved; I wish to state the points in which they have improved. Most of the new cottages are cellared; and therefore, when the lower parts of the houses are used not as sleeping-rooms, they are more favourable to the health of the inmates than those cottages which are without cellars, and where the inhabitants sleep on the ground floor. With regard to their being built more slightly than the older class of cottages, I think it is extremely probable that such is the fact; that while the rooms are more spacious, and are provided more frequently with cellars, they are of a less expensive construction in other respects.

1949. *Mr. Tufnell.*] Does that affect the health of the cottages?—Probably it affects the health less than the want of cellarage, coupled with the more limited space.

1950-51. *Mr. Brotherton.*] Do you not think it desirable to discourage the living in cellars?—There can be no doubt that those who live in cellars are more directly exposed to malaria of all kinds; and, if possible, the poor should be prevented, or should be discouraged rather, from living in cellars.

Mr. John Ellison, called in; and further Examined.

Mr. John Ellison.

1952. *Chairman.*] YOU have stated that you are well acquainted with Bradford; what is your opinion with respect to the comparison of the dwellings of the poorer classes now with what they were formerly?—They are much worse than they were formerly. Forty years ago, within my own knowledge, for I am now upwards of 50, cottages were built much more with a view to the comfort of the inmates, and much more with a view to stability than they are now. Plots of building ground which could be bought, 20 years ago, at half-a-crown a yard, are now letting at 7 s. 6 d., 200 per cent. more than the price 20 years ago.

1953. The land has become dearer, and the cottages worse?—Yes. In order to make the cottages pay a good per-centage they are obliged to run them up in a slight way, or they would not pay. They have also built them in situations where they would not have built them 20 years ago, in consequence of the ground increasing so much in value.

1954. *Mr. Brotherton.*] Are the cottages in Bradford worse than the cottages in the other manufacturing towns?—I cannot answer that question; they are much worse than they were 30 or 40 years ago.

1955. *Mr. Baines.*] Do not you think that if there were regulations, such as those adverted to in the evidence of *Dr. Williamson*, by which the sewerage should be better secured than it is at present, and there were those rules for the erection of cottages which he has recommended, that would prevent those bad cottages from being erected, and that in consequence of that, in Bradford, as in other places, you would obtain a better character of cottages?—Yes; I have stated that distinctly in my evidence.

Dr. James Simpson, called in; and Examined.

Dr. J. Simpson.

1956. *Chairman.*] YOU reside at Edinburgh?—I do.

1957. Will you be kind enough to give to this Committee a statement on one point, on which you complain, of a nuisance having been created lately by the use of water from the common sewers, for the purpose of irrigation in the immediate vicinity of that great town; is that the case?—Yes; it has been a very great

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great cause of complaint, both in the community, and of the medical profession of Edinburgh, that such use of the foul water is made, as, in the opinion of medical men, injures the health of the inhabitants.

1958. The medical men are of opinion that it is highly injurious to the health of the town?—Yes; the majority are of that opinion; there is a difference of opinion on the subject, but that is the opinion of the majority.

1959. Is it exceedingly unpleasant?—Yes; there can be no doubt of that; some of the strongest men in the precincts complain of sickness and vertigo being felt when they are subjected to the nuisance.

1960. Is this in the immediate vicinity of the town?—Yes; it is within three miles round the town, east, west, and north.

1961. Is it extending?—Yes; some years ago it was only over a comparatively small part of one or two estates, but now every landlord round the town is taking advantage of it for his own purposes.

1962. It increases the value of the herbage considerably, probably?—It increases the value of land considerably, almost to an incredible degree; there is some land in the vicinity of Edinburgh which was set a few years ago for a very few pounds an acre, now let as high as 30 or 40 pounds a year, and some even above that in small lots.

1963. You state that it is injurious to the health of the inhabitants, and also interferes with their comfort; is there any power at present of preventing its continuance and extension?—None whatever; the case was submitted to some of the best lawyers at the bar in Edinburgh, and they gave it as their opinion that with the present Police Act it was impossible to interfere; that nothing could be done without an Act of Parliament.

1964. Is there a general desire for some legislative authority for the prevention of this nuisance to the inhabitants of Edinburgh?—A very general desire indeed.

1965. In some parts of India rice grounds are prohibited in the vicinity of large towns?—Yes; and it is not only the health, but the comfort of the inhabitants also.

1966. Mr. Tufnell.] Has this been lately introduced?—It has been principally introduced within the last 20 years; it was to some extent before that.

1967. Is it now increasing?—Yes, it is to such an extent that in some localities I have known persons avoid going particular roads to keep out of the way of it.

1968. Chairman.] The authorities of Edinburgh have reported against this, have they not?—Yes.

1969. They are almost unanimous against it as a great evil, are they not?—They are.

1970. Is there any point respecting the subject the Committee are upon, of the regulations for the sanitary condition of the inhabitants of large towns, which you would suggest?—I should say, with regard to Edinburgh, the working classes have to complain chiefly of the changes which have been introduced lately by the irrigation of lands; for example, they have the power at present of going over the King's domains there, the royal palace of Holyrood; but the stench there is so dreadful that they cannot go except on particular days.

1971. Mr. Ponsonby.] Are the same regulations as to the irrigation pursued within the royal domains?—They are.

1972. Under whose direction?—The Earl of Haddington's.

1973. He is the keeper of the royal park?—He is; they have to shut the windows in the vicinity on particular days.

1974. Chairman.] Is there any circumstance respecting the sewerage you would state?—There is one circumstance, the dreadful degree of filth, particularly in the houses where a number of strangers are lodging. I know of one house where a fever has been raging, and in which one of the floors, the inhabitants living in floors, is occupied by no inhabitant, but the inhabitants above and below deposit everything filthy there, so that there is an accumulation of several feet of filth.

1975. Fever has been raging in that house?—Yes, and in the district round; in all the closes round.

1976. Is municipal regulation necessary for the cleansing of those places?—Certainly.

1977. Do you think a good system of inspection would be valuable?—Most assuredly, it would be of immense use.

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1978. Such a system of inspection and regulation, by preventing fevers and other contagious disorders, would be a saving ultimately of expense to the rich inhabitants?—I think it would be; and the Fever Board at Edinburgh press the subject of ventilation, and the cleansing out of the houses of the poorer classes with that view; when fever is complained of, the house is cleared out and whitewashed.

1979. Have you power to do that?—No; in many instances they will refuse to let it be done.

1980. You think a power to carry that arrangement into effect would be important?—Most assuredly. I would state that in the late discussion with regard to this matter, before the Commissioners of Police, the contrariety of opinion was such that they found it difficult to arrive at anything like the truth. I thought the best test of the salubrity or insalubrity of this irrigated land was to ascertain the state of health of the troops at Piershill, the cavalry barracks, near Edinburgh, and the result was, I took Mr. Tullogbis' report of the sickness and mortality in all the cavalry stations for seven years, published lately, and I took the mortality and sickness at Piershill, as I found it in the adjutant-general's office, for seven years; and I found that the admissions of the cavalry soldiers connected with these barracks, as compared with the soldiers in barracks throughout the kingdom, was greater in the proportion of 10 per cent.; I infer that it was from that cause, because I could find no other.

1981. In the thickly-peopled districts of Edinburgh, are there any common sewers open?—Not in the town itself, but immediately in the suburbs; and it is the foul water from those ditches which is sprinkled over the land to irrigate it.

1982. Are the sewers in the immediate vicinity of the town injurious to health from being left open?—Certainly, but not so much the sewers as the fact that the water of the sewers is spread over the land by the system of rose draining; it is taken away, and allowed to ooze through.

1983. It passes along, giving out a most mephitic odour all the way?—Yes.

1984. Mr. Tufnell.] Is this for market gardens?—No, for grass; it is cut two or three times a year. I have one patient who was carried into an adjoining house where it crosses fainting, and who did faint.

1985. Has there been any petition from the inhabitants of Edinburgh against this practice?—I have heard them bring it forward to Mr. Macaulay, their member; but I am not aware of any petition to Parliament. The same practice prevails in other Scotch towns; for instance, round Crieffe; the practice has been imported from Edinburgh.

1986. With the same unpleasant effect?—Yes, and the impossibility of persons taking the air after a certain hour at night; that is out of the question in consequence.

1987. It is principally where there is low land, perhaps?—Yes, and that prevents their getting rid of the water.

1988. Have you heard of any consultation, or reference to the opinion of medical men, with regard to the evils of this practice to the inhabitants of the royal palace?—Lately, about two years ago, the Lord Advocate asked the opinions of the surgeons and physicians of the Queen for Scotland, with reference to the health of Holyrood in consequence of this practice, and they gave it as their opinion that it would not be a fit habitation for Her Majesty on that ground.

1989. Mr. Baines.] Did the matter rest there, or were there any steps taken in consequence of that opinion being given?—There were no steps taken.

1990. That is two years ago?—Yes, it is.

John Riddle Stodhart, Esq. called in; and Examined.

J. R. Stodhart,
Esq.

1991. Chairman.] YOU are Treasurer of the city of Edinburgh?—I am.

1992. The Committee have had narrated to them a great evil to the inhabitants of Edinburgh, arising from the making use of the filthy water from the common sewers, which, it is stated, is used in the immediate vicinity of Edinburgh for irrigation, to the great discomfort of the inhabitants, and the injury of their health; is that the case?—Yes, very greatly to the discomfort of the inhabitants. I am not a medical man, and therefore not able to speak particularly to the prejudice to their health, but it is very prejudicial to one's senses; in taking a walk out of town in the hope of breathing a pure atmosphere,

sphere, we get into a most disgusting stench; the olfactory nerves are affected most unpleasantly.

1993. The medical men consider it as injurious to health, do they not?—Generally, I should say, they agree that it is prejudicial to health.

1994. Is this a practice which has increased much of late years?—Very much.

1995. Does it prevail in the royal domains of Holyrood, as well as in other parts?—Yes.

1996. That is a place to which the inhabitants used to go out for air and exercise?—Yes. It was formerly a park occupied by cows; now it is irrigated in this filthy manner, and grass is grown upon it.

1997. Does that interfere with its former use?—Yes, and with the comfort of the persons in the neighbourhood.

1998. Mr. Baines.] How long has this practice prevailed?—It has prevailed some years; but it has increased ten-fold within the last 10 or 15 years.

1999. Chairman.] You consider that you have no legal remedy at present?—We consider that we have no legal remedy.

2000. Mr. Baines.] Have any efforts been made on the part of the inhabitants to put it down?—There was a great effort made the last time we were before Parliament for the Police Bill, but the Earl of Moray determined to oppose it with all his power and influence in Parliament, and it was supposed it would lead the city into so great an expense, the clause was abandoned, and we have no power to put it down.

2001. In what year was that effort made?—Within these six or seven years.

2002. Mr. Tufnell.] If the nuisance is so great, can you explain why there should be no petition on the subject?—It has attracted a great deal of notice. I do not know that they have petitioned. I presume it is the great expense which they fear they should be involved in by putting it down.

2003. Chairman.] Do you think a great majority of the inhabitants consider it a great nuisance and a great evil?—Certainly; it is a real evil, and generally complained of.

2004. Mr. Baines.] Are there any dwellings built in the neighbourhood of those fields?—There are few or no dwelling-houses built recently in the neighbourhood; there are dwelling-houses standing in the neighbourhood which existed prior to the nuisance being brought to them; they are houses of an inferior description. These irrigated meadows are chiefly in the suburbs; they are at no very considerable distance, I should say within a mile of some of the principal houses in Edinburgh.

2005. None of the owners or occupiers of those houses have taken any steps in order to put an end to the nuisance?—I am not aware, except in a case which was brought into court some years ago, of any effort.

2006. Mr. Tufnell.] From what you state, the nuisance is generally felt by persons walking out of the town more than by the inhabitants of the town?—Yes, the strength of the odour gets dissipated by the time it reaches the town, but it is a very general opinion that in the lower parts of Edinburgh, the south back of the Canongate, the north back of the Canongate, and other parts, the salubrity of the air is very much affected by this exhalation.

Mr. James Peeke, called in; and Examined.

2007. Chairman.] YOU are Surveyor of the Tower Hamlets, division of the Sewers?—Yes, the Commission of Sewers for the Tower Hamlets, excluding St. Katherine's and Blackwall Marsh.

2008. Is Bethnal-green within your district?—Yes.

2009. Are Lamb's Fields within your district?—I do not know them by that name.

2010. Virginia-row?—Yes, that I think is.

2011. The Committee have an account of the state of Virginia-row being very dirty and filthy, and in great want of sewerage; do any of your sewers go up Virginia-row?—I think not; a vast deal of that dirt and filth depends on the scavengers more than the sewers.

2012. It is stated to the Committee, that "in a direct line from Virginia-row to Shoreditch, a mile in extent, all the lanes, courts, and alleys in the neighbourhood pour their contents into the centre of the main street, where they stagnate and putrefy;" is that the case?—I perceive by an inspection of the

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Mr. James Peeke. plan that there is no sewer about Virginia-row; there is none nearer to it than Princes-street.

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2013. It is stated that in some or other of those houses fever is always prevalent; do you know the district so as to be aware whether that is the case?—I cannot speak as to the state of the inhabitants; I know it is very wretched. The whole of this land was excavated for brick-making, and has been reduced to an unnatural level, so that the sewers are hardly available. I believe many of those houses have ditches round their gardens, and flowers, and roots, and stems are thrown into the ditches, where they remain and stagnate; we are working up, and shall be able to get the sewer in some parts five feet lower than it was.

2014. It is stated to the commissioners that in Whitechapel parish, Essex-street, and its numerous courts, as Martin's-court, Moor's-court, Essex-court, Elgar-square, George-yard, and New-court, Crown-court, Wentworth-street, and many parts of that street, there is no sewer passes up?—There is none.

2015. Are the people very much in want of some mode of cleansing in consequence?—It is the filthiest place which can be imagined.

2016. It is thickly inhabited?—Yes, very densely populated.

2017. How is it with respect to Pearl-street and Little Pearl-street?—It happens that one-half of Pearl-street belongs to me. I only know that in those houses which belong to me there is no fever; the sewer comes to Little Pearl-street.

2018. There is none along Great Pearl-street, nor up Little Pearl-street?—No; but there are underground drains.

2019. It is stated to the Committee that in Lamb's-fields there is a receptacle for water, which is stagnant?—Yes, it is an entire morass; it belonged to a person of the name of Green; he excavated it, and made bricks. The Eastern Counties Railway passes through it, and they are now filling it up.

2020. Supposing any rows of houses should be built in this district, what power have you with respect to sewerage; do they apply to you first?—They apply to the commissioners.

2021. When they do apply to the commissioners, do the commissioners take steps upon their application?—It is brought before the court of sewers, and the question is considered.

2022. Who pays the expense, supposing the new sewerage to be adopted?—In a case of that kind, unless it could be shown that a public benefit could be derived, that the sewer could be extended for the good of the public, I suppose the commissioners would refuse it altogether.

2023. Suppose it is thought, upon the whole, that some benefit would be derived to the public, is a portion of it undertaken by the commissioners?—In some cases the proprietors have paid the whole of the expense; in other cases, where the public would receive a benefit, the commissioners have borne a part of the expense.

2024. Have you the power of preventing the making receptacles for filth below the level of your common sewer?—Certainly not.

2024*. Have you the power to compel communications from the houses to your sewers?—Certainly not; there are instances where sewers have been laid down to the extent of 5,000 feet in length, and there have not been 50 applications to communicate, though they have come opposite the house, and the owner might have availed himself of them.

2025. It is a fact that in the case in which the advantage is given by means of a sewer being formed, it is frequently not taken advantage of?—Certainly.

2026. Do not you think some power of that kind would be desirable?—I do not think it could be enforced, on account of the poverty of the neighbourhood; it would be running away with the whole value of the property, in many instances.

2027. Do you think if the sewer went immediately opposite to a man's house, it would be running away with the whole value of the property to oblige him to have a few yards of drain to communicate from that house to the sewer?—I am sure, in many instances, that would be the case.

2028. Do you not think that the want of such provision is very injurious to the health of the inhabitants?—I do not think that sewers have the effect which is attributed to them.

2029. You disagree with the medical men who think that the neglect of this underground drainage is prejudicial to the health of the community?—I cannot see

see how, if they have a good surface drainage, they can be improved by an underground drainage, in nine cases out of ten.

2030. Mr. Patten.] Are not the sewers very beneficial in promoting the cleanliness of the neighbourhood?—I conceive that cleanliness is the great thing; the people are most intolerably filthy; they are the lowest description of Irish, many Germans, and many Jews, and they are, of all the people in the world, the most filthy. Bell-lane, Wentworth-street, was one of the points mentioned; in Bell-lane there is a sewer running to Wentworth-street, the whole length of Bell-lane, that is as filthy as it possibly can be; but there is another running through Frying-pan Alley to Nightingale-lane, and there are sewers passing directly through the centre of the street.

2031. Are there communications from the houses to the sewers?—There are in some cases.

2032. Mr. Brotherton.] Are there sewers passing through the principal streets?—Not invariably so; the commissioners are endeavouring as fast as they can to lay down new sewers in all the great thoroughfares: we call them rather outlets; they are places to afford collateral opportunities for drainage; no benefit can accrue without them to the public.

2033. Have the persons who erect houses near those sewers the privilege of draining their water into the sewers without leave from the commissioners?—Certainly not.

2034. It is necessary to obtain leave before they make the communication?—Undoubtedly.

2035. If they do make the communication without asking leave of the commissioners, they are liable to a penalty?—Yes; I have an order to stop them.

2036. If you conceive that it would require a compulsory Act to induce them to make the communication, upon what grounds do you make it necessary for them to obtain leave from the commissioners before they make the communication, and subject them to a penalty if they make the communication with the sewer without leave of the commissioners?—They have nothing to do but to apply to the commissioners of sewers, which is referred to me, and if there is no objection to it, I write a letter, and upon that they go to the office of sewers and pay 17s. 6d. for the first three feet of sewer; and they do that for this reason, if they were not to resort to that measure the sewers would be destroyed; every one would make a hole into the sewer.

2037. What sum have the parties to pay for making that communication?—There is no expense attending it at all; they do it themselves, of course.

2038. Chairman.] How much does it cost?—That depends upon the length; perhaps 2s. or 3s. a foot.

2039. Mr. Brotherton.] The owners of property have nothing to pay for the privilege of communicating with the main sewer?—No, there is every facility afforded them.

2040. Chairman.] All they pay is for the doing of it?—Certainly; we do not suffer them to put in less than 12 inches diameter; sometimes they put in 15 or 18.

2041. You state that there are several of those districts in which the sewers go up a street where the inhabitants neglect to take advantage of them?—Certainly.

2042. Have there been any instances in which one side of a street that took advantage of them became healthy, and the other side which neglected to take such advantage remained unhealthy?—Certainly not.

2043. You do not think that it is a great advantage for them to communicate with the sewer?—I think an abundance of water and cleanliness is of the utmost consequence; I apply that to the place alluded to, Essex-street, and so on, there there is surface drainage.

2044. When the sewers come near enough, do you not think it of great consequence that they should communicate with them by underground drains?—I think good drainage is advantageous always.

2045. If it is advantageous, you think that the want of it where sewers do not come is a disadvantage?—Yes, in a degree, certainly.

2046. In what way is your rating put on?—It is upon the whole district, but I am not competent to speak to that; I have nothing to do with it; the district is divided into levels, and each level bears its own expenses.

2047. Is it a regular pound rate throughout the whole of each level?—Yes.

2048. The

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2048. The houses situated in the streets in which there are no sewers pay an equal amount of rate with the houses situated in the streets in which there are sewers?—Certainly, there is no distinction.

2049. Mr. Patten.] You rate the owners of the level once in so many years, do you not?—Yes; it does not exceed once in three years, generally.

2050. Is the rate collected immediately it is made?—Yes, immediately.

2051. Do you know how the funds are kept?—I only know that they are kept in a regular and proper manner by an accountant; there are separate accounts for each level.

2052. When that money is expended there is a fresh rate made?—Yes.

2053. The Committee understand that there is a regular increase of sewers in that district?—Yes.

2054. In what manner is that provided for?—When there are applications of parties they are referred to me for my report.

2055. Do the commissioners of sewers originate any of the sewers on their own judgment?—This very plan was filled in by me to suggest where it would be desirable to make fresh lines, and this plan was prepared in consequence, and all these red lines laid down by me, some of which afforded additional drainage, and others the opportunity of abandoning old sewers which ran through private property or were open.

2056. Have you any calculation of the extent of sewerage in the red lines?—I think there was very little short of 25,000 feet laid down.

2057. What time did you allow for the execution of this?—It was in the year 1834 or 1835; we are going on with it; four-fifths of these sewers comprised in my report are finished.

2058. Is the quantity of sewerage done in each year about equal?—No; sometimes more and sometimes less.

2059. Dependent upon what?—In some instances, upon our funds; there are two or three we are proceeding with, because we happen to have more money than we had three years ago; there is a balance in the bank now, in consequence of the rate which has been lately collected.

2060. Mr. Brotherton.] Is the rate payable by the owners of the property or the tenant?—It is an owner's tax; if a tenant-at-will pays, he deducts it from his rent, and that is put upon the receipt.

2061. Mr. Patten.] These 25,000 feet, you say, began in the year 1834, and you say three-fourths of it is done; do you calculate that the rest will be done with proportionate speed?—Yes, there is no doubt of that; and more so, we were four or five months of that time without any commission at all. The last commission expired on the death of William the Fourth; our commission ceased, and it was retained in the Court of Chancery, or somewhere or other, for four or five months, before we got another. During that period there was no authority to carry on works; then it takes a considerable time to get them laid out. We have a jury, which is a very troublesome mode, and very expensive.

2062. Chairman.] You survey those sewers, to see that they are going on properly?—Yes.

2063. You consider it your duty to report, if there is anything stagnant, or anything going wrong, the necessity of its being looked to, do you not?—I should immediately proceed, but not in the case of anything stagnant; if I found any of our sewers obstructed, or there was any stagnant water which was caused by a deficiency in our sewers, I should immediately remedy it.

2064. Do you consider it your duty to alter a sewer, or carry up a sewer, with reference to the health of the inhabitants?—Certainly not.

2065. Any alteration in the form of the sewerage, or any change respecting it, is with reference to property, not with reference to the health of the inhabitants?—Certainly.

2066. Mr. Tufnell.] When a certain line of sewers has been approved by the commissioners, do you lay the rate for carrying them into execution?—No, not for that.

2067. On what principle is the rate laid?—There are certain contingent expenses, and there are sums of money which will be required for carrying works of this description into effect; the commissioners then determine whether it shall be a sixpenny or a ninepenny rate, and those works are carried out progressively.

2068. They

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2068. They do not levy a rate to carry on a whole line of sewers at once?—No, they raise a rate, and apply the money in reconstructing old lines, or in forming new lines, that are most necessary; there the health of the people is taken very much into consideration; for instance, that is the reason why the sewer in Rosemary-lane was put in; it is the most filthy place which can be imagined; that is 1,500 feet in length.

2069. Mr. Patten.] Do you not think that, under an annual rating, when the rate fell very lightly upon the property, a larger system of drainage might be carried on than if it is rated only once in three years?—No, I do not think that would be more beneficial.

2070. Mr. Brotherton.] By levying your rates once in three years, does not a great deal of property escape during two years?—No, for it is collected in the course of 12 months.

2071. Suppose you levy a rate for three years at the present time, and property is being erected at the end of the first year, would that property be rated till the next?—It could not, of course.

2072. Then of course it would be two years and a half before any rate was made upon it?—Yes.

2073. If you made an annual rate, that property would come in in the following year?—Yes, undoubtedly. With regard to open sewers, as far as health goes, in this division of our district there is about 5,000 feet of open sewers in Whitechapel, Mile-end New Town, and so on; and in Hackney, which is one of the most healthy districts, we have more than three miles of open sewers; it is the filth of the inhabitants, more than anything else, which affects their health.

2074. A preceding witness stated, that at the end of all the drains towards the Thames there are valves, but, notwithstanding those valves, the tide on certain occasions comes a considerable distance up the drains?—It never can, unless something like an accident occurs. We have a sluice-keeper; his business is to go and to attend to those valves just before the rise of the tide, and to keep them clear; if anything comes down just before the valves are closed, they may be kept open, but in general they are effectual.

2075. When the tide has got into a sewer, is there any permanent disadvantage?—No; in some parts at Wapping the pavement is five feet below the high-water-mark of the Thames.

2076. Mr. Tufnell.] You, first of all, propose a certain line of sewers to be constructed, the commissioners approve of those, and then it rests with your discretion what part of it shall be done in each year?—No; the commissioners require me to state, when a sewer or sewers are done, which is the next to be carried into effect.

2077. The order of it rests a good deal in your discretion?—Yes.

2078. There is a general balance in the hands of the commissioners to carry those works into effect?—Yes; they cannot do it without money.

2079. Mr. Patten.] Do you not think that a rate collected more gradually would be less objectionable in the districts through which it went?—I think that if it were collected annually, it would be very good; but it must be an equal pound-rate over the whole district; it ought to be like the highway-rate, but I do not think it would be, upon the whole, better; that would lead to its being continually coming forward.

2080. Mr. Tufnell.] You said there has been a great deal of ground excavated?—Yes, in various places; in Hare-street Fields, for instance, seven or eight feet, probably all the natural surfaces removed; all the brick-earth, and all the gravel they could get out, till they got to the springs, then they left it in holes.

2081. In consequence of the excavation, is that ground wet and marshy?—It is nearly all built over now; but the ground cannot be so good, of course, for building on.

2082. Are there any excavations of that nature going on now?—There are some belonging to Mr. Rhodes, at Hackney; he puts in the sewers himself.

2083. The excavating the ground, of course, renders it difficult to form the sewers afterwards?—Yes.

2084. It is therefore a public nuisance?—Certainly.

2085. But there is no power of preventing it?—No, we cannot interfere with the freehold.

Mr. J. Newman.

Mr. John Newman, called in; and Examined.

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2086. *Chairman.*] YOU are surveyor of one of the districts of sewers on the Surrey side of the river?—I am, for the Eastern District.

2087. Is there, in that district, a considerable number of houses of the poorer class?—A great many.

2088. Do your sewers run near to them?—Yes.

2089. Have you any power of obliging the owners of the houses to communicate by underground drains with the sewers, when they are made?—I am not aware of any.

2090. Is there any power to prevent their sinking cesspools and receptacles for filth below the level of the sewers?—No.

2091. Have you a regular pound-rate throughout the whole level?—That I do not know.

2092. Do you know whether they raise the same amount on the several houses within the district?—I have reason to believe they do, but I cannot speak with certainty to that.

2093. Do you know that many of the owners of those houses do neglect to communicate by underground drains with the sewers?—They do.

2094. In consequence of that, is there not a great deal of dirt and wet, and noisome stench, and so forth, in their premises?—Certainly.

2095. Must not that be productive of evil to the inmates of the houses?—Certainly.

2096. Is it not desirable that there should be lodged in some authorities the power to compel the persons owning those houses to communicate by underground drainage with the sewers?—I think that would be very desirable.

2097. That would promote the health of the district?—Unquestionably.

2098. Is it not the fact that the owners of those houses, get what they can for their houses, and do not care about these matters?—So long as they get their rent, they do not care about these matters.

2099. Are you aware whether there has been much fever in your district?—I fear the cholera was extended in the district in which I live in consequence of the filth of the district; I know there were 30 or 40 persons living in houses in the filthiest state.

2100. Are there open sewers passing through the district in which those houses are?—Yes, close to them.

2101. Would it not be for the advantage of the public if those could be covered over?—Yes, certainly.

2102. Mr. Tufnell.] What is the extent of your district?—My own district extends from near London Bridge to near Ravensbourne, near to Deptford, including the parishes of Bermondsey, and Camberwell, and so on; in the parish of Camberwell, about two years ago, we constructed a sewer nearly a mile and a half in length, on the urgent application of the inhabitants, the tenants of the houses; but I have received only one application from all those houses, extending a mile and a half, to make an opening into the sewer.

2103. *Chairman.*] Do you believe that is the only application that has been made?—It is the only application which has been made along the whole mile and a half.

2104. It would be highly desirable, for the health of the district, that there should be a power of compelling those communications being made?—I should say so, certainly.

2105. Mr. Tufnell.] Then the only drainage the other houses have is a surface drainage?—They have a sewerage in the rear; we wanted to do away with that and have a number of openings to the sewer.

2106. Do you think that the indisposition is on the part of the landlords or the tenants?—The tenants are very unwilling; and unless they have very long leases of their property, they seldom do make those applications.

2107. When the new sewer was made, was it contemplated to stop up the open drain behind?—No. There would be vast difficulty in doing that, inasmuch as no persons could interfere with their draining into that open sewerage, without doing injury to the parties.

2108. *Chairman.*] Could not you cover it over?—Yes.

2109. Mr.

2109. Mr. Tufnell.] Who applied to have this sewer made?—The owners of the houses on each side of the road.

2110. Having applied for it, they have not availed themselves of it?—They have not.

2111. Chairman.] You have stated that it would be a very great advantage to them; are there in your district many rows of houses in populous districts in which there is no sewer at all?—Yes, a great many.

2112. And no underground drainage at all?—No.

2113. Have you any doubt that underground drainage is very conducive to the health of the inhabitants?—There can be but one opinion upon that point.

2114. Mr. Tufnell.] When this application was made to have this sewer made up the road, why was not it thought best to cover up the open sewer?—Because we thought that by making a sewer in the road we should be able to accommodate both sides of the road. The old sewers are on a very high level. The new sewers are constructed on a very low level, so as to give them the advantage of draining their basement stories.

2115. Chairman.] The basement stories still remain below the level of the drain which is used?—Yes, they do.

2116. What is the general rent of the houses along the Camberwell-road?—The houses from Bethel's-bridge to Camberwell-green, on the average, 60 *l.* and 70 *l.* a year.

2117. If that is the case with the owners of houses of that size, that they feel an unwillingness, is it not likely that there will be an increased unwillingness on the part of the owners of houses of the poorer classes?—I have generally found from experience that the owners of the houses of the poor are very unwilling to do anything; as long as they get their rent, 2 *s.* or 3 *s.* a week for a cottage of one single room, they care very little about the state of the sewerage.

2118. Do you think that under the present regulations the state of those poorer houses is very much neglected?—Very much, indeed.

2119. To the great injury of the inhabitants?—Yes; we brought up the Camberwell sewer to a certain point in order to drain a pond on Camberwell-green, a stagnant pond; it was placed within reach of the houses adjoining to make a drain from that pond into the sewer, but we have not been able to prevail upon them to do it.

2120. It appears that what is everybody's business is nobody's business, and that this, which was a necessary thing to be done for the health of the neighbourhood, is wholly neglected, because there is no proper authority to compel them to do it?—Yes.

2121. To the injury of the district?—Decidedly; that pond is very injurious to the health of the district, in my opinion. There are one or two points which are rather remarkable: in the parish of Rotherhithe there are no waterworks, and all the water the inhabitants get there is generally from the sewers; into those sewers all sorts of filth are thrown in; we cannot get men of property to come forward to make new sewers in that district; they say, if you sink them deeper we should lose the water, upon which they depend, in consequence of waterworks not being established in that district.

2122. A supply of good water is very much wanted?—Yes, decidedly.

2123. Mr. Tufnell.] Has any other line of sewer, except that at Camberwell, been lately perfected?—Yes, a great many.

2124. Have persons generally not availed themselves of them?—No; there is another sewer which goes through a very populous district; the inhabitants there are very glad to avail themselves of the opportunity of emptying into that sewer.

2125. Chairman.] In this district have you found a willingness to avail themselves of the sewers?—Yes.

2126. Mr. Tufnell.] This sewer must have been constructed at a very great expense?—Yes. Our district is in a very bad soil: there are quicksands, and it becomes very difficult to construct sewers in such a soil; and, therefore, there is more expense incurred in consequence. We are obliged to adopt cast-iron bottoms to construct them at that low depth.

2127. Can you account for the fact, that the inhabitants of this district should have applied for the construction of this sewer, creating a rate upon the dis-

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trict, and then not have availed themselves of it?—Being carried down to so great a depth, it has an effect in draining the district. Immediately that the sewer was constructed, all the wells about were dry; that shows that the surrounding surface was improved by the new sewerage, and perhaps those houses were a little benefited by that.

2128. *Chairman.*] Your observation as to the neglect of the occupiers of houses, and particularly of those let to the poorer classes, to make improvements in the district, extends in a greater or a less degree to the whole of the populous district within your survey?—I think so.

2129. In your opinion, additional powers are necessary?—Decidedly so. I am about to execute a sewer 900 feet in length, surrounding the property of Guy's Hospital; they applied to the Board for leave to arch it over; that was immediately complied with, they paying two-thirds of the expense, the other one-third being paid by the commissioners; inasmuch as we ascertained, from the depth of the sewerage, the neighbourhood would be benefited, it was thought that the commissioners should pay the difference in the expense.

Mr. James Riddall Wood, called in; and Examined.

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2130. *Chairman.*] YOU have been employed by the Statistical Society of Manchester for several years past in the investigation of several populous districts in Lancashire, have you not?—I have, and also in other counties besides.

2131. You were occupied for some time in an inquiry into the state of the education of the humbler classes in Liverpool, were you not?—I was, and the state of education generally.

2132. And also in Manchester?—Yes.

2133. And also at Salford?—Yes, and at Bury and at York.

2134. You have had an opportunity in those several districts of seeing what the state of the dwellings and habitations of the working classes is, have you not?—I have.

2135. With respect to Liverpool, what is the condition of the habitations of the working classes in the poorer parts of Liverpool with regard to drainage, cleansing, and ventilation?—The evidence I have to give with respect to Liverpool will refer to the latter end of 1835, and the commencement of 1836.

2136. Whilst you were conducting that inquiry, did you make a note of the number of inhabited courts and cellars occupied in that borough?—I did.

2137. Do you recollect that the summary of the number of courts in the borough of Liverpool was 2,271?—I recollect that it was about that number.

2138. And that the number of cellars inhabited was 7,493?—Yes.

2139. At that time the estimated population of the borough was 230,000?—It was.

2140. It is stated in that Report, that the number of courts inhabited by two families at least, and of which the far greater proportion have only one outlet to the street, is 1,964?—Yes, that is the fact.

2141. In consequence of their not having more than one outlet, were they close, so that very little air could pass through them?—Very much so.

2142. Was that a state of things injurious to the health of the inhabitants?—Yes. I drew up a report of the physical and moral condition of Liverpool; presented it to the Statistical Society at Manchester; it was communicated in manuscript, but not printed.

2143. In consequence of this, your attention was particularly turned to the subject?—Yes. Several of the courts have 16 houses; some have double that number; and in one with 16 houses, 40 families were resident.

2144. Was that a court with only one outlet?—No, there are two outlets; but the entrance was exceedingly narrow, and with a number of families residing in them, the houses were very lofty and very close.

2145. The statement made as to these cellars is, that they are occupied as permanent dwellings, their inhabitants sleeping in them at night, as well as living by day; is that an accurate account?—It is quite correct.

2146. Was the state of the working classes who inhabited those very poor and miserable, in your opinion?—Yes, from what I saw; and I visited the cellars, and took the dimensions of them in almost every street.

2147. Were they very confined?—Yes, the average dimensions were about 12 feet by 10, of those lying on the north shore, to the north of Dale-street.

2148. Did

2148. Did they want ventilation?—Extremely so; there was no thorough draught; there was scarcely a cellar in that district which had anything like a thorough draught; I had some difficulty in getting down without dirtying my top-coat.

2149. Was the state of the houses injurious to health?—Yes; Mr. Dixon, at the Town-office, urged upon me the necessity of discontinuing my visits on account of the fever which prevailed. To give an idea of the extent of it, the expense for that year of boards for coffins (the coffins being made on the premises by the paupers,) was 441 *l.* 9 *s.* 4 *d.*, merely for boards for one year, and that was not one of the cholera years.

2150. Mr. Tufnell.] Does fever prevail more among those who reside in the cellars than those who live in the upper stories?—Decidedly so; I was about 11 months going through the whole of the town; I took great pains in visiting the habitations.

2151. Generally speaking, there was a family in the cellar, and another in the upper story?—Yes.

2152. Did the fever prevail more in the cellars than in the other rooms of the house?—Certainly; the district in which the fever principally prevailed was that in which the cellars abound; but supposing the inhabitants of the cellars to have the fever, it would frequently extend itself to the upper stories of the house.

2153. Chairman.] Do you recollect that in those cellars in which the fever prevailed at the time to which you refer, there were no less than 31,000 persons living?—Between 31,000 and 32,000 persons was the calculation I made; giving five to a cellar.

2154. Forming two-thirds of the whole working population?—Yes.

2155. Mr. Tufnell.] What was the rent paid for a cellar?—The rent paid was from about 1 *s.* 6 *d.* or 2 *s.* to 3 *s.* 9 *d.*; the 3 *s.* 9 *d.* will be two-room cellars; but the general rent I do not suppose exceeds 2 *s.* a week.

2156. Chairman.] Do you recollect subsequently some doubt being cast upon the accuracy of this account?—Yes, most distinctly.

2157. Did another inquiry take place under the sanction of the head constable of Liverpool?—Yes.

2158. Did it appear, then, upon a closer inspection, that the number was not 7,493, but 7,862, showing a greater number than you had before stated?—Yes; and I was asked to account for that, and I found that we went on a different principle; they counted all the dwellings used as cellars, though they might be at the time of the inquiry not in occupation. I did not reckon those; I merely counted those in actual occupation at the time.

2159. The subsequent inquiry showed that yours was not overstated?—Yes.

2160. With respect to houses built back to back, without ventilation, are there many of those in Liverpool?—There are many, and they are very much increasing. It is a very profitable description of property.

2161. There can be no possible ventilation through the rooms, in consequence of their construction?—Just so.

2162. Is not that construction very injurious to the health of the inhabitants?—It must be so.

2163. Is that increasing?—They were increasing very much at that time.

2164. With respect to the cleansing and drainage in the poorer parts of Liverpool, where the working population live, what is the state of the drains; are there covered drains coming up into those lanes and alleys, or only surface drainage?—Chiefly surface drainage, especially in that portion of the town to which I have been alluding, and where the cellar habitations prevailed; in consequence of that, the smell in the cellars is most offensive, and many persons have stated that they are obliged in the night to quit their cellars, on account of the offensive gas that comes into them.

2165. With open drains, what is the state of cleansing of those small courts and narrow alleys; is the refuse left stagnating, or is it cleared away?—It is left there for a considerable time; and during the fall of the year, it was so offensive, I was generally obliged to carry my handkerchief to my nose as I passed along; I have noticed decayed vegetables, the offal of fish, and other vegetable and animal substances, polluting the atmosphere: it appeared a wonder that there was not even greater sickness than I found. In some of the small streets it was so bad, it was difficult to get along at all.

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2166. Filth and dirt remained accumulated there from time to time, without being removed?—Yes, that was the case.

2167. Did the children in those densely-crowded districts appear to suffer in their decency, cleanliness, and health?—Remarkably so; so much so, that I frequently made notes of that circumstance, the squalid appearance of the children in the schools, and also the absence of a great number of children frequently from the schools, owing to the prevalence of the scarlet fever, (several had been taken with it,) and the prevalence also of measles and whooping-cough.

2168. Mr. Tufnell.] Do you consider those originated or aggravated by the state of the atmosphere?—Decidedly so; and the close state of the rooms in which those schools were kept.

2169. Chairman.] Are there any building regulations in Liverpool, to prevent the houses being constructed in a way injurious to the health of the inhabitants?—I have inquired, and there are no such regulations.

2170. Would such regulations, in your opinion, be very favourable to the health of the working classes?—Decidedly so.

2171. With respect to the privies, and other conveniences belonging to those houses, were they in a neglected state?—In a most disgusting state, in many places; and what I conceive is very injurious in more ways than one, there was perhaps only one to a great number of habitations.

2172. Was the degree of stench from them exceedingly bad?—Very much so, especially in warm weather.

2173. Was there any system of inspection or cleansing of those districts?—No, there appeared nothing of that sort; I suspect they were never cleaned, till they were forced by necessity to attend to it.

2174. Would not some system of inspection in districts of this nature, where the humbler classes live, be extremely advantageous to them in point of health and comfort?—I will read a remark I made to the Committee upon that subject: "If all buildings, both in streets and courts, were subjected to appointed inspectors, who should see that proper arrangements were made for ventilation, and the carrying off foul water, &c. the public, I conceive, would derive immense permanent benefit, although such an interference might be considered by landlords as an invasion of the rights of private property."

2175. Some regulations, in your opinion, appear absolutely necessary with respect to that district?—Decidedly.

2176. Mr. Tufnell.] In the better parts of Liverpool is there a good system of sewerage?—Within the last three years a great improvement has taken place in Liverpool; but I suspect that has been confined more to the great leading thoroughfares and principal streets.

2177. It has not extended to the dwellings of the humbler classes?—Not to the same extent. I have generally taken a turn round, when I have been in Liverpool, to see whether there was a difference, and I think there is an improvement in some of the streets I have mentioned in my report, to which attention appears to have been directed; still they are in a very bad state.

2178. Chairman.] Has there been any alteration in the construction of the houses?—No.

2179. There are a great many courts in Liverpool with only one outlet?—Yes. I have a plan which will show that, which I will lay before the Committee. It is astonishing to see the immense number of courts with only one outlet.

2180. Mr. Tufnell.] When a cellar lets for 2 s. a week, is the rent of the rooms above higher?—The rent of the first floor and the ground floor is higher than the cellar.

2181. Do the parties take those cellars for cheapness, or for warmth?—I think for cheapness; and there is another reason why they wish to have a cellar, particularly in Liverpool: in a cellar they have an opportunity of exposing to the street vegetables and herrings, and so on; they carry on little retail trades, which are exceedingly injurious to the health of the inhabitants. I have gone down into cellars frequently, to take the dimensions of them, and to converse with the people, and many have complained that their health was suffering, but they said, What were they to do.

2182. Chairman.] The Committee understand that you went to inquire into the state of the education of children, and that you found it exceedingly deficient,

deficient, and that the instruction they had was, a great deal of it, very indifferent?—Just so.

2183. In page 10 of your report, it is stated, "That the condition of most of the schools in an extensive and populous district, stretching upwards from the north shore to the Scotland Road, is wretched in the extreme, corresponding, in a remarkable manner, with that of the population." Is that correct?—It is.

2184. It is stated in the note that you were obliged to inspect every street in the town, and that in doing so, you took an opportunity of collecting much valuable information with respect to the general condition of the streets and houses, and of the persons inhabiting them?—That was the fact.

2185. It is stated, "With few exceptions, the dame schools are dark and confined; many are damp and dirty; more than one-half of them are used as dwelling, dormitory, and school-room, accommodating in many cases a family of seven or eight persons; above 40 of them are cellars." Is that an accurate account?—It is.

2186. That must be very injurious to the health of the children?—Certainly.

2187. In another part it is said, "Of the common day-schools in the poorer districts, it is difficult to convey an adequate idea, so close and offensive is the atmosphere in many of them, as to be intolerable to a person entering from the open air, more especially as the hour for quitting school approaches. The dimensions rarely exceed those of the dame schools, while frequently the number of scholars is more than double. Bad as this is, it is much aggravated by filth and offensive odour arising from other causes." Is that an accurate account?—It is quite correct.

2188. Can such a state of things exist without very much injuring the health of the children of the working classes?—Certainly not.

2189. Do you recollect pointing out this to the mistress of a dame school, and her replying, they thrive best in dirt?—Yes.

2190. Mr. Tufnell.] What do they teach in the dame schools?—Reading, sewing, and knitting.

2191. Chairman.] Was it the fact that the masters were generally ignorant of the depressing and unhealthy effects of the atmosphere which surrounded them, and that they did not consider it desirable that their schools should be better ventilated?—Yes; I was very much surprised to find that the case; few masters had sufficient intelligence to see that; and I was frequently obliged to request them to open the window, or to allow it to be opened, and to stand near it, the atmosphere was so close and offensive.

2192. Your report states, "A circumstance which proves the unwholesome condition of many of these schools is, the very rapid spread of infections or epidemic disorders, which occasionally make their appearance in them. The measles, scarlet fever, smallpox, and ophthalmic affections never attack one scholar alone; frequently one-half of the scholars are affected at the same time; and some of the schools have been visited at times when two-thirds of the children usually attending were detained at home by such complaints"?—Yes, I remember an instance in Liverpool of scarlet fever in a school; the mistress told me that above one-half had, within the last 10 days, been taken with scarlet fever, and that then one child was lying ill with scarlet fever. A similar instance occurred in Manchester of measles; it proceeded to a much greater extent; a child was ill in a crib, in the very room in which the school was held, and the mistress was in fact ill in bed at the same time.

2193. Mr. Tufnell.] You are aware, no doubt, that in schools, even of a superior class, unless the children are dispersed, it runs through the school?—Yes, but it appears to me that it acquires greater virulence in the cases of those schools.

2194. Chairman.] The report states, "These cases have invariably occurred in the most unhealthy and ill-ventilated schools, while in schools more favourably circumstanced, it has rarely happened that more than three or four of the scholars have been absent on account of illness at the same time"?—That was the fact; the number of schools in which cases of that kind occurred were confined chiefly to those districts.

2195. Do you remember in those populous districts a school in a garret up
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three pair of dark broken stairs, with 40 children in the compass of 10 feet by 9?—Yes, I remember that.

2196. "On a perch forming a triangle with the corner of the room sat a cock and two hens, under a stump-bed immediately beneath was a dog-kennel, in the occupation of three black terriers, whose barking, added to the noise of the children and the cackling of the fowls, on the approach of a stranger, was almost deafening. There was only one small window, at which sat the master, obstructing three-fourths of the light it was capable of admitting"—I recollect those circumstances perfectly.

2197. Those are schools to which a very large number of children in Liverpool constantly resort?—Yes.

2198. Mr. Tufnell.] What is the sum paid at those schools?—From 2*d.* a week to 6*d.* in the dame schools; with the exception of some for the middling classes, they do not get 6*d.*

2199. Are you aware whether in any towns there is a regulation for sending the pauper children to a school at a distance from the town?—There is.

2200. Are you of opinion that such a regulation might be beneficially introduced into Liverpool?—I am fully convinced of the value of such a regulation, but I conceive it would meet with some strong objections from certain quarters; but undoubtedly I think it might be carried into effect with very great benefit to the town.

2201. *Chairman.*] In page 18 you state that, after having remarked the nature of those schools, "the sufficiency of light and of space and proper ventilation are essential in every school, but few of the masters or mistresses can afford them; and the difficulties they have to contend with in consequence of these defects have a tendency to distract their attention, to exhaust their energies, and depress their spirits to an extent of which they themselves are not at all aware." Is that an accurate observation, in your opinion?—It is perfectly true; the very small sum they charge is not a sufficient remuneration for them; they cannot subsist upon it.

2202. Those were not schools for the children of the paupers, but schools to which the children of the working classes went?—Yes.

2203. In page 40, after stating the many thousands who have thus neglected education, you state, "there are not less than 30,000 children, between the ages of five and 15, receiving no education, either really or nominally." Is that accurate?—It requires qualification; it is rather ambiguous as it is put here; I wished it to be altered at the time. This is only a report which stated how matters were at the time the inquiry was made; but we cannot infer from this that there are 30,000 children in Liverpool who are never receiving, and never have received, any education at all; but this is the inference that a superficial reader would derive from this report, which ought to be somewhat qualified: at the time this inquiry was made there were 30,000 children who did not appear to be attending any school.

2204. Mr. Tufnell.] Are there any burial-grounds in the town?—Of course there are several burial-grounds in the central part of the town, but they are not so much resorted to now as the large burial-grounds are; they are more within the outskirts.

2205. Do you know whether they affect the atmosphere of those poorer districts?—No. I think there is one circumstance which very much affects the atmosphere in those districts in which the cellars are particularly: there is a great deal of broken ground, in which there are pits; the water accumulates in those pits, and of course at the fall of the year there is a good deal of water in them, in which there have been thrown dead dogs and cats, and a great many offensive articles. This water is nevertheless used for culinary purposes. I could not believe this at first. I thought it was only used for washing, but I found that it was used by the poorer inhabitants for culinary purposes.

2206. Was that owing to the want of a supply of water?—Yes. There is a good supply of water for the poor, if they had the means of preserving it. The water is turned on a certain number of hours during the day, four hours, perhaps; the poor go to the tap for it; it is constantly running, and each poor person fetches as much as they have pans to receive; but they are not well supplied with these articles, and in consequence of that they are frequently out of water. It is not sufficient for washing, or anything of that kind.

2207. *Chairman.*] Under the circumstances, it is not an adequate supply?—It is not.

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2208. The consequence is, they resort to this stagnant water as a substitute?—They do.

2209. Have you had an opportunity of investigating the state of the poorer population of Manchester?—I have.

2210. Do you know the sort of dwellings they reside in, as far as regards the form of their residences, and their cellars, and so on?—I had the same opportunities as at Liverpool; but during the time of prosecuting the Manchester inquiry I was in delicate health, and therefore did not go so minutely into it. I visited the cellars, but I did not count the number. My impression is, that they are not nearly so numerous in Manchester as in Liverpool; bad as they are, they are of a superior description, as far as light and ventilation go.

2211. Though, generally speaking, they are in a better condition than those at Liverpool, are there still a great many of those damp and unwholesome cellars in which the poor reside in Manchester?—Yes.

2212. Are there many courts in Manchester?—Not so many as in Liverpool; but there are a great many very narrow streets, cottage property, and with double cottages; consequently, there can be no thorough draft; and this species of property, I conceive, with the simple exception of having an outlet at each end, is quite as injurious to health as the court property.

2213. They are the habitations in which a great proportion of the working classes reside?—Yes.

2214. Are they still going on building in the same form and way?—They are; it is a profitable species of property, very lucrative.

2215. The owners get what rent they can out of the people who live in them, and do not care very much, probably, about the health of the inhabitants?—That is the case.

2216. With regard to cleansing and sewerage, what is the state of that in Manchester?—Decidedly bad; to say worse than Liverpool, would perhaps be going too far, but quite as bad.

2217. Injurious to the health of the inhabitants, in your opinion?—Yes; I had an opportunity of observing that. During the whole time the cholera prevailed I was in the habit of visiting different neighbourhoods, for the purpose of ascertaining their physical condition, and I could predicate pretty well before hand where it would prevail to the greatest extent: Buxton-street, and Pump-street, and all those neighbourhoods. I frequently said if we had the cholera, it would prevail in those districts, and I strongly recommended that some measure should be taken for the cleansing of those streets and the habitations, and I applied at the town offices for that purpose, but I did not succeed in getting anything done. There was a town meeting in the township in which I reside, for the purpose of erecting a cholera hospital, which I attended; that was the only town meeting I did attend. I objected to the proposed plan, and stated that the money would be much better expended in cleansing the streets and the habitations of the working classes, and recommending to them strongly cleanliness as the best means of preventing its spreading in the town.

2218. Did you find great portions of those districts grossly neglected?—Very much so.

2219. Was that neglect of cleansing and drainage, and so on, the great cause of ill health to the working classes there?—The principal cause.

2220. Was filth, piled up in the way you describe in Liverpool, left in a way to taint the air, and be injurious to the health of the inhabitants?—Very much in the same way; one disadvantage Manchester labours under is, that it is on a much lower surface, and the water is more stagnant in consequence; and when I represented the matter at the town offices, I was told that those streets to which I directed attention were not on the town books; that they were private property, and the town could not interfere with them.

2221. They were, however, greatly neglected?—They were.

2222. Did the inhabitants appear to suffer in their health in consequence?—Yes; at two or three periods, I knew of fever having spread remarkably in those districts.

2223. Was the appearance of the children dirty and squalid and depressed, in consequence of those close and neglected dwellings, in your opinion?—In my opinion, it was; of course there were exceptions; sometimes we saw, in the midst of the filth, children as healthy and well as one would wish to see children, but there were many in a state of the greatest wretchedness; whether that

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should be all attributed to the state of the atmosphere, or part to the poverty of the parents, of course I cannot say, but such was the fact.

2224. Do you think, having attended very much to school tuition, and accustomed to see the progress of children, that their living in those dirty, filthy dwellings, with the miserable inconveniences you have referred to, would have an effect in lowering the moral tone of the children, doing away with a great deal of the advantage they would otherwise receive at those schools?—I have expressed it very much in that language in my report; that is my decided opinion.

2225. So that as long as these things are neglected, and this filth remains about, it lessens very much the advantage which would be received from good tuition in the schools?—Very much so; it has not only an injurious effect physically but morally.

2226. Do you recollect having reported with respect to schools to which a very numerous body of scholars in Manchester went, for instance, the dame-schools, "This is the most numerous class of schools, and they are generally in the most deplorable condition"?—That is quite accurate.

2227. Also, you go on to say, "These schools are generally found in very dirty, unwholesome rooms; frequently in close damp cellars, or old dilapidated garrets; in one of these schools 11 children were found in a small room in which one of the children of the mistress was lying in bed ill of the measles"?—I recollect that circumstance well.

2228. "Another child had died in the same room of the same complaint a few days before, and no less than 30 of the usual scholars were then confined at home with the same disease"?—Yes; the woman represented herself as having 40 scholars in ordinary times.

2229. Did these observations apply to a large class of schools, to which a great number of the children of the working classes came?—They did, to the majority.

2230. Would not such a state of things be highly injurious to the health of the children?—Certainly, very injurious; and that point I represented frequently to the Committee.

2231. With respect to any play-grounds being appendant to the schools of the latter class, either in Manchester or Liverpool, were there any play-grounds where they could get the change necessary for young persons?—No, I do not recollect a single instance of a private school for the working classes having a play-ground. I think I can venture to say that neither in Manchester nor Liverpool was there a common day or dame-school, or any school of that class, where there was a play-ground, or anything which could be considered of that character, and the public schools are very deficient in that respect.

2232. With respect to Salford and Bury, how far do the observations you have made, with reference to the buildings, and the want of drainage, and so on, apply to the dwellings of the working classes in these towns also?—I think they were very much the same in both those places.

2233. Those are both towns which have rapidly increased in population and in wealth lately?—They are.

2233*. In those, as well as in other large towns you have spoken of, the situation of the labouring classes appears to have been greatly neglected?—Very much so.

2234. You are aware that there is no law at present to prevent the construction of houses in any form persons choose, and no means of preventing their being constructed so as to be very injurious to health?—It was on that principle that I urged upon the Committee the importance of something being done in the way of inspection.

2235. Do you not think that sanitary provisions would be highly desirable to the health of the lower classes?—I think them highly necessary.

2236. Do you think regulations to enforce cleansing and ventilation are highly desirable to the health of the inhabitants?—I think them highly desirable.

2237. Are you aware there is a great deal of ill health and a great deal of expense thrown upon the richer class in consequence of the neglect of those precautions which might be taken?—I am aware that there is a great expense thrown upon the richer classes, and I have no doubt that the health of many is seriously affected.

2238. Have you any doubt that the state of the poorer classes in those towns in these respects is the cause of a great deal of discontent?—I would not undertake

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dertake to say that that is the cause; but I am quite sure, from the conversations I had with them from house to house, that it aggravates any feeling that they have, however unjustly, conceived, that there is no sympathy with them, and that there is nothing done to increase their comforts; and this frequently they have remarked to me when I spoke about the state of the drains; even so late as last year, in Hull, when I made some inquiries from house to house, they frequently made remarks to that effect; that the habitations of the poor and the comforts of the poor were altogether neglected; that the parties who were commissioners, or who had the power of making alterations and drains, and improving the streets, and so on, had taken care of their own property and their own dwellings, and left the streets in which they resided almost entirely without such conveniences.

2239. You think that is the prevailing opinion among them?—Yes, I think much more than there is ground for; but that it is a very prevalent opinion.

2240. Are you able to speak to the state of Ashton, Staleybridge, and Duckinfield?—Yes.

2241. With relation to all these towns, the population of which is very large, without going to the minutiae, do the same general observations apply to the construction of the dwellings, and the want of ventilation, cleansing, and so on?—Yes, but with this difference, that in Staleybridge and Duckinfield, and also in Ashton and Bury, there are much fewer cellar habitations, and the number of houses in which the rooms are set off to separate tenants is much smaller than in Manchester and Liverpool, and that I conceive owing very much to old large houses having got perhaps in the hands of an owner who does not choose to go to expense, or being in some neighbourhood which has become a low neighbourhood, and he finds he can make more of his old house by letting it off in that way than taking it down and rebuilding it; that is done to a very great extent indeed; and in Liverpool, to my knowledge, there are many instances in which that has been done; one of these old houses, in which there were five families, was blown down, or fell down, in the night, and there were three or four lives lost, and one person was taken to the infirmary; and a few nights afterwards another house fell down, and another life was lost.

2242. With reference to the construction of houses in the towns mentioned, Salford, Bury, Ashton, Staleybridge, and Duckinfield, the want of ventilation and cleansing, in the case of the alleys and narrow lanes where the poorer classes dwell, do the same general observations apply?—They do.

2243. The same neglect of decency and comfort and cleanliness which you have observed in the other districts?—Very similar.

2244. Doubtless producing the same general effect upon their health, and their comfort, and so on?—Yes, I should consider that it had the same effect.

2245. Does the use of ardent spirits prevail greatly among the poorer classes in those districts you have referred to?—It does.

2246. Have you any doubt that in many instances where you found all kinds of dirt and filth, and those evils prevail, they resort to the dram for a short refuge?—Yes; I think it is quite natural that men educated as they have been should do so.

2247. Do you not think that if their dwellings could be made more comfortable, and the decencies and cleansing of those places attended to better, that would have the effect of improving their dispositions, and increasing their desire to be at home?—Anything which tends to elevate their physical condition, and to improve their domestic comfort, must have a good effect upon them.

2248. It would improve the character of their children if they were more comfortable at home, would it not?—I conceive it would have that effect.

2249. Have you found any cases of other disorders which appeared to be made worse by the situation in which those people were?—The smallpox, measles, scarlet fever, hooping-cough, I saw some very remarkable instances of that where they had spread very considerably, aggravated very much by those causes.

2250. Has your observation been attracted, during the time you have been in Liverpool and Manchester, to the state of the sewers and drainage, open pits and stagnant water, immediately round the populous districts referred to?—It has, and I have represented the matter frequently in different quarters.

2251. Are there drains and stagnant places left open in the populous districts immediately round Manchester and Liverpool?—There are. I have represented this to the authorities, but I was told that they were not upon the town books, and that they therefore could not meddle with them.

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2252. Were those open pits and stagnant pools and filthy spots very numerous?—Yes.

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2253. Do you apply that answer to both Manchester and Liverpool?—Yes. With regard to Manchester, I know cases where, in the very front of the houses, there is constantly stagnant water at the fall of the year. I can almost be certain there will be cases of fever in those houses; and from inquiries that I made, there never comes a year but during the months of October and November and December there is fever prevails to a greater or less extent, according to the state of the atmosphere.

2254. Is this a populous district, inhabited chiefly by the working classes?—Yes.

2255. Does the same thing apply to other parts round Manchester?—Yes.

2256. And also to places in the neighbourhood of Liverpool?—Yes, remarkably so.

2257. Have fevers and other complaints been generated, in your opinion, very much by the want of sanitary provisions?—Yes, there is no doubt of that.

Mercurii, 8^o die Aprilis, 1840.

MEMBERS PRESENT.

Mr. Brotherton.
Mr. Cowper.
Mr. Greene.
Mr. R. A. Slaney.

Lord J. Stuart.
Mr. Tufnell.
Mr. Vigors.
Mr. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

Mr. James Riddall Wood, called in; and further Examined.

Mr. J. R. Wood.

2258. *Chairman.*] YOU were employed by the Statistical Society of Birmingham, for the purpose of making inquiry into the state of education in that town, were you not?—I was.

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2259. In what year?—Early in the year 1838.

2260. How long were you occupied in that inquiry?—About two months.

2261. During that time did you make strict inquiry into the state of the schools, and the state of the humbler classes in Birmingham?—As strict as I could, consistently with the time I had to devote to it.

2262-3. Had you an opportunity, during your residence in Birmingham, of frequently visiting the abodes of the humbler classes in various parts of the town?—I had.

2264. Do you recollect the population of Birmingham?—In 1830 the population was 146,986.

2265. Has it been increasing in population most rapidly since that time?—Very rapidly.

2266. Buildings have been extending themselves on all sides?—Yes.

2267. Had you an opportunity of seeing at that time what was the state of the dwellings of the humbler classes at Birmingham?—Yes.

2268. The state of their dwellings is supposed to be a great deal better than that of the poorer classes at Manchester and many Lancashire towns?—Very much better. In the first place, I rarely met with any dwellings at Birmingham in which more than one family resided; each family had a separate dwelling, and they were not let off in flats as they are in Manchester and Liverpool to a very great extent.

2269. The drainage is better, and the general aspect and comfort of the humbler classes appears to be better regarded than it is in the populous Lancashire towns?—Generally speaking, the streets and the drainage in Birmingham are very superior to those in Manchester and other towns in Lancashire.

2270. Will you point out any districts in which that was not the case?—With respect to the construction of the houses that are being built at the present time, or were at the time I was there, I observed particularly that there were a great number of them double houses, as I should call them, and without a thorough air.

2271. Rows of houses built back to back?—Yes.

2272. Those were intended for the dwellings of the working classes?—Yes.

2273. There could not, in consequence of that, be that ventilation which was necessary for the preservation of health?—No.

2274. In

2274. In what district was that?—In the Borderley district, lying out towards Gill Heath, and the streets running into Summer-lane and New Town-row, I observed many dwellings of that description.

2275. Those were new houses?—Yes, chiefly modern-built houses.

2276. Was there the same thing going on in any other district?—I do not recollect buildings to any extent to which that applied, except in that district.

2277. With respect to their being built in alleys or courts without thoroughfares for air, was that the case in many parts?—That was not much the case.

2278. Is that the case generally in the old town?—Yes, in general; as compared with other places, it is much superior.

2279. As respects the drainage and sewerage, how is that?—I made frequent inquiries of the inhabitants of the courts, and found much fewer complaints; that may be partly owing to its situation; it is all on inclined planes; probably the drainage may not be in a much more perfect state than in Manchester; but Manchester lies on a dead level, or nearly so; of course the situation of Birmingham is better.

2280. Do you know whether there is underground, or only surface drainage?—I know there was underground drainage in all the leading streets of the town, and there were soughs, as they are called, lying along the sides of the streets, covered over.

2281. Was there any portion of the suburbs in which there were open sewers where there appeared to be neglect in those respects?—In Borderley and Deritend particularly.

2282. Are those populous districts inhabited by the working classes?—Yes; there appeared to me to be very great neglect in not covering over some very offensive ditches running immediately before the houses.

2283. There were open sewers?—Quite open, and lying immediately in front of the houses.

2284. Would the smell and stench from those in warm weather be very obnoxious?—Certainly.

2285. Did you hear of any fevers in consequence?—I heard a very terrible account of Birmingham in that respect from Dr. Corrie; I stated that if fever prevailed anywhere, it would probably be there; and he said the principal portion of fever cases he had was in that district.

2286. He is a physician, practising in Birmingham?—Yes, he is a physician, and one of the Statistical Society.

2287-8. Did you take notice whether there was attention paid to the privies or cesspools, or whether they were in a neglected state?—My impression was favourable in respect of Birmingham, as compared with other places.

2289. Is the supply of water good in Birmingham?—I think it is very good.

2290. Are there any open places in the immediate vicinity of the town reserved, so that the humbler classes may be enabled to take exercise at periods when they have an opportunity?—I know of no places reserved for that purpose; but there are many places where the working classes have an opportunity of walking at present.

2291. Are they open commons?—No, open roads.

2292. Are there any grounds reserved other than the thoroughfares?—No.

2293. The buildings there, of course, continue extending and enlarging the surface of the town?—Very much so.

2294. Had you an opportunity of investigating the state of the children of the poorer classes of an age to attend schools?—I had.

2295. Can you give the number who do not attend any schools?—I can give the number not attending at the time the inquiry was prosecuted; I have the number; between 5 and 15, there were 23,176 who were not receiving either Sunday-school or day-school instruction at the time the inquiry was prosecuted; but I ought to state that at that period the poor were suffering very much in consequence of the depressed state of trade, and I found schools which had had 20 or 30, with only four or five scholars at that time. I made an inquiry in each school as to the diminution which had taken within the last four months; the total reduction they made to appear was 1,482; but in addition to that, there were some schools that were given up entirely, and those I could not estimate, and therefore they were not introduced into my account.

2296. With reference to the state of the dame schools in Birmingham, that was better than in Liverpool and Manchester, was not it?—Taken as a whole, it was much better.

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2297. Still it was, in your opinion, very defective?—Exceedingly defective.
2298. What was the number of children attending those schools?—There were 267 dame-schools and 3,900 scholars.
2299. What were the ages of those children?—1,026 were under five years of age.
2300. What sort of dwellings and school-rooms were those in which the great body of those children attended?—The general feature of those schools was that they were in confined situations; small rooms, but generally on the ground floor, and not, as in Liverpool and Manchester, frequently in cellars or garrets. I met with an occasional school in a garret, but they were very rare.
2301. Were they close?—They were very close, and that was in the depth of winter. I should imagine it would be much more unpleasant to visit them in the heat of summer.
2302. Were they well ventilated?—No, extremely ill ventilated.
2303. Was the state of them generally such as you would think would be injurious to the health of young children constantly attending them?—I should conceive it would be so in many schools in a very great degree.
2304. With respect to the common day-schools, what number of children were attending them?—At the common day-schools, where reading, writing, and arithmetic were taught, 4,280.
2305. What was the state of the day-schools; were they airy and well ventilated, and well kept, or was the reverse their character?—In a small proportion of them I found they were held in places in which Sunday-schools were held; consequently they were more commodious, the places having been built for Sunday-schools; but the generality of them were in rooms far too small for the number of children generally found in attendance on such schools. The number is generally larger in the common day-schools than in the dame-schools.
2306. Were they in general close and ill ventilated?—In general I should say they were close and ill ventilated.
2307. Is the confinement in such close and ill-ventilated apartments, in a general way, injurious to the health of the children?—Decidedly so.
2308. In that large town were there any play-grounds appendant to the dame or day-schools?—None whatever.
2309. The children had no place in which they might take exercise in the intervals between their lessons without being turned out into the street?—No; in fact it was not the custom to allow an interval either during the morning or the afternoon; it was one point with me always to recommend an interval for about a quarter of an hour, but I found very few instances where it was done.
2310. How long were those children kept in those close rooms on an average?—From nine to half-past 12; those in the dame-schools till 12, and in the afternoon, three hours again; in the dame-schools it was two hours and a half.
2311. Without any interval for amusement or exercise?—Yes.
2312. Did the children in those schools appear tired and dull?—I frequently remarked, after 11 o'clock, that as I entered the school there was a languor both about the masters and the scholars, and it was very difficult for the masters to get them to go on with the ordinary school business quietly; they seemed to be restless; I pointed this out to several intelligent masters, and they admitted that it was true; that they felt a disinclination to struggle with the children after a certain period; and I explained to them, that in coming into the school I felt such an oppression of the chest, it was some time before my lungs were accommodated to the atmosphere of the room from the closeness of it.
2313. Have you any doubt that such a close atmosphere must have been injurious to the health of the children?—I know it is injurious; I have seen many instances of it.
2314. Mr. Greene.] You stated that you found a difference between Birmingham and Manchester; that in Birmingham the inhabitants were principally living in separate houses, and in Liverpool and Manchester they were living several families in one house; was there anything connected with the nature of the population, or the habits of the people, which led you to account for that difference?—I account for the absence of such a mode of living in Birmingham from the circumstance of their having very few Irish among them.
2315. Chairman.] Is not the trade in the town of Birmingham of a different character also?—Yes.
2316. Do not many of the workpeople carry on their trades in their own houses?—Yes.
2317. That is not the case at Manchester?—No.

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2318. So that they earn their bread, as well as live in their houses, in many instances?—Yes.

2319. Is it the case that in Manchester a very considerable number of the working classes live in houses which they have to themselves, or do a considerable proportion of them live in houses having separate flats?—Of course the majority reside in separate houses; but at the same time there is a very large number, in the densely-populated districts in the neighbourhood of Ashley-street, Silver-lane, and Buxton-street, residing in houses with separate rooms, in the same house.

2320. *Chairman.*] Have you had an opportunity of seeing the state of the town of Hull?—I have.

2321. Were you engaged in an investigation into the state of education in that district?—Not particularly into the state of education; but an investigation into the physical and moral condition of the inhabitants of the town.

2322. What is the state of the habitations of the working classes at Hull; is it not much better than in many of the Lancashire towns?—Yes, the general condition was much better than in most of the Lancashire towns.

2323. What is the population of Hull?—In round numbers, 38,000; that is the borough of Hull; the whole population is, I think, rather better than 60,000.

2324. It is the fourth port in the kingdom, is it not?—It is. In what is called the North Myton district a very large portion of the poorer population reside; and some of the streets, a considerable number of them, are not in a much better condition than those of Liverpool; not quite so bad; and there are no cellar habitations; but there are courts, and courts of a very peculiar construction, a court within a court, and then another court within that.

2325. There are no thoroughfares?—Merely a covered entrance; and filth or dirty water is thrown out; there is a gutter in the middle of the court, communicating with the street; and thus it runs down to the common drains; the leading streets are sewered.

2326. Those courts are not sewered?—No.

2327. Are there no covered drains?—No.

2328. The wet and other matters remain on the surface?—Yes.

2329. Is this unfavourable to the health of the inhabitants?—Yes.

2330. Were those courts within courts inhabited by the poorer classes?—Yes.

2331. Are there any thoroughfares?—There is a thoroughfare through most of them; in some there is no thoroughfare.

2332. Is there any means by which the air can pass through?—There is no means by which the air can circulate in those districts; it is very oppressive to breathe, particularly in the afternoon and in warm weather. I would mention what is called the North Ward and St. Mary's Ward, and also the other two central wards, and the Humber Ward; in all those there are districts very similar to those I have been describing, abounding with courts, which are close to the river; in fact, within the island formed by the Humber, the Hull, and the docks.

2333. Is that a very low, damp district?—Yes.

2334. A district therefore in which air and wind would be particularly necessary?—Very much so.

2335. On the contrary, there is none?—No; the houses are very lofty, three stories high, generally speaking, in that district; and in most of the courts I could almost reach across; they are very narrow from front to front, not more than from 7 to 12 feet wide on the average.

2336. No attention appears to have been paid to the health of the inhabitants?—None whatever; they have been originally houses occupied by a superior class, but in process of time they have been converted into tenements; each house is let off separately, on the principle that they are frequently in Manchester and Liverpool; I found, I think, on the average, in some of the courts, 12 and 14 families resident.

2337. Was there much fever and illness in those districts?—There was to a great extent in that district, at the time I visited it, a considerable degree of fever, but it was at a season of the year when fever does prevail; it was not nearly so severe as I have seen it in Liverpool and Manchester.

2338. You are now referring to the old parts of Hull?—Yes.

2339. With reference to the new parts of Hull, are the houses built back to back?—There are very few; in some instances they are now in progress, in point of fact, or were half a year ago, and it seems to me to be a novel description of buildings.

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2340. This bad system of building the houses back to back appears to have travelled across the island, and is now making progress in Hull?—It appeared to me to be so.

2341. You know the evils which arise in Liverpool from that construction?—Yes, and Manchester too.

2342. Wherever that occurs it must always be unfavourable to the health of the inhabitants?—Yes, and I have been in the habit of seeing it for 15 years.

2343. Are they in the habit of building the courts in Hull so narrow as in other places?—Not to the same extent; there seems to be plenty of ground; ground is not so valuable at present, consequently the tenants have a great deal more comfort in the houses than they have in other large places I have visited.

2344. Is there any other part of Hull in which attention does not appear to be paid to drainage or sewerage?—In some parts of the suburbs, near where the manufactories are, there are several open sewers; I did not investigate the houses there, I merely went round; I had not time to visit every house, and I had no instructions to that effect, but I went there for the purpose of obtaining a general view; many drains were open, and it was very offensive.

2345. Were those in the immediate vicinity of houses inhabited by the working classes?—Yes.

2346. Did that neglect of covering them over appear to be noxious?—It could not be otherwise.

2347. Did you look to the state of the schools for the lower classes?—I went into them, and I found them very much on a par in their physical condition with the schools I have so frequently described in the cases of Manchester and Liverpool.

2348. Were the day and the dame-schools of the same description as you have found in other places?—Yes.

2349. Were there any play-grounds where the children might be able to take exercise in the intervals of school?—No; there were no play-grounds at all.

2350. They have no convenience of that sort, except being turned into the streets?—No, none at all. The lodging-houses I had an opportunity of visiting, and taking down the number of the inhabitants, and ascertaining the character of the parties; there are an immense number of persons residing in them, as many as 50 in a house; from 30 to 50; and in one room I have seen three beds, in which a man, his wife, and daughter, a grown-up young woman, slept in one bed, and two married couples in the other beds, one having a child; and I have seen many instances where persons of both sexes were sleeping in the same room in different beds. I ascertained the habits of the persons coming there; they are generally of a very questionable character the persons coming to those lodgings; and the proprietors of the lodging-houses are not very willing to afford information, but by dint of a little application, I obtained a good deal of information respecting them; most of them were persons of bad character.

2351. Were the houses in a neglected state as to ventilation and cleanliness?—Many of them exceedingly offensive and unfavourable to health; I found one house in the central ward, in which there were three cases of fever at the time I visited it.

2352. Those houses are resorted to by persons of a shifting or migratory character?—Yes.

2353. So that if they take any disorder it is apt to spread?—Yes.

2354. Is there any precaution taken, or other sanitary regulations with regard to those lodging-houses?—No, not at all.

2355. That is entirely neglected?—Yes.

2356. Does not some system of regulation of that kind appear to be desirable for the sake of the health of the community?—I think they should be subjected to some sort of inspection.

2357. Were the rooms close, and had they noxious vapours in them when you went in?—Frequently they were very unwholesome; I was obliged frequently to go out.

2358. Were there many of those houses in Hull?—I should say there were nearly 100 of the worst description; I am alluding to those which I consider highly injurious to the physical and moral welfare of the people.

2359. Lord J. Stuart.] Are they without any regular system as to the removal of filth by the scavengers?—Quite so; in those courts they are precisely in the same state as they are in Liverpool, with the exception that the people seem themselves to be a little more anxious after cleanliness.

2360. Chairman.]

2360. *Chairman.*] There are no cellar habitations?—No.

2361. They could not have cellars without being below the level of the water, could they?—No, I should think not.

2362. *Mr. Vigors.*] There are very few Irish in Hull?—The number of Irish is very small there.

William Henry Duncan, M.D. called in; and Examined.

2363. *Chairman.*] YOU are a physician, living at Liverpool?—I am.

2364. Have you been residing there for some time?—I am a native of Liverpool.

2365. You are well acquainted with the town, and have been for many years past?—Yes; I have been physician to the dispensaries for 10 years; in fact, ever since I have been in practice.

2366. You are generally acquainted with the state of the dwellings of the working classes, and their general state, in the town of Liverpool and the suburbs?—I have been in the constant habit of visiting the patients of the dispensaries in all districts of the town.

2367. What is the population at present?—By the census of 1831 the population of the parliamentary borough was about 205,000; now I suppose it will be 250,000, estimating the increase not to have gone on in the same ratio as formerly; it had increased 40 per cent. during the former 10 years, but I should think not more than 25 per cent. since that; the increase had been so very great before, that it has not increased in the same ratio since.

2368. A very great increase has taken place in the buildings, in various directions?—Yes, very great.

2369. Are you acquainted with the account published by the Statistical Society of Manchester of some particulars regarding the situation of the working classes in Liverpool?—I only know what is stated in the report on the subject of education in Liverpool; it is confined very much to the state of education.

2370. A statement was made of the number of cellars occupied as permanent dwellings, both by day and night, in the parish of Liverpool, and the remaining portions of the borough, which turned out to be 7,493?—Yes; and I have made an estimate of inhabited cellars at the present time; I think 8,000 will not be at all an over-estimate; an accurate account was obtained of the number of inhabited cellars two years and a half ago by means of the police, and it was at that time between 7,800 and 7,900.

2371. There have been two accounts, the one stated by the Statistical Society, of 7,493, which was in the year 1835; then that was examined and tested by the local authorities at Liverpool, and the amount signed by Mr. Whitty, the head constable, in which it was found that the number was 7,862?—Yes.

2372. Have any been built since?—Yes, a good number; I have allowed only 140 for the two years and a half, so that it is rather under than over the mark.

2373. It is stated that a great portion of the inhabited cellars are dark, damp, confined, ill-ventilated, and dirty; have you any doubt of the accuracy of that account?—None whatever; it is quite correct.

2374. It is stated also, that taking the working population at two-thirds, the whole of the persons living in cellars amount to one-fifth of the whole number?—It is rather over than under one-fifth of the working population; I have data on which I have estimated the number of the working population at 175,000 out of 250,000; I calculate that out of that number 38,000 live in cellars; that is allowing rather less than five inhabitants, four-and-three-quarters, in each cellar, for which I have also statistical data.

2375. You have no doubt of the correctness of that calculation?—No.

2376. You refer to the cellars before described?—Yes. Mr. Whitty, the head constable, mentioned to me, two days ago, that he had no doubt five was a proper estimate.

2377. *Mr. Cowper.*] Do those cellars contain more than one family?—Yes; frequently two or three, or more, families.

2378. Have you prepared an account of those separately inhabited by more than one family?—I have not, but I have a statement of the average number.

2379. *Chairman.*] According to Mr. Whitty's estimate, there would be 40,000 out of the population of Liverpool residing in cellars?—Yes; but I think he has rather over-estimated it; I think there are about one family and a half on an average inhabiting each cellar in the worst districts of the town; rather under that, taking the average of several hundred cellars which were examined.

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M.D.

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2380. That report also states that there are in the borough of Liverpool 2,271 close courts, and that no court was counted in which at least two families did not reside, and above one-third of the whole number contained six or more families, and it is added that few of the courts have more than one outlet?—That is quite correct; six years ago I counted the number of courts printed in the Directory of Liverpool; at that time there were considerably upwards of 2,000; I estimate that now there are 2,400.

2381. Courts of the description referred to, with only one outlet?—Yes, generally speaking; there are some which have two outlets, but the great majority, particularly of the old courts, have only one communication with the street through a narrow archway of three feet wide, the upper part of which is generally built up; the width between the two rows of houses varies from perhaps nine to 15 feet; I have a diagram here to explain the structure of the courts.

2382. It is unnecessary to ask you much of the construction of the courts; is that extremely injurious to health?—There can be no doubt of it; it prevents proper ventilation.

Vide Plan.

[The Witness produced a Diagram, showing the nature of the Courts.]

2383. Not only is the end of the court built up, but the end which is open is considerably narrower than the court itself?—Generally speaking, in the great majority of courts; very few have an entrance wider than four feet, and that is usually by an archway covered over; the houses in front of the street are generally built over it.

2384. The width of the courts is, you say, from nine to 15 feet between the rows?—Yes; there are many only six feet.

2385. The construction would appear almost as if it was contrived for the purpose of preventing ventilation?—Yes; further on (in the diagram) there is another court; the backs of the houses in this court are built against the backs of the houses in the other court.

2386. There are courts in which not only there is this construction followed, but the houses in rows, forming the court, are back to back with the houses forming other courts?—Yes, that is the case in the majority of instances.

2387. So that no ventilation can pass through the court?—No; and at the further end there is generally a privy, or two privies, with an ash-pit between the two privies, and those are generally in a very bad state; there are frequently no covers to the ash-pit, and no doors to the privies; they are in the most abominable state of filth.

2388. Mr. Cowper.] Are those the only conveniences in the whole court?—Yes; and in some instances not only to the whole court, but to the whole street, for the inhabitants of the whole street frequently make use of those privies, having none of their own.

2389. Chairman.] Is it generally the case that the outlet to those courts is only a passage under a house?—In most of the older courts that is the case.

2390. So that that one outlet admits very little air to the court?—Yes; but in many of the courts more recently built the entrance is wider and not built over.

2391. It is unnecessary to ask you whether a construction could be contrived more likely to be prejudicial to the health of the inhabitants of those courts?—It is scarcely possible to conceive of any, considering the population of those courts.

2392. What is the average population of those courts?—I think the average is between six and seven inhabitants to each house, and calculating the number of houses in each court at six, that would make about 36 or rather more in each court; so that on that estimate there will be 86,400 of the inhabitants of Liverpool living in those courts.

2393. Are those chiefly of the working classes?—Entirely; except, perhaps, that a few of the better kind of courts in Liverpool may be inhabited by shopmen and small shopkeepers, and persons of that class.

2394. In addition to the 38,000 and upwards living in underground cellars, there are 86,000 of the working classes living in those close courts in Liverpool?—Yes.

2395. Lord James Stuart.] Is there any communication by drains to the common sewer?—None; I do not know of any court in which there is an underground drain; I frequently made the inquiry, from having been led to notice the state of filth in which most of the courts were; in fact, in the main streets, in the greater number of those inhabited by the working classes, there are no sewers.

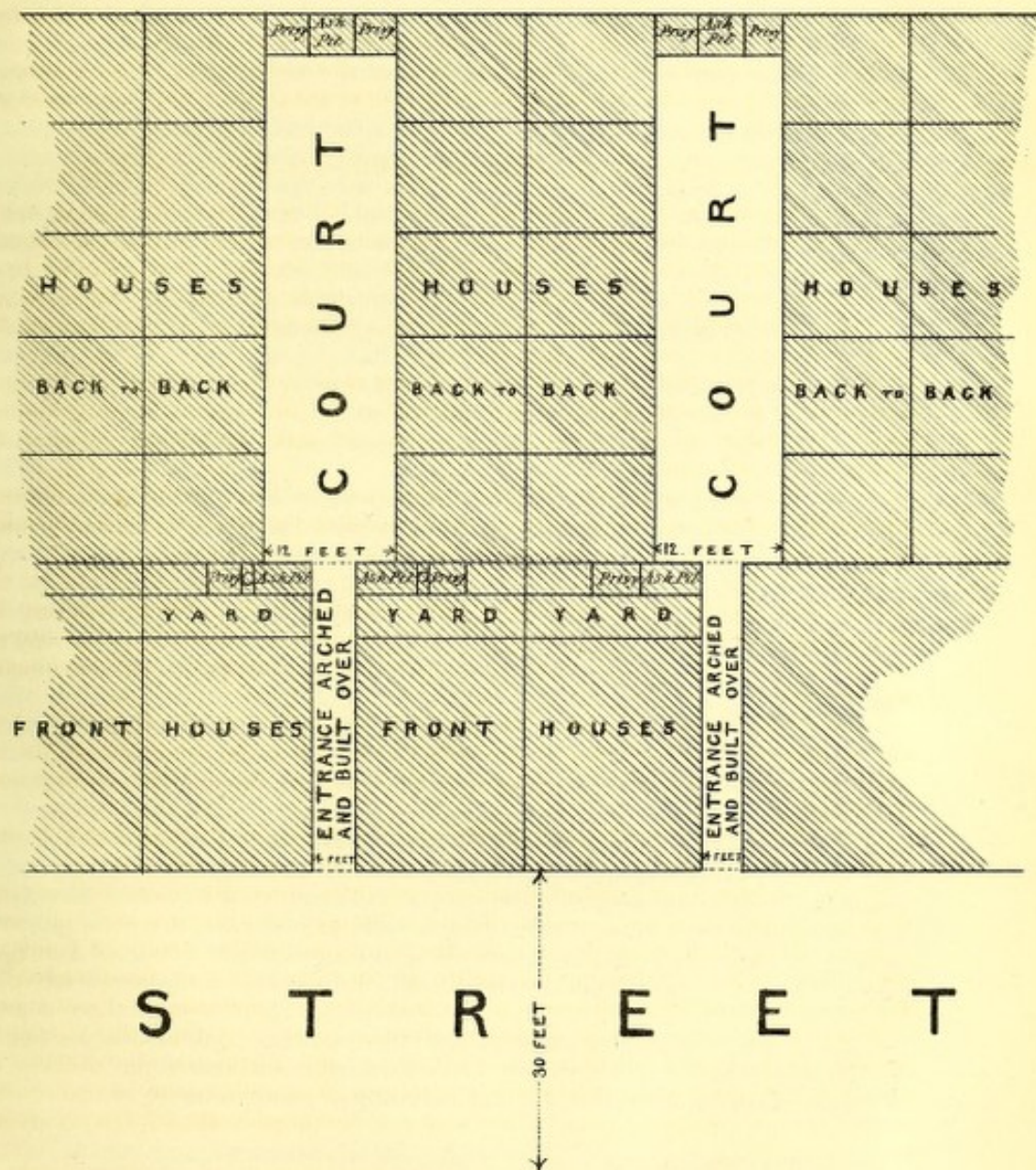
2396. Chairman.] Are the Committee to understand that there are neither sewers nor underground drains in those courts?—None whatever.

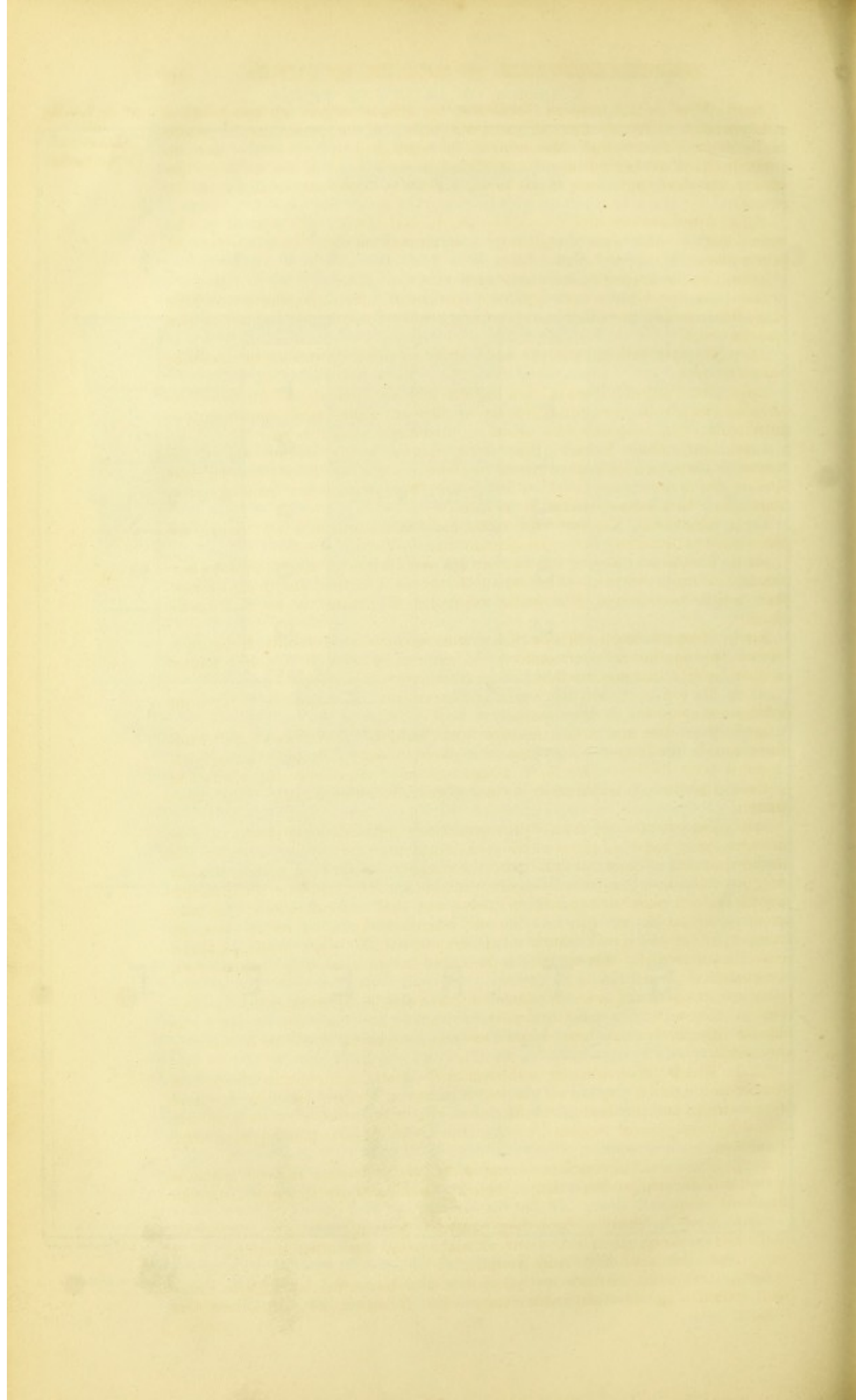
2397. What

EVIDENCE ON HEALTH OF TOWNS

In Dr Duncan's Evidence.

B A C K S O F H O U S E S





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2397. What is the state of cleanliness, or filth, or neglect in those courts in consequence?—They are generally extremely filthy; all the refuse from the houses in the courts is thrown into the ash-pit in the upper part of the court, or into the court itself, or carried out into the street and allowed to lie in the middle of the street; the scavengers come once a week, I believe, to remove the filth from the streets.

2398. Are those bye-streets?—They are marked out in the plan as 30 feet wide; that is wider than the average; the average of the streets in which the poorer classes live is only about 25 feet.

2399. Do the scavengers come only once a week?—Yes.

2400. Do they clear out the filth from the courts?—No; the courts are entirely neglected; in fact, the ash-pits are frequently suffered to overflow and to run over into the court.

2401. In what state are the privies?—Many of them in such a state that they cannot be used.

2402. Mr. Cowper.] Does it often happen that the houses contain more than six inhabitants?—In one court 45 feet by 10 there are eight houses, containing 118 inhabitants; that is an average of about 15 inhabitants to each house.

2403. Lord James Stuart.] How many human beings occupy any of the rooms?—There are only three rooms in those houses, and I have known four families live in one room, about 10 feet square; that is not a very frequent occurrence; in cellars frequently that is the case.

2404. Chairman.] The dirt and ashes and refuse are laid in the streets, and there suffered to putrefy for a considerable time?—Yes.

2405. It is unnecessary to ask whether the smell is not extremely noxious, particularly in warm weather?—In some of the courts it is such, that though I have been used to those things, it is almost impossible to remain for any time in the courts.

2406. Have you any doubt that this is most noxious to the health of the inhabitants, and injurious to their comfort?—There can be no doubt that it is noxious to their health; that appears from the great mortality of Liverpool.

2407. Do you know whether fevers have prevailed in Liverpool?—Yes; fever is the great complaint of these people.

2408. Does that arise in any measure from the want of ventilation and cleanliness in their dwellings?—There can be no doubt of that; I found fever most prevalent in those districts where there is most neglect of cleanliness and ventilation.

2409. Does fever prevail much in those districts in consequence?—Very much indeed.

2410. Can you give any facts with respect to any particular localities where fever has been for a length of time, or where it frequently prevails?—I can state the average number of cases of fever attended annually by the dispensaries, and the proportion of those occurring in courts; the average annual number attended during the last five years was upwards of 5,000, and that was exclusive of the cases occurring among the members of clubs and friendly societies, of which there are many in Liverpool; that is about one in thirty-five of the whole working population; the proportion of that number in the courts was about two-fifths, and between one-quarter and one-third in the cellars.

2411. Are there any cases in which families reside in cellars in courts?—Yes; some of the courts have inhabited cellars and others have not, but frequently the families live in cellars in those courts; but the proportion of cellars in courts is very small.

2412. There is no ventilation in the cellars?—No; very frequently there is no window to the cellar, the top of the door in many instances is not above the level of the street, and the descent to the cellar is by very narrow steps, only so wide as to admit one person; so that there is neither light nor air; and in general there is no floor.

2413. There is no thoroughfare for air at the back?—None; in some instances the cellar is divided into two; that is, there is a back room, perfectly dark, in which the family sleep.

2414. Lord J. Stuart.] Have they, generally speaking, a supply of water?—Generally speaking, there is a supply of water; but they often complain of its being insufficient, and of its being irregular.

2415. Chairman.] Is there any calculation as to the average mortality in Liverpool, referable to those particular causes?—No, I believe not; but I have facts

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pointing out the noxious effects of the cellars on the inhabitants with regard to fevers. The proportion of cases of fever occurring among the inhabitants of cellars is about 35 per cent. more than it ought to be, calculating the proportion of the inhabitants of the cellars to the whole working population; that shows that the inhabitants of the cellars are much more liable to be affected with fever than the inhabitants of other dwellings.

2416. The inhabitants of the cellars are more frequently attacked with fever, in consequence of their dwelling in those unhealthy abodes?—Yes, in those damp and unhealthy situations. I may mention, in respect to the dirt accumulating in those places, in one cellar where a family resided, I was told the other day, by an agent of the town mission, that they had collected about three cart-loads of manure out of the streets and courts, and kept it in this cellar where they lived.

2417. Is there any system of inspection, by any recognized authority, of nuisances in those closely-peopled courts, for the purpose of removing them?—None whatever; no inspection of any kind.

2418. Is there any system of inspection with regard to drainage, sewerage, or the carrying away of the refuse water from those habitations of the poorer classes?—None; they are at present making sewers in the streets in Liverpool; about 100,000 *l.* have been expended within the last 10 years in main sewers; but it is still very imperfectly sewered; and after this year they will have no power to raise a further sum upon the town.

2419. Mr. Cowper.] Is the rate levied on the whole borough?—On the whole parish, which is somewhere about four-fifths of the Parliamentary borough.

2420. Chairman.] That does not extend itself to the suburbs?—It does not; it is confined to the parish. There have been about 10,000 *l.* raised each year the last 10 years; but the local Act expires this year.

2421. Lord J. Stuart.] What is the population of the parish?—I suppose it is about 190,000, the total being 250,000.

2422. Chairman.] Do you know whether in the local Act there is any power to oblige houses to communicate by underground drains with the sewer?—None whatever, and I believe the inhabitants are not allowed to do so without applying to the Commissioners.

2423. Is there any power to prevent cesspools or other receptacles for wet and filth being sunk below the level of the sewers?—I am not aware that there is; the sewers are not intended for carrying off the refuse of the privies and cesspools, but merely the surface water from the street.

2424. In general, in London, the sewers are intended to carry off the water from the sinks, and so on?—Yes; frequently that flows out into the streets and is carried off; and there is sometimes a narrow channel on the surface of the ground which allows the water to run from the courts into the streets; but very frequently that is choked up with refuse and dirt and filth, so much so, that it is difficult to get into the court.

2425. Lord J. Stuart.] You have stated that the scavengers never go into the courts?—No; they are considered as private property.

2426. How long do they remain in that state of filth without being cleared out?—I should suppose sometimes they remain for a year without being cleared out, from the state in which they are.

2427. Chairman.] Can you state the mortality of Liverpool?—Last year it was 1 in 33 $\frac{1}{2}$.

2428. Can you state the proportion in the previous years?—I am afraid I cannot state it correctly until the time of the Registration Act. In 1811, according to the account furnished by the parish clerks, it was 1 in 31; in 1821, it was 1 in 32; in 1831, it was 1 in 32. The Registration Act came into force in the middle of 1837; in the last half of 1837, it was 1 in 28; in 1838, it was 1 in 37; in 1839, 1 in 33 $\frac{1}{2}$.

2429. Can you state what it was in the year of the cholera?—I am not able to state that; but it was not so great as in the last half of 1837.

2430. Did the cholera prevail much in Liverpool?—There were 6,000 or 7,000 cases.

2431. Did it prevail in those districts you have referred to?—Yes, a large proportion of those cases occurred in cellars.

2432. In the midst of the neglected population you have stated?—Yes.

2433. Have you any doubt that measles, small-pox, scarlet fever, and other disorders of that nature are very much aggravated in their effects by the miserable state

state of the dwellings of this great body of the population you have described?—I have no doubt whatever that any disease occurring among individuals in situations of that kind must put on a more virulent form than in other districts.

2434. Have scarlet fever and small-pox been prevalent of late?—They have been very prevalent of late among the poor.

2435. You have stated the general condition of those courts and cellars; with respect to the spreading suburbs of Liverpool, in which the working classes reside, are there many houses constructed back to back, without any ventilation through them, in the way you describe many of the courts in the town are?—I am not aware of any streets of that kind without some interval between them.

2436. Are there many courts building?—Yes, a good many, particularly in Toxteth Park, a district containing about 30,000 inhabitants.

2437. Are those of the same kind as you have described?—Yes.

2438. Is there any Building Act in Liverpool?—Yes, but merely to direct the building of party-walls, and so on.

2439. There is no Act providing for the ventilation, and so on?—No; there was one attempted in 1802, but it failed, in consequence of the opposition of the builders, and other interested parties.

2440. Do the owners of those small dwellings derive from them a very considerable rent?—The cottage owners, as they are termed, are generally considered a very wealthy class of individuals; I think the average rent of houses in courts is about 3s. a week.

2441. Are they generally taken by the week?—Yes, almost always; in the front houses in streets, the rent is perhaps 3s. 6d. a week.

2442. Lord J. Stuart.] Do the landlords or the tenants pay for the water?—The landlords pay for the water, and the tenants pay 3d. a week, perhaps, in addition to the rent, for the water; and the poor complain that if one of the landlords is in arrear, the whole supply is stopped, or if the pipes go out of order.

2443. They may be without a supply for days or weeks?—Yes, frequently they are so, and have to borrow it from their neighbours, or go into the adjoining courts, or get it the best way they can.

2444. Chairman.] Is it not generally considered that investments in this small species of cottage property pay a very high interest?—It is generally conceived so.

2445. So that it is a very profitable and tempting investment?—Very much so; so much so, that a few years ago it was determined to make the owners of those houses contribute to the poor's rates. Those houses had always previously been exempt, in consequence of the inhabitants being too poor to pay; the owners opposed it, and annoyed each succeeding vestry so much, they were at last obliged to give up the point, and now they pay nothing.

2446. In fact, those properties paying this interest, and neglected as you have spoken of, contribute very little indeed to the local taxation?—I can state the amount they contribute; there are 16,800 cottages in the parish of Liverpool assessed under 12l. a year, and of that number only 900 contribute to the rates; the amount they contribute is 700l. on a levy of 10,000l., and of that sum, I believe, a great portion is paid by the Conservative and Reform Associations.

2447. A very great proportion of this property, which appears to be so much neglected, does not pay any rates at all?—Nearly 15-16ths I should think.

2448. The owners are generally considered to make very good returns for their money, are they not?—It is considered to be a very good investment.

2449. Is this property, generally speaking, as it respects the comfort of the inmates, so much neglected as it is in the instances you have stated?—The landlords do not appear to regard the comfort of the inmates; if any repair is required about the houses, it is sometimes weeks or months before it is done.

2450. The object appears to be to get the utmost which can be got out of the people, and to do as little as possible?—Exactly so.

2451. The whole of this property is exempt from almost all the local burdens?—Yes. The inhabitants have complained that they have applied to the landlords to make a drain to carry off the refuse from the courts, but that they cannot get them to do it, though they have applied again and again.

2452. Have you any doubt that some legislative Act, giving power to the local authorities for the purpose of cleansing and improving the state of those neglected courts is necessary?—None whatever; I think that it would be the means of reducing the mortality of Liverpool very much if an efficient plan of inspection

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were carried into effect; if power were vested in some officer or Board to regulate the dwellings of the poor.

2453. Do you not think that the state of neglect, dirt, and filth that you have described, must have the effect of making the inmates of those places uncomfortable and discontented with their condition?—There is no doubt whatever that with persons living in the midst of dirt and filth, their physical condition reacts on their moral condition.

2454. Have you any doubt that it has a very great effect on the physical and moral condition of the children of those classes?—I have no doubt of it; I can mention instances. With regard to those courts which generally are not flagged, they are paved with small stones; the stones get broken up, and the holes are filled with water and filth, and it is so difficult to keep them clean, the inhabitants do not attempt it.

2455. Lord *James Stuart*.] Are they never inspected at all?—No; they are seldom visited except by the landlords or their agents, who come round to collect their rents weekly.

2456. Neither the parish officers, nor the guardians of the poor, look to them at all?—No.

2457. *Chairman*.] You have no guardians of the poor, have you?—No, we are under the old system. Where there has been any attention paid, and the courts have been flagged and put into good condition, the inhabitants have frequently made some efforts to keep them clean.

2458. Lord *James Stuart*.] The streets are kept by the Commissioners of Paving, and so on?—Yes.

2459. Are all the thoroughfares kept by them?—Not all the thoroughfares, only the principal thoroughfares; all those properly called streets, but there are some with narrow entrances, of which they take no cognizance.

2460. You conceive that there are 124,000 of the working classes of Liverpool, living either in those unhealthy cellars, or those neglected and miserable courts?—Yes; but I should state that there are many front houses in the streets that are even worse than those in the courts; what are called lodging houses, where there are thirty or forty collected sometimes in one house.

2461. Are those in bye-streets?—Yes.

2462. Referring to this immense number of persons living in those neglected and miserable abodes, can you have any doubt that even if their children go to a school during the day, and receive instruction and advantage from their schooling, it is in a great measure neutralized by the bad effect of the evils and dirt and filth which they see around them at their homes?—I have no doubt whatever of that, if you refer to moral and religious instruction.

2463. So that the effect of this neglect of the physical condition of those persons is to lessen the effect of that moral and religious instruction which the children may receive?—I have no doubt of that.

2464. Mr. *Cowper*.] Have you found any difference in the physical condition of those children and that of other children?—In general they are more delicate and weakly.

2465. Lord *James Stuart*.] Is there any proportion of Irish and Scotch among them?—A very large proportion of Irish, comparatively very few Scotch; I suppose about one-fourth are Irish, or rather more. I think there are about 60,000 Irish in Liverpool, almost all of the lower classes; the Scotch population is increasing, a number of engineers having come lately, but I suppose not more than 6,000 or 8,000 of the lower classes, if so many, are Scotch.

2466. *Chairman*.] Does spirit drinking prevail much among the working classes in those districts?—Very much; among the females particularly, and among the Irish.

2467. Does it prevail among the working classes generally?—Yes; but it is more common with the women than the men. The Englishmen in general drink ale.

2468. Lord *James Stuart*.] How do those poor people get medical relief?—From the dispensaries, from which 40,000 get relieved annually.

2469. *Chairman*.] Do you not think that, laying aside the question of the comfort of those persons, a great saving would arise to the richer classes and the parochial authorities, if some regulation were made to improve the comfort of their dwellings, in lessening the poor-rates?—There is no doubt of that. It was remarked to me, a few days ago, by one of the inhabitants of these courts, pointing out the state of filth, that the landlords would do nothing for them; that he thought the parish ought to do it; that they would save as much as would keep the court in proper

proper order, by preventing a number of persons being sent out of the courts with fever (referring to the hospital to which they are sent); and that he thought the parish would be repaid, in the reduced amount of the rate, by so doing.

2470. Mr. Cowper.] Do you know the expense of the Fever Hospital?—I suppose 2,000 *l.* or 3,000 *l.* a year.

2471. Chairman.] Does it not happen that one or other of the parents is frequently carried off by fever, leaving the children dependent on the parish?—Very often. That is not the whole expense arising from fever, for there are also dispensaries; and the parish subscribe 500 *l.* a year to the dispensaries.

2472. Mr. Cowper.] Do you find different disorders prevailing in different localities?—I have found fever prevailing most in the ill-ventilated courts and cellars, where there is much filth accumulated; and in the cellars also I find rheumatism very prevalent; they are very damp; the sun's rays never have access to some of them, and no air gets to them.

2473. What disorders do you suppose are occasioned by impure atmosphere and noxious exhalations?—By noxious exhalations, principally fevers.

2474. Ague?—In some situations; there is not much of that in Liverpool; but generally speaking, fevers in different forms; remittent or typhus fever.

2475. Do you find there severe rheumatisms, which you do not find in other habitations?—The larger proportion of cases of rheumatism occur in cellars; these are generally damp; very frequently there is no floor of any kind; the inhabitants sleep on the bare earth; I have known 30 persons sleeping in a single cellar; in some of the cellars, kept by lodging-house keepers, they merely cover the floor with straw, and allow as many persons to come as there is room for, charging them 1 *d.* per night.

2476. Chairman.] In your opinion a system of prevention of disease, independently of the comfort it would afford, and the content it would give, would be the cheapest mode to the parochial authorities?—In the first instance, at all events, there would be great expense in putting those places in a habitable state; but I think in the end it would certainly diminish the poor-rates, and the necessity of relief to the people themselves, and to the widows and orphans of those that have died.

2477. Have you any doubt that the neglected state of persons in that situation leads to lessening of their energy for work, and their industrious habits, and active exertions for themselves?—I think, generally speaking, that the more miserable people are, the less they are inclined to labour to improve themselves, and better their situation; and the smaller their chance of improvement, the greater is their apathy.

2478. If they saw a probability of their condition being improved, would not that have the effect of stimulating them?—I have no doubt it would.

2479. Lord J. Stuart.] Are there any churchyards or burial grounds in that densely-peopled district?—Not immediately in the worst districts; there is one I have felt to be offensive; St. James's.

2480. Chairman.] Are there many lodging-houses in Liverpool in which many of the most destitute classes congregate?—Yes; sometimes 30 or 40 in a house; but frequently those houses contain more than three rooms.

2481. Is that a population which is shifting?—Yes, and a great number of Irish resort to those houses.

2482. Many remain only for a night or two?—Yes, paying from 1 *d.* to 3 *d.* or 4 *d.* for a bed.

2483. Are many of those lodging-houses in a very filthy condition?—A great proportion are in a very filthy condition; I was in one a few days ago, where I was obliged to go out immediately, from the smell; I found a great quantity of filth collected in the cellar, and no attention to cleanliness; in fact these things do not appear to annoy the inhabitants.

2484. They are in their present state almost public nuisances?—I should say so, were it not that those who would feel them as nuisances seldom come into contact with them, except medical men, who are obliged to do so.

2485. In those lodging-houses are fevers and contagious disorders frequent?—Very frequent indeed; there are three lodging-houses in one street, which open behind into a very filthy court; in those three houses 46 cases of fever occurred in six months.

2486. Have you any doubt that, adverting to the migratory and shifting character of the population, fevers and contagious disorders are frequently carried by them into other districts of the country?—I am not aware of any facts to show that, with regard to Liverpool; but it appears to me extremely likely.

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2487. Does it not appear important that some sanitary regulations for the safety of others should be made?—I think the lodging-houses should be inspected periodically; not more than a certain number of inmates should be allowed; and with regard to both the cellars and the lodging-houses, it ought to be compulsory on the landlords to whitewash them to keep them clean.

2488. Is there any system of regular inspection at present?—None whatever; where fever is prevalent, on the recommendation of the officers of the dispensary, the parish officers send some one to whitewash the rooms or cellars.

2489. Are you aware whether they have legal power to do that?—I am not aware that they have.

2490. There is no system of inspection, nor any power to compel drainage or ventilation, or anything of that kind which will tend to the public good?—None whatever; I am not aware that any public board has authority to interfere.

2491. Do not you think such a power would be very important?—Very important indeed, for the public good.

2492. Can you state the number of those lodging-houses?—I cannot; there is a very large, floating population of Irish; sometimes they are only a few nights in the town; about 5,000 are "passed" over to Ireland yearly by the parish authorities.

2493. Are the lodging-houses generally in the state you have described?—Yes; I can give instances where a large proportion of the inhabitants of those lodging-houses have been affected with fever.

2494. Are there any reserved spaces or places for public walks, where the inhabitants are enabled to take exercise?—There are none except St. James's Park, and the two cemeteries, and the Pier Head.

2495. Are there any places where the working classes can take exercise at periods when they are able to do so?—The Pier Head; they walk along on the side of the river.

2496. There is no open ground?—None, excepting those I have mentioned.

2497. Mr. Cowper.] Do the poorer classes walk there on Sundays?—Yes, the Pier Heads are quite crowded on Sundays.

2498. Chairman.] Is that sufficient for the wants of that great town?—I think that if large open spaces, of several acres in extent, could be introduced into the centre of some of those populous districts, it would be very conducive to the health of the town.

2499. It appears to be impossible to effect that in a town already built; but would not the reservation of some place to which they might go on holidays or Sundays be extremely valuable?—Certainly.

2500. Mr. Cowper.] If it were within half-a-mile, they might walk out?—Yes, if there was any inducement to them to do so; but I do not know that they are at all aware of the noxious influence of the situations in which they live, and of the want of fresh air and light, and of the nuisances and filth collected round them.

2501. Chairman.] Have you any public baths in Liverpool for the lower classes?—Not for the lower classes.

2502. Would it not be of advantage to the health of those poorer persons if there could be any commodious place provided where they could have the benefit of bathing?—It would be a very great advantage indeed.

2503. Would it be difficult to provide that?—I do not think it would; there are a great number of steam-engines erected in Liverpool, and the water could be provided at a small expense.

2504. Mr. Cowper.] Do you think they would be willing to avail themselves of them, if they were provided?—I am afraid not, to the extent that would be desirable.

2505. Chairman.] On the banks of the river it would not be difficult to provide apartments where they might dress and undress, so that they might avail themselves of the advantage of bathing?—That could not well be done along the line of the wall; they must go some distance along the shore before they could get to a place of that kind, and if they went so far, that kind of place would not be required.

2506. In proportion as those humbler classes are educated and become intelligent, they are more likely to take advantage of any privileges which may be afforded them for the improvement of their health?—Certainly.

2507. Have you not frequently found, in visiting those abodes of the working classes, that they are ignorant of the noxious effects arising from the shutting up every cranny and corner of their dwellings, and that the evil arising from the want of ventilation is a thing they do not understand?—They seem to be utterly ignorant on all those points; they have no idea whatever of the prejudicial effects of those things.

2508. The

2508. The physical evil they suffer from the want of ventilation is aggravated by their own ignorance?—I believe that to be so.

2509. That ignorance arising, of course, from the want of instruction on such subjects?—Yes.

2510. Any plans, of whatever nature, for the improvement of their physical condition would be facilitated by means of their becoming more intelligent, and receiving instruction?—I have no doubt of that.

2511. Are there any suggestions which you conceive would be useful to the Committee upon these subjects?—I have some facts showing the very unhealthy nature of some particular situations, where there was an unusual quantity of filth collected. In one court I visited the other day I found that the whole place was inundated with filth, having a most intolerable stench, and I found that it proceeded from two ash-pits in the adjoining courts having oozed through the wall; the liquid portion of it had oozed through, in consequence of the imperfection of the wall, and the nuisance was so great that one of the houses had not been inhabited for three years until just before, when the landlord flagged the floor, to prevent its oozing through; but still it oozed through. In that court there were 63 cases of fever in 12 months; there was no drain whatever to the court. Part of the court belonged to one landlord, and part to another; one of the landlords had offered to be at half the expense of making a drain, if the other would subscribe; but he would not, and in consequence of that nothing was done. I met with a very intelligent man who lived there, who said the court was never free from disease; that fever was constantly occurring there.

2512. What was the name of that court?—Union-court, in Banastre-street. In another small court, containing four houses, the smell arising from the uncovered ash-pits, and the ruinous privies and the filthy state of the court was such, that an Irishman, one of the inhabitants, said, the smell was bad enough to raise the roof off his skull, that was the expression he used; in that case the court was never free from disease; there were 17 cases of fever in the year.

2513. What was the name of that court?—Spencer-court, in North-street. In another court, with eight houses, containing 118 inhabitants, 44 cases of fever occurred in the year, that is to say, more than one-third of the inhabitants of the court were affected with fever. In regard to the cellars, there was one cellar in Preston-street where about 30 individuals used to sleep every night; in the centre of the cellar in which they were living there was a hole dug, which was used as a receptacle for all kind of filth; fever broke out there, and six or eight died out of the number, and those who were ill of the fever were lying close by the side of those who had died; there was one dead man lying there at the time.

2514. In what year was this?—It was five or six years ago that this case occurred. I attended a child lately with small-pox, in a cellar of that kind, that lay on the floor; they would not allow it to be sent to the fever-ward, nor in the other case would the friends of the patients allow them to go; that child lay along with other children; I think 15 individuals slept there, in a space of 10 or 12 feet square, every night.

2515. Mr. Vigors.] How long ago was the case you refer to of the child?—Only two months ago. With regard to the cellars, the water from the privies in the court frequently gets through the mud and through the walls of the cellar, and sometimes as much as two feet of water of that kind lies on the bottom of the cellar. I was told by one agent of the Town Mission, a few weeks ago, the fact, that they frequently make holes or wells in the floors to collect the water and prevent its covering the bottom of the place. In one case he found a bed used by the family immediately over this collection of filthy water.

2516. Such a circumstance must be very prejudicial to health?—No doubt it must be. In one case also, which I did not see myself, I was told by the superintendent of the Town Mission, a few days ago, that he went into a cellar, and found that the floor was covered with water to such an extent, that they were obliged to take the door off its hinges, and lay it on four bricks, to keep them from the wet; and in the same cellar there was an opening broken through the wall in the back; he found this was for the purpose of enabling them to throw their refuse into an ash-pit or dunghill behind, to save them the trouble of going round through the court and throw it in there; they have very little idea of the prejudicial effect of things of that kind. There is one street, about 200 yards long, Oriel-street, containing 1,558 inhabitants.

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2517. Are those of the working classes?—Almost entirely; there are not above six or seven houses inhabited by persons in a better condition; in that street there were 335 cases of fever in the year.

2518. When was that?—That was in 1837; of those 335 cases 236 occurred in courts; so that more than one-fifth of the whole of the inhabitants of the street were affected with fever; in many of the cellars below the houses in the courts of that street, ashes and vegetable and animal refuse of all kinds are kept; they are used, in fact, as receptacles for them. There are other instances of the same kind, showing the proportion of the population of particular streets affected with fever.

2519. You refer to streets in which cleanliness and drainage are not attended to?—Yes, those are some of the worst of the streets; in which there is an accumulation of filth, and animal and vegetable refuse, and abominations of every kind.

2520. Sewerage and drainage are neglected in those streets?—There is no drainage in most of those streets.

2521. And cleanliness is not attended to?—It is utterly neglected.

2522. You state that there are 86,000 of the poorer classes living in these courts, and 38,000 in cellars?—Yes.

2523. Liverpool is the second port of the kingdom?—I believe it is.

2524. Inhabited by a great number of rich persons?—A very considerable number.

2525. Wealth is increasing there very rapidly, is it not?—I believe it to be so; of course there are fluctuations in that respect as there are in all mercantile towns.

2526. There is a great increase of trade?—There is.

2527. And there has been a very great increase in the docks, has there not?—Yes; they can hardly provide accommodation fast enough.

2528. There is a great increase in the warehouses for the reception of goods from various parts of the world?—Yes.

2529. A large new custom-house has been erected within the last few years, has there not?—Yes; that is just completed.

2530. The town is surrounded for several miles with villas and houses inhabited by the richer classes?—Yes.

2531. There are pleasure-grounds, and so on, laid out round the town?—Yes.

2532. Has not the value of property increased very rapidly in the neighbourhood?—Very rapidly indeed.

2533. In short, the external appearance of the place, whether from its docks, from its warehouses, or from the general aspect of the buildings in the surrounding districts, is that of the most prosperous description, is it not?—It is.

2534. But you are able to speak with perfect confidence, being long resident in Liverpool and acquainted with its localities, to the misery of those parts of the town you have referred to?—Yes; I have had very good opportunities of becoming acquainted with their condition.

2535. Have you any doubt that a strong effort for the improvement of the condition of these premises, by a better system of regulation with regard to their dwellings, and the comfort of the places in which they live, is called for by their present circumstances?—I have no doubt that something is absolutely necessary; I have frequently spoken of it among my acquaintances.

2536. Lord *James Stuart*.] Do you observe a great deal of discontent among the poor people?—No; the great proportion of those people, I should say, are of the lowest class of Irish, and I hardly ever see a discontented Irishman; he seems quite contented in whatever condition he may be.

2537. *Chairman*.] Are there many Irish living there having families?—Yes, a great number; about one-fourth to one-fifth of the whole population are calculated to be Irish, and the proportion of Irish applying to the dispensaries and different charitable institutions for relief is much more than the proportion I have stated would give; nearly one-half of the patients who come to the dispensary are Irish, whereas I do not calculate that more than one-third of the working classes are Irish. They seem to be satisfied and contented in whatever state they are, and do not appear to have any desire to improve their condition.

2538. Is there any other suggestion you would make?—I think a great advantage would arise from the opening up new streets, carrying them through the densely-populated districts; I know one or two instances in which the health of
different

different parts of the town has been much improved by the formation of such a street, in districts formerly notorious for their unhealthiness.

2539. Would it be an advantage to the courts to which you have referred if one house could be taken away, or a portion of a house, so as to admit of a circulation of air through the court?—There is no doubt that would be a great improvement; the outlet into the street should in all cases be entirely open, that is, not arched over; and if the court could be opened at the other end, that would be a still greater improvement; the place cannot be a healthy place until that is done; there can be no sufficient ventilation. I have compared the healthiness of one or two streets densely populated, which are notoriously unhealthy, with that of others less densely populated, the inhabitants of which are also of the working classes; I have mentioned Oriel-street, in which one-fifth of the whole number of inhabitants were affected with fever in the year. In Lace-street, another street 160 yards long, containing 1,285 inhabitants, giving an average of more than 11 in each house, there were 200 cases of fever in the year; that is nearly one in six of the inhabitants. I would compare this street with another, also entirely inhabited by the working classes, but not so densely populated, Addison-street, which is 220 yards long, containing 1,190 inhabitants; in that street only 89 cases of fever occurred in the year, being less than 1 in 13. In Primrose-hill and Cow-lane, 165 yards long, containing 304 inhabitants, there were only 11 cases of fever in the year, or 1 in 28. A greater number of cases of fever occur among the Irish, comparing the proportion of the Irish to the great working population in general.

2540. The Irish are poorer, generally?—Yes, and they pay less attention to cleanliness, and congregate together in greater numbers.

John White, Esq. called in; and Examined.

2541. *Chairman.*] YOU are the district surveyor of Mary-le-bone?—I am.

2542. You have been so for some years, have you not?—Yes.

2543. You have had considerable experience as surveyor of buildings for a great number of years past?—Yes, as my father had before me.

2544. You have a general knowledge of the building regulations, not only in London, but throughout the kingdom, have you not?—I will not say throughout the kingdom, but I know generally throughout London; and I have a little considered the building condition of Liverpool and Bristol, both of them having Building Acts, though not of exactly the same character as that in London; but those Building Acts, also, being principally directed to the prevention of fire.

2545. The principal provisions in the Building Act of London are for the purpose of insuring the thickness of party-walls, to prevent accidents from fire?—Yes, and to regulate projections.

2546. You are acquainted with the form of building which is prevalent among the habitations of the poorer classes in some parts of London, and in many parts of Lancashire, in which the buildings are constructed in close courts?—In London; I am not so much in Lancashire, for I have been only twice in Liverpool in my life; I have been more frequently in Manchester.

2547. The Committee have it in evidence that there are close courts, entering under an archway from 12 to 15 feet wide, with houses opposite to each other, built up at the end?—Yes, and such exist in London also.

2548. Have you found that there are many such in which the houses so situated are built back to back with other houses of similar construction in adjacent courts?—There are some which are exceedingly near to each other, in which the back fronts and the wings of the buildings are too near a great deal to one another.

2549. Have you any doubt that such a construction is very injurious to health, where there is no draught?—There can be no question of that.

2550. They are placed in courts in which there is no passage for air?—Just so.

2551. That would be aggravated if the houses in the courts are back to back to other houses, so that there can be no outlet at the back windows?—Most undoubtedly. My father, who took great pains in the establishment of Mary-le-bone, induced the Duke of Portland to agree to the suggestion, that no part of the lately-built portion of the estate should have any return of corners of the buildings built up; and in Devonshire-place, and all the better streets, such as Harley-street, the return corners are not built up.

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2552. If such a regulation is advantageous and necessary for the houses of the richer classes, who have good food and plenty of exercise, is it not more particularly necessary in constructing the residences of the poorer classes?—There is not a doubt of that, especially where they are not amply supplied with water.

2553. In your opinion there should be some regulation to prevent the construction of houses in those crowded courts, without air passing through them, and to prevent the building of houses back to back?—I think there should be some general law on the subject. When I was employed to draw up the Building Act, in the year 1829, Mr. Griffiths, the police magistrate of Mary-le-bone, suggested that there should be a clause prohibiting houses being built nearer to each other than the houses themselves were high; as, for instance, a 30-foot house, if such were constructed, should not be nearer to its opposite neighbour than 30 feet; that that should be the least.

2554. There would be no difficulty in general regulations in a Building Act, without interfering too much with buildings, preventing their construction in such a form as was found by experience to be injurious to health?—As to the front, there would be none; as to the backs, there would be more difficulty; it would be almost too great an inroad on private property to prevent persons building in their back courts, or yards, I fear.

2555. Do you think it would not be practicable to prevent houses being built back to back, if such a construction was shown to be absolutely injurious to the health and comfort of the inhabitants of those districts?—It is essential that it should be so, but I fear a great deal of difficulty would occur in fixing the limit precisely, but I think it essential that there should be some regulation of that kind.

2556. In order to admit at least some portion of air to pass through?—Yes.

2557. Do you think there should be prospectively some regulations to discourage the building of cellar dwellings, in the first instance, for the working classes?—I think there would be no difficulty, because the Building Act of London separating all buildings into classes, that which is the lowest class might have a clause preventing basement buildings for habitations, unless there was an ample area or fore-court.

2558. There would be, you think, no objection, on due consideration, to such a Building Act being drawn as would much conduce to the improvement of the habitations of the working classes generally?—There is not a doubt of that; and I have been asked, at the town of Andover, to interfere to see whether I could suggest something that would take away their common cesspools.

2559. You think there is nothing at all impracticable in a general Building Act, the particular regulations of which would be carried out by the local authorities, but which would be applicable generally?—No.

2560. Do you not think that some such provision is necessary in the crowded populations of the large towns in this kingdom?—I have no doubt of that; that it would very much increase the value of the property there.

2561. In your opinion, such a provision would tend to diminish disease, and increase comfort, and lessen discontent, and moreover, to lessen the amount of the poor-rates, from the illnesses to which the poor are now subject being decreased?—I am of that opinion; but on no account should their residences be rendered too expensive; they are already sufficiently expensive; for the poorer class of lodgings cannot be got for less than 3 s. 6 d.; that is a large sum for the lower classes to pay.

2562. Do you not think that whatever is absolutely necessary for the health of the humbler classes ought to be looked to by the general government?—Most undoubtedly; it would be merely the sacrifice of the ground landlord, in the first instance, allotting a little further space, and not being so greedy of his ground.

2563. Are you acquainted with any instances in which persons, desirous of making the highest possible interest of their money, run up houses for the humbler classes, without reference to the health of the inmates?—Certainly.

2564. Do not such regulations as those referred to appear absolutely necessary to meet such cases?—Certainly.

2565. A good system of drainage and sewerage appears to be highly important for the good of the people?—I have been nearly 40 years a commissioner, and have had great reason to approve the proceedings of the commissioners.

2566. What district is that?—Westminster and part of Middlesex.

2567. Do you not think that an improved system of drainage is highly important?
—I am

—I am quite satisfied it would be for the improvement of the large towns in England if no attached houses were to be built without sewerage being put down in the first instance.

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2568. You think a good system is of the first consequence?—Most undoubtedly; because if it be not set out in the first instance, and the sewerage arranged so that the general district should be drained, it would occasion much expense; we have laid out 20,000*l.* or 30,000*l.* in correcting evils which have been suffered to exist.

2569. A good system, in the first instance, would be highly important?—Most important, and the proprietors of land ought to be obliged to comply.

2570. You are aware there are no regulations laid down applicable generally throughout the kingdom?—No; there are commissions, but they all proceed on the statute of Henry the Eighth, which has not, properly speaking, reference to building districts, but to the draining of the country, but which has been strained in order to render it applicable to a town, though not applicable in itself.

2571. Those local commissions are, generally speaking, applicable to a period before under-ground drains existed in the districts, and are not applicable to the districts in which there are under-ground drains?—No; our commission is by an Act of James the First.

2572. Is there not a necessity for a general Act making regulations, to be carried into effect by the local authorities, for drainage, in the different districts of the kingdom?—I am quite satisfied of that; I made inquiries at Oxford last year; I found no town worse drained for suillage drainage than the city of Oxford.

2573. If one general Act was passed, it might be carried into action, according to necessity, by local authorities, without difficulty?—Beyond all doubt; even by parish vestries, if they could be made to agree; but the commissioners should be taken out of the whole town.

2574. A general Act would obviate the expense, and difficulty, and delay arising from the necessity of a local Act in each particular case?—Beyond all doubt.

2575. The consequence of the want of any general Act is, that in many instances great delay occurs, and no local Act is obtained until the necessity is shown by a great evil arising?—Yes; and then it is very difficult, and very expensive, when sewers are set out, to improve the levels.

2576. So that that would be the cheapest, as well as the most effectual remedy?—Certainly.

2577. And highly conducive to the health of the working classes?—There is no doubt of that.

2578. Some additional powers would be wanted beyond those now claimed, would there not?—Yes; I think that cesspool drainage, making an opening or sink near any house or place, should be prohibited altogether.

2579. Do not you think there should be some power to prevent any attached houses being built for human habitations until the sewerage was brought up to them?—I have already stated my opinion, that the sewers should be the first thing made before people begin to build, and that that should be made compulsory.

2580. Do you not think one necessary regulation would be, that no cesspools, or sinks, or deposits of wet and noxious articles, should be below the level of the common sewer?—It should be distinctly described, that they should be to a certain height above it, because the sewer being planted in the front of the street, there should be a proper descent into it, or it would not carry off the suillage-water.

2581. You think that houses should not be allowed to be inhabited till the sewerage was provided?—Undoubtedly.

2582. Are you aware that in many districts, although the main sewer may be brought immediately in the front of the houses, there is no power of obliging the owners to communicate by under-ground drains with the sewer?—That is the fact at present, even in this district.

2583. Do you know that there are many cases in which they do not communicate?—Undoubtedly, very many cases.

2584. Are you aware of a case in the eastern part of the metropolis, where a sewer was carried up the street, where the houses communicating from one side were free from fever, and those on the other side, the owners of which could not be persuaded to communicate, had the fever, which continued?—No, I have not heard that circumstance, but I can easily believe it.

2585. You think such a power is absolutely necessary?—Yes.

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2586. Would a power to enforce the arching over open drains and sewers be useful?—That would be important, for it frequently happens that a man will not carry on his sewerage beyond his own frontage; the sewer is then opened, and the effluvia and stench are prejudicial.

2587. *Lord James Stuart.*] You refer to a general Act for the whole kingdom?—Yes; it might be carried forward at a small expense, comparatively, in the winter season, when the workmen would be unemployed.

2588. *Chairman.*] Should not there be some power in the Act with respect to paving the surface of courts and streets?—Yes, and cleansing them when it is done.

2589. And for scavengers' work, clearing out deposits of ashes, dirt, and filth, and necessities, and so on, at proper periods?—Yes, and for putting what we call gullies into the sewers in the roads; when paved, there should be proper and efficient gullies for carrying off the water.

2590. You think there ought to be some general regulations, to be carried into effect by local authorities, for cleansing and paving, and those general regulations necessary for health?—Yes, for an application to Parliament for certain parishes can seldom be carried through for less than 600*l.* or 700*l.*; persons in consequence will not agree, and the thing gets into disorder.

2591. There would be very little difficulty, on due consideration, in framing an Act for those general purposes?—I think not. I hold in my hand the proposed Act for this session for the metropolis sewerage, which I have brought with me, because it contains a good many clauses; some I like very well, and some not quite so well.

2592. Do you not think that in those crowded districts, after those powers were obtained for regulations as to building, and for cleansing, there ought to be some officer in the nature of an inspector of nuisances, or an inspector of sewers, to see to the state in which they were, and to report periodically to the local authorities?—I think it highly important there should be a competent person to see that that is carried into effect, and I should say, report to the magistrates, or to some local authorities.

2593. Do you think, in addition to that, that in those crowded districts where so many are brought together, and many of them extremely poor, and frequently with contagious disorders among them, something in the nature of a Board of Health, who might report on the sanitary state of the districts, and suggest remedies without having the power to enforce them, might be beneficial?—I should think each county or considerable district might have such a commission; if it would be too expensive to have one for each populous district, two reports in the year might answer the purpose.

2594. The Board of Health might consist of unpaid individuals, or at all events the cost of it would be little?—I think that would be very desirable. There is one point which has just struck me, which is this, that the difficulty of making sewers is the getting the money in the first instance; and as it is a permanent thing, that portion of the expense, in my opinion, ought to be spread over a number of years. We have a precedent for that in the Bayswater sewer, which was executed by Government. They issued Exchequer Bills, to be paid off in 20 years, in different instalments. And if some mode of furnishing the money to do that in the first instance, making it payable out of the rent of the houses in a course of years, were provided, almost all the towns might be drained; but that could not be done without some provision of that kind.

2595. You think such an advance by Government would give facilities, that it would be subsequently repaid, and that it would give at the same time a great advantage to the poorer classes, by improving their dwellings, and a considerable increase of employment by the works?—Yes; and it would benefit the rich as well as the poor, for they do not like to be putting their hands in their pockets too much in one year.

Thomas Ashton, Esq. called in; and Examined.

T. Ashton, Esq.

2596. *Chairman.*] WHERE do you reside?—At Hyde, near Manchester.

2597. Are you acquainted with Ashton, Staleybridge, and Duckinfield?—Yes, I live very near to them.

2598. The population of Ashton is 22,000; Staleybridge, 17,300; and Duckinfield,

infield, 18,600; is it not?—The population is rather larger, perhaps 10,000 more.

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2599. Those large districts are inhabited very much by the working classes, are they not?—Yes, principally by cotton manufacturers.

2600. There is a statement in the statistical report of the neighbourhood of Manchester, of the population of the working classes, in which it is stated to be, in Manchester, 64 per cent.; in Ashton, 81 per cent.; in Staleybridge, 41 per cent.; and in Duckinfield, 44 per cent.; showing how large a proportion of those towns consists of the working classes?—I am aware of that.

2601. With respect to the construction of the dwellings of the working classes in those districts, Ashton, Staleybridge, and Duckinfield, are there many houses built in close courts?—Not so many as there are in the other towns, I think.

2602. Are there any in which the houses are built back to back?—The greatest number of them are built with two rooms, and a front door and back door, two rooms above and two below; I am not acquainted so much with the courts and alleys.

2603. In the alleys, are the fronts of the houses, in many instances, very near one another?—Generally, in Duckinfield they are very shallow.

2604. What is the state of the drainage?—In Duckinfield and Ashton, very good indeed; in Staleybridge it is principally good, but there is one old part of it rather indifferent.

2605. Do you mean that there are underground sewers?—It is built on very uneven ground, it falls away very rapidly; in some places they are very well sewered, in Ashton particularly.

2606. Are they under-ground sewers, or principally surface drains?—Principally surface drains.

2607. Have you any system, securing proper ventilation, adopted?—No; what we want through the town is, a regular system, but every one does as he pleases.

2608. Is there proper ventilation in the close courts?—I cannot state that.

2609. Is there any system of inspection?—No.

2610. There is no officer appointed, as inspector of nuisances, to see whether they are kept clean, and whether the ash-holes are emptied, and general attention is paid to the health of the humbler classes?—None whatever.

2611. Would not such a regulation be desirable?—Very desirable indeed. I apprehend, a person employed by the magistrates of Duckinfield would be the best of any persons in the place.

2612. Is there any authority with respect to the paving?—No, it is all optional, except the public roads, which are done under the Turnpike Act.

2613. In the little alleys and courts, where the smaller houses are, there is no regular system?—No.

2614. Does the same maxim apply there which does generally, that what is everybody's business is nobody's?—Just so.

2615. There are, therefore, holes and pits, probably containing refuse?—A great many of the houses are built by large manufacturers, and they make them particularly eligible, in every point of view, and very comfortable, of course.

2616. Do they take care about the paving?—Yes, altogether, always.

2617. There are others, perhaps, built by small proprietors, who try to get what they can?—Yes, that is the evil, that they do not care what is done with them; their rule is, the worse the houses, the larger the interest they will get for them.

2618. Do they derive very large interest upon their capital invested in houses?—A very large interest on the worst houses; they build them as close as they can, to get in as many as possible.

2619. There are no building regulations in respect of the space?—No.

2620. Nor any system of inspection as to cleanliness?—No.

2621. Is the supply of water good?—In most instances good, and in some, very good; there have been three Acts lately obtained for that district, and now the water is excellent.

2622. What is the state of things with regard to lodging-houses?—There are very few; in fact it is a district in which the cotton trade has been less affected than any other, and the poor-rates are low.

2623. Are there any spaces, where the people can take exercise, reserved?—None reserved for the purpose, but the towns being small the people can get out into the surrounding districts.

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2624. As the towns spread, the evil will become greater?—Yes, the evil will become greater as the towns become larger; there are a great many houses built in one district; every separate house is built by an individual; if one is desirous to bring up a sewer, his neighbour will not do it; I have built a great deal, and have attended to the condition of the labouring classes, and I think that a general Building Act, which would promote improvement in their dwellings, would be of very great use; there is nothing which tends to assist the people so much as a good house; in the houses I have built, I never have to change my tenants.

2625. If their houses are not comfortable, they are much more likely to resort to public-houses?—Certainly.

Veneris, 15^a die Maii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Brotherton.
Mr. Cowper.
Mr. Ingham.
Mr. Mackinnon.

Mr. W. Patten.
Mr. Slaney.
Mr. Tufnell.
Mr. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

George Smith, Esq. called in; and Examined.

George Smith, Esq.
15 May 1840.

2626. *Chairman.* YOU are an architect?—I am.

2627. Residing in the Old Jewry?—I do not reside there; my place of business is there.

2628. You have considerable knowledge and experience of the buildings in and about London, have you not?—I have had considerable practice for the last 37 years in the City.

2629. Has your practice been chiefly in the metropolis, or in other parts of the kingdom as well?—In various parts of the kingdom; I may also mention that I am a district surveyor.

2630. What district?—The south of the city of London.

2631. In what districts of the metropolis have you had experience chiefly with respect to the buildings?—Most of them.

2632. Have you had much experience in places at a distance from the metropolis?—I have been at Liverpool and Manchester.

2633. And in some of the large trading towns in England?—Yes.

2634. You said you had at Liverpool?—Yes.

2635. And Manchester?—Yes, Manchester and Bristol.

2636. The Committee have been inquiring into the state of the dwellings of the poorer classes in many of the large towns, both in the city of London and in various other towns, and they have found a great deal that they think might be corrected by some system of sewerage; and among other suggestions that have been made to them, one that they would wish to put forward is that of a Building Act, which should be applicable to the humbler classes of dwellings, for the purpose of insuring such a construction of buildings as should be beneficial to the health of the inhabitants, and generally advantageous to the community. Have you turned your attention to that subject?—Not in large towns; but in the neighbourhood of the metropolis our Building Act does not take in many places, which are now growing very populous, particularly such places as Greenwich and Camberwell and Peckham.

2637. Those populous districts you have last mentioned are beyond the precincts of the Building Act, are they?—Yes.

2638. But the Building Act itself only goes so far as to regulate party-walls, does it not?—It only goes, with respect to the construction of the building, to the formation of the external walls and the application of the timbers, but it does not do anything with respect to open spaces, or sewerage, or anything of the kind.

2639. It

2639. It does not do anything with regard to the ventilation or the sewerage of the humbler class of houses?—Certainly not.

2640. Do you not think that some regulation which should insure ventilation, and such a construction of buildings as shall be found beneficial to the health of the inhabitants, would be useful?—I think it is very desirable that there should be such a regulation.

2641. Do you not think that a general Building Act, applicable at least to the humbler class of houses, which are now so fast increasing in large towns, and laying down general rules, so as to state in a plain way that which will insure sanitary regulations for the humbler classes of the community, would be necessary?—I think it would be highly desirable, particularly in such places as Manchester.

2642. Are you aware that in many districts of the metropolis there are close courts built, into which you enter through a small archway, where the houses are frequently very close to each other, densely inhabited, in which, in fact, there is no current of air which can insure that ventilation which is necessary to health?—There are many instances of the kind, and those places are generally occupied, every room of them, by a separate family, all huddled together.

2643. The Committee has had evidence from medical men to show that that form of construction is very injurious to health. Have you the smallest doubt that that is the case?—I have had an opportunity of seeing a great deal of it, especially in Saffron-hill, at the time the cholera raged; they were then in a dreadful state.

2644. Do you think that the evils they suffered were very much aggravated from the form of the construction of the dwellings?—Yes, from the form of the dwellings, and the confined state of the courts and their closeness, and in many cases a want of proper sewerage.

2645. Is it in your experience that a great deal of evil arises from there being no thoroughfare?—Yes.

2646. Not merely as preventing the current of air passing through, but also where there is a thoroughfare they appear to have been more careful of their appearance?—Yes; I can show the Committee a court in the neighbourhood of Holborn where it is horrible to go up it.

2647. Inhabited by the humbler classes, is it?—Yes, and they have no convenience, nor anything of the kind; the court is in a most filthy state.

2648. Do you know whether fevers prevail there?—I am not aware of that fact.

2649. You think, therefore, that some improvement in the construction of the houses of that class would be highly desirable, do you?—Yes.

2650. Are you aware that in the town of Liverpool, and also of Manchester, there are a vast number of cellar habitations?—I am quite aware of it.

2651. Habitations in which whole families live, as it were, in subterraneous excavations?—I have particularly observed it in Manchester.

2652. Where they are upon the damp ground?—Yes; upon the bare earth.

2653. Can you have any doubt that such a construction is very injurious to the health of the people?—There can be no doubt of it.

2654. Another construction of dwellings, the Committee are told, prevails very extensively, particularly in Liverpool, which is that of close courts, in which you enter under a small archway, perhaps four feet wide, you then come into a court, perhaps nine feet wide, of considerable length, and which is built up at the end, and this court so built and the houses in it are built back to back to houses of a similar construction in an adjacent court, so as to prevent any current of air from passing through those houses?—I am not aware of the fact; but if it is so, it must be very injurious and prejudicial; but there are many instances of the kind in this metropolis.

2655. You think that whenever it does occur, either here, or in Liverpool, or elsewhere, that such a construction is highly injurious?—There is no doubt of it, in large towns.

2656. Do you think, therefore, that amongst the regulations of a Building Act, applicable to buildings inhabited by the humbler classes, there should be a regulation forbidding the construction to which the Committee have alluded, namely, houses built in close courts back to back, or in similar dwellings elsewhere, would not such a regulation be particularly advantageous?—I think it would.

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2657. You think it would be productive of advantage to the health of the inmates?—It would; the whole difficulty would be in legislating, as to how a man should manage his ground.

2658. Do you not think that some regulation with respect to rows of houses in populous districts, inhabited by the humbler classes, should be laid down, so as to insure a certain space before and at the back of them?—I think it would be desirable they should be so regulated that every court or alley should be of a width comparative with the height of the houses on either side; and no houses should be placed back to back, because where there is no circulation of air in the houses it is prejudicial to health; we always find more sickness where there is not a thorough ventilation, because there it is always unwholesome.

2659. Such a regulation, that is to say, insuring some space proportionate to the height of the houses, would that be a rule easy of comprehension as applicable to various places and various sized houses, and not requiring very great complexity of detail?—I think it would be made very simple.

2660. What should you say would be for houses of that class a fair proportion; would you leave a margin so as to say it should be between one-half and one-third, or something of that kind?—I should think it ought to be more than one-half.

2661. What proportion do you think?—Two-thirds of the height of the front wall should be the width of the court.

2662. Do you think that some proportion, though not so great a one, might not be laid down at the back, at least as far as regards the first story?—It would not be so necessary to have a large space, because most of these small houses have lean-to's with houses at the back; supposing they are not allowed to build back to back, each would have his own yard, and therefore they would not require so much width.

2663. Perhaps a quarter or a third might be sufficient?—I should think a third, because that gives the same space as you have in the front.

2664. In the existing Building Acts, which are only of local extension, the houses are divided into different classes, are they not?—Yes, they are; there are seven rates or classes of building.

2665. Then, in the two lower, most probably will be comprised the middle of the working classes?—The fourth-rate or class of building is the dwelling of the lower class of people generally, except there are some of a higher rate where they are let out in different divisions. I was over one the other day, which was chiefly inhabited by Italians who go about with images through the streets; there was a family in every room.

2666. What are the other rates below the fourth?—They do not apply to dwelling-houses; that is the last; but it does to houses that are not in rows.

2667. From the use that has been made of former Acts, you think that there would be no difficulty at all in laying down such regulations?—None at all, as to the description.

2668. Are there any other suggestions beyond those the Committee have already spoken of with reference to building regulations, as regards the humbler classes of houses, that you would recommend?—It does not occur to me at the moment, but I was not aware of the question until I came down here.

2669. Now, with reference to there being some conveniences appended to a certain number of houses, do you not think there might be some regulation of that nature also laid down, so as it should be necessary to erect certain conveniences to any certain number of houses?—That ought to be.

2670. And that would not be difficult, would it?—There would be no difficulty at all in it.

2671. With reference also to small easements to hold the rubbish, and offal, and filth, and so forth, such would be a necessary regulation, would it not?—No doubt of it.

2672. Then with those regulations the Committee have been speaking of, and those insuring reasonable conveniences, to which the Committee have alluded, do you think it would be also necessary to have something to insure a good system of sewerage?—I think it is one of the first objects.

2673. The Committee have considered the question somewhat, and they have thought a general Sewerage Act, laying down regulations which might be put into force by various local districts, would be a valuable assistance?—No doubt of it; a very great deal has been done of late years. I hold an appointment under the

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Mercers' Company, and they have subscribed several thousand pounds for building sewers. George Smith, Esq.

2674. Does that apply to buildings that already exist?—No; there is a new town, I may say, in the Commercial-road. 15 May 1840.

2675. That is done by a single company, is it?—Some of the sewers they built wholly themselves, and, with respect to others, they contributed to the commissioners.

2676. You think that such a general Act, laying down general regulations, and giving facilities for different populous districts to embrace those regulations, would be of very great value?—It would be very valuable indeed.

2677. It would prevent the necessity of applying for an Act in each individual case, and thereby save expense?—No doubt of it.

2678. And it would prevent the towns and suburbs being put to that expense?—Certainly.

2679. Are you aware that the Commissions of Sewers for the London districts appear originally to have been formed for the purpose of taking off only the surface water?—Originally they were.

2680. Are you aware that at present none of the Commissioners of Sewers in this town have any power to oblige the inhabitants of any particular houses to join an under-ground drain from their house down to the common sewer?—I believe there is no such power.

2681. So that if the Commissioners of Sewers bring an under-ground drain between two rows of houses, they have no power to oblige the inhabitants of those houses to carry off the dirt and filth of their houses by joining a drain to that?—They have no such power, and in several instances we find the tenants will not subscribe, even after the sewer had been made, to join the drain to it.

2682. You think such a power ought to be in any new Act of Parliament?—Yes.

2683. Mr. Cowper.] Do you think that any compulsory enactment of that nature would tend to check speculation in buildings?—I should rather think the reverse, because it would tend to make them so much more valuable.

2684. When builders build a row of houses on a speculation, it is not usual for them to provide any means for sewerage and drainage?—Many of them do not; but I apprehend that must be of a very inferior class of houses. If a man builds a house of a better class or character, he would of necessity make sewers.

2685. What effect upon builders of the lower class of houses would a compulsory enactment of this nature have?—It would operate, perhaps, so as to make them not so anxious to expend their money in those things.

2686. Chairman.] Do they not now in many instances put their money into speculations of that kind, in order to draw the utmost penny they have, without any reference at all to the comfort of the inhabitants who occupy those houses?—There is no doubt of it.

2687. Do they not in many instances when they have let them take no heed whether they want drainage or sewerage, or anything of the kind?—Very frequently.

2688. Does it not appear to you, that for those general purposes of sanitary regulations with respect to health in these small dwellings, the landlord should be the person liable to make them instead of the tenant?—I think decidedly the freeholder should make the main drain; but I do not think there would be any hardship in compelling the tenant to contribute his quota, because he has all the advantage and benefit of it, with regard to health, and so on.

2689. Are you aware that the Commissioners of Sewers have no power at present to prevent the sinking of cesspools, or other receptacles for filth and wet, below the level of the common sewer?—They have no such power, I believe.

2690. Do you not think that some power of that kind, to prevent the formation of receptacles for filth, such as cesspools, which are injurious to health, below such a level as the drain can take off, will also be necessary in a Drainage Act?—No doubt; I believe several of the commissioners have no power to build new sewers, nor to tax the inhabitants; they can take down and rebuild old sewers, but they cannot make new ones.

2691. Do you not think that a power to enable them to build new sewers, commensurate with the increase of population and houses requiring such convenience, is absolutely necessary?—Certainly. The Mercers' Company have

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a large property in Long Acre; I have applied to them on the subject of building a sewer, because the whole of it is without a sewer, except down Castle-street and Little St. Martin's-lane. The cross-streets from Long Acre to Castle-street have no sewerage, except the surface-drains and cesspools. I am now in communication with the Commissioners of Sewers for the purpose of the formation of drains.

2692. It appears to you, generally, from your experience, that with respect to the present buildings, in the first place, there is no general Building Act applicable to the great populous towns in the kingdom?—No doubt; they have some local Acts, but there is no general Building Act. The city of London has an Act of its own.

2693. The Building Acts as they exist at present do not go to the construction of the dwellings, nor have they any sanitary regulations?—No.

2694. And you think it would be of advantage to the whole kingdom, do you?—Yes, with respect to the large towns.

2695. And with respect also to Sewerage Acts, it appears, that even though there are Commissioners of Sewers, yet they are very deficient in power, and therefore you think a general Sewerage Act, giving additional power and facilities, as applicable to all large towns, would also be highly advantageous?—I do.

2696. With respect to a general Building Act you spoke of as applicable to the city of London, can you give the Committee the title of it?—It is an Act passed in the 18th year of the reign of King Geo. 3, c. 14, for the better regulation of buildings, and the preservation of them against accidents by fire.

2697. Is there any other Building Act besides that?—None that I am aware of.

2698. That Act was only applicable and intended to prevent accidents by fire, and did not contain any regulation applicable to the insuring the health of the inhabitants?—It did not.

2699. Is that Act applicable only to the metropolis?—And the suburbs.

2700. It is not an Act applicable beyond the metropolis, is it?—No; it does not even take in Deptford, although it takes in Rotherhithe.

2701. Are you aware of any local Act in which there are provisions referable to the subject-matter the Committee are now inquiring into?—None that I have ever heard of.

2702. Do you not think that from the vast increase of these populous communities, and the more close congregation of the humbler classes together, that some such building regulations are actually requisite?—I think it would be highly desirable.

2703. And as you consider that the present neglect is the cause of many instances of disease and illness amongst the poorer classes, can you have any doubt that a better construction of dwellings would improve their health, and would also lessen the poor rates?—I should think it would tend to that.

2704. And thereby be a saving?—I should think it would.

2705. Mr. Tufnell.] You have been very extensively engaged in building, have you not?—Yes.

2706. Are the buildings you have been engaged in of a superior order?—Under my direction, I have built about 2,000 of the class of houses the Committee have been speaking of, but I have always taken care to have wide streets and sewerage.

2707. As far as your experience goes, is more or less attention paid than there was formerly to the drainage?—I find my houses always filled with tenants in consequence of the goodness of the drainage, while the houses in the narrow courts and places are becoming depopulated.

2708. Is that in any particular district?—The Commercial-road; I have let nearly 60 acres within the last 14 or 15 years, which are now covered with buildings.

2709. Then you consider that additional drainage is a considerable improvement?—It is a great recommendation to the houses.

2710. Do you make the drainage yourself?—In some cases they have been made by the Commissioners, in other cases we have made them ourselves; I never allow anything in the rear of the houses to be higher than six feet.

2711. Have you found any objection from the Commissioners of Sewers to make the drainage you required?—Yes.

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2712. Upon what grounds have they objected?—They have objected from want of funds in some instances, and in others the want of power.

2713. What districts would that be in?—St. George's-in-the-East and the Tower Hamlets. * In Westminster they complain they have not power to make them. In the Tower Hamlets they have made new sewers; but in the Westminster division they say they have no power to make new sewers; they may rebuild an old sewer, but they may not make new ones.

2714. Mr. Mackinnon.] Suppose instead of the various Acts with respect to sewers which have taken place at various times within the last half century; supposing instead of that, there had been one general Sewers Act passed half a century ago, do you consider that that would have been better for the metropolis than the present mode?—It is difficult to say.

2715. Mr. Tufnell.] Do you conceive that any difficulty arises from having different commissioners of sewers in the same metropolis, or do you consider it better to have a central power?—I am inclined to think a local district with different commissioners is better than one central, because I should think they would be better acquainted with all its localities and advantages.

2716. Of course if you had a central power you must have local commissioners, in order that they may have the knowledge?—The Committee is alluding to a superior body over those.

2717. Formed of the members of the local commissions?—I think that would be an improvement; but there is sometimes a difficulty with two districts, because they clash together.

2718. With regard to the levels, do you mean?—Yes.

2719. There is a different level in each district, is there?—Yes, and other difficulties; the districts run a good deal one into the other; they cannot do it because the other powers would interfere with them; there has been some difficulty in the neighbourhood of Lincoln's-Inn Fields about that.

2720. Mr. Mackinnon.] Supposing there had been one superintendence in the beginning, would there not have been a great deal of money saved, and the town better drained, because you would have had all the branch sewers running into one?—They might have adhered to one general system, which would have been better; but the first outlay would have been larger, although there would have been a saving in the end.

2721. Mr. Tufnell.] Do you conceive, even now, if the system were changed, and there were these local districts forming a central board, do you consider it would be difficult to lay down one general rule as to expense, so as to improve the system?—I think there is no doubt of it.

2722. Mr. Ingham.] The part you have been speaking of is north of the Commercial-road, is it not?—It is south as well as north.

2723. On either side of the Commercial-road?—Yes; but the larger proportion is on the north.

2724. You said you found your houses were always filled, while houses differently situated were empty; what class of persons are they occupying these houses?—I have a great many seafaring men; the better class of houses are occupied by the mates of vessels; and there are a great many clerks in public offices.

2725. What rent do they pay?—From 14 *l.* to 16 *l.* and 18 *l.* a year.

2726. Are any of those houses let out in single rooms and inhabited by the common street labourers or dock labourers?—Not of that class, certainly; they may let a floor.

2727. And then they would have to pay as much as 7 *l.* a year for it?—They would have to pay more, because the person occupying the house would make them pay a much larger proportion; I have very frequently found them paying 3 *s.*, 4 *s.*, and 5 *s.* a week.

2728. You are aware of the rate of wages you are paying yourself to mason's labourers, and that class of persons; would they be able to pay so much rent?—Indeed, some of the lower class of the Irish (a great many in the neighbourhood of Saffron-hill) are paying 1 *s.* 6 *d.* for a cellar; and a back garret they let out at perhaps 1 *s.*, and a front garret at 1 *s.* 6 *d.*

2729. Do you think a landlord could afford to make the improvements such

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as have been made in the buildings which have been effected by the Mercers' Company, if they only got such a rent as an ordinary working man could pay?—Yes, I think so.

2730. The houses that are now inhabited by the poorer classes have got no sewers at all, have they?—Very few of them have.

2731. The people that are the holders of the houses, do they seem to be accumulating large gains from their investment?—I see they are making large gains in that particular neighbourhood; they are a sort of middle-men, living on these poorer people, and they could very well afford to make these conveniences, because it is dean and chapter property, and they have it at a small fine only.

2732. *Chairman.*] Is the rent paid weekly?—Yes; they always go on the Monday morning for it.

2733. Do you not think there ought to be also in either a Building or Sewerage Act some general regulations for the purpose of enforcing paving and cleansing in populous districts inhabited by the class to which the Committee have been referring?—I think there is an Act for that.

2734. Is that a general Act?—No, a local Act.

2735. Do you not think that a general Act applicable to other populous places similarly situated, enforcing a good system of paving and cleansing, would be desirable?—I think it would be very desirable.

2736. You are aware that the cleansing, that is the scavenger's work, and so forth, is very greatly neglected in districts inhabited by the poorer classes in many cases?—Very much.

2737. And does not their health suffer in consequence?—No doubt of it.

2738. And you think some regulation for the purpose of enforcing that would be necessary and right?—I think it would tend very much to the benefit of the health of the people.

2739. Do you not think that some plan for the purpose of having a local inspector, either chosen by the inhabitants, or in some other way, for the purpose of seeing that the districts of these neighbourhoods are properly cleansed, would be very useful?—Yes, it would.

2740. According to the common saying of what is everybody's business is no one's, therefore it is at present in various places very much neglected?—It is very much so; the scavengers do it by contract, and there is no one to look over them.

2741. Are you aware that in many of the provincial towns, such as Liverpool and elsewhere, there is no such thing as any scavenging taking place in these close courts?—I am not aware of it.

2742. Do you not think that in some way, in these populous districts, the appointment of a board of health, that is to say, a number of persons of respectable character and competent ability as a board of health, to see to the health of the inhabitants, and to whom the inspector might report anything injurious to health, would be useful?—I think it would be highly desirable that some regulation should take place to preserve the health of the inhabitants of these close districts.

2743. And the principle of such a regulation would be advantageous as referable to other large towns containing large communities?—In the same proportion.

2744. *Mr. Tufnell.*] Do you conceive, without interfering too much with speculation, it would be possible to introduce some enactment with regard to houses of an inferior description?—I think there would be some difficulty where small houses only are built, if they were to be called upon to pay for the main sewer.

2745. You say you think some regulation with regard to the construction of these houses would be necessary; in what particular point would you have that regulation?—The court or alley should bear a certain proportion in width to the height.

2746. It is only with regard to the space between the houses?—Yes.

Lunæ, 18^o die Maii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Greene.
Mr. Ingham.
Mr. Mackinnon.

Mr. Slaney.
Lord James Stuart.
Mr. Tufnell.
Mr. Vigors.

R. A. SLANEY, ESQ. IN THE CHAIR.

George Samuel Jenks, M. D. called in; and Examined.

2747. *Chairman.*] YOU are resident at Brighton?—I am.

2748. Have you turned your attention to the subject upon which the Committee is inquiring with respect to the condition of large towns referable to sanitary provisions for the benefit of the inhabitants?—I have; I have been employed lately in drawing up a Sanitary Report for the Poor Law Commissioners, to be laid before the House of Lords.

2749. With reference to what town was that?—Brighton.

2750. What is the population of Brighton?—It is about 40,360.

2751. It has very rapidly increased in population within the last 20 years?—It has.

2752. Are there a considerable number of the poorer and working classes resident in Brighton?—There are a considerable number.

2753. Are the localities in which they reside for the most part crowded, or are they tolerably open?—Some parts are very open and very well arranged, others very close, very densely populated, and in streets, alleys, and courts terminating in a cul-de-sac.

2754. Are there a considerable portion of the population who inhabit close courts through which there is no thoroughfare for the air?—A great many, chiefly fishermen.

2755. Built up on the sides and at the ends?—Yes.

2756. Are the ends of those under arches or open at the top?—Very often under arches, but some are open; these are in the very oldest part of the town.

2757. Is there any form of building in Brighton which you consider inimical to the health of the inhabitants, either in the form of cellar-dwellings or buildings in which the houses are back to back, so as to prevent the air passing through?—There are very few houses which have cellars, in which the people live, underground; there are a few streets, but very few, in which there are some built back to back; those are by no means healthy.

2758. Do you refer to rows of houses?—Yes, rows of houses run up at the back of others, some at the back of the privies, and others with surface gutters, in which there is a great quantity of filth.

2759. Is not the form of building houses back to back, which prevents a current of air passing through them, very injurious to health?—It is.

2760. Supposing a fever from any other cause to be generated in houses of that description, is it not more likely to continue in consequence of the want of a current of air?—It is decidedly so; but we have very little fever at Brighton. That form of building undoubtedly would be the worst possible in the event of fever.

2761. Are those houses chiefly modern or of old construction?—Those I now allude to are of a construction within these 30 years.

2762. What is the state of the sewerage and cleansing in the districts with which you are acquainted?—That in the parts I am now speaking of is decidedly bad.

2763. Is there a want of under-ground drainage?—There is, and there are too many cesspools.

2764. Instead of an under-ground drainage there is a mere surface drainage?—There is.

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2765. Is that impeded in the courts and alleys by filth, attended with an unpleasant odour?—Yes.

2766-7. Is that state of things injurious to the health of the inhabitants?—Yes, but not to the extent of producing fevers.

2768. With respect to the cesspools, are they below the level of the sewers?—In most parts there is no under-drainage; therefore the refuse matter is collected in cesspools.

2769. Is such matter highly injurious?—Very injurious; because the cesspools are often under buildings, and very often near to wells, which they should not be, and frequently they are filled to overflowing, and left so.

2770. Is there any system of inspection of those close courts?—There is no system of inspection which I am aware of; I should think not, from the state in which I find them.

2771. Are they much neglected?—They are. On applying to the clerk of the commissioners (for the town of Brighton is governed by commissioners) he informed me they had no authority to interfere, unless a memorial was placed before the commissioners complaining of a public nuisance.

2772. Do you know whether the commissioners have power to make new under-ground drains, and whether, when they have made such under-ground drains, they have the power of enforcing a communication from the houses to the drains?—I know they have the power of making under-ground drains; but I do not know whether they have the power of enforcing communication.

2773. Do you know whether they have the power of preventing cesspools being dug to a level lower than the drains?—I do not think they have.

2774. Some improvements in the way of power given to the commissioners of sewers would be useful?—I think so, decidedly.

2775. And also a system of inspection, to see that it was well carried out, and that the cleansing of those courts and places were better attended to?—Yes; they have an authority for cleansing the courts and places; but there is not a good office of scavengers there. The great streets and thoroughfares are all sufficiently attended to; but it is in those places where the greatest attention is required that the least is paid.

2776. Have you attended generally to the subject referable to such sanitary regulations as may be beneficial to the health of the poorer classes in large and densely peopled towns and districts?—I have.

2777. Have the goodness to state what you think should be the general regulations upon these subjects?—The general regulations should be with regard to thorough ventilation; a good supply of water, of good quality, together with all the means of carrying off the water which has been used, and sufficient drainage; and a surface drainage is a very necessary thing. With regard to buildings; that the streets should be of sufficient width, and well paved, and that there should be no back buildings to intercept the thorough ventilation of air in any direction; that they should not be built back to back; that the houses should be built of proper materials, to keep them water-tight; that a great attention should be paid to their site as well as their exposure and their elevation; and that there should be no under-ground dwellings. The attention to drainage is most essential.

2778. Have you seen many districts in which that has been neglected?—I have seen many districts in which that has been very much neglected.

2779. Are you aware that there being no general Drainage Act, it is necessary to have a separate Act for the draining of each particular place, which is obtained at a great expense?—I should conceive it very desirable that it should be embodied in one Act. I think it is necessary and very desirable in all towns that there should be open spaces, public walks and promenades for the people, and that there should be public baths for the people, and that facilities should be afforded them, where opportunities present themselves, to bathe in rivers or in the sea.

2780. Some reserved place on the banks of an adjacent river where they can dress and undress?—Yes; and that every other means which can be devised for the out-door recreation and exercise of the poor is very desirable.

2781. Are there many schools for the poorer classes in Brighton?—There are.

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2782. Are there any playgrounds appendant to those schools in which the children can take exercise?—In general there are.

2783. Do you not think such an appendage is highly advantageous to young children?—Highly advantageous.

2784. Do you not think that it is desirable to assist their physical development as well as to increase their cheerfulness?—Certainly.

2785. Is it not more important in respect of those children who inhabit densely populated districts?—Certainly.

2786. Mr. Mackinnon.] Have you turned your attention to the prejudice to health arising from burying in towns?—Yes; that does not apply to Brighton; but I have seen a good deal of it abroad.

2787. What is the result of your observations upon that subject, not with reference to Brighton, but generally?—My opinion generally is that it is prejudicial to the health of towns having burial-grounds in the central parts, where the inhabitants are closely pent up; that in the large towns on the Continent where this has happened great evil has arisen from it. Gentlemen in this Committee are probably aware of the serious accidents which have occurred in Paris at different times, which at last compelled the Government to forbid any more bodies being buried in the towns; the same prohibition exists, I am told, in Austria and in Prussia.

2788. Was there not an ordinance of Napoleon, containing a general order throughout France that cemeteries should not be within a mile of the bills of mortality?—Yes; at Naples they are not allowed within two miles.

2789. Do you consider that it would be advisable to make such a regulation in this country?—I think certainly that no burial-ground should be within a mile or a mile and a half of a town. The site of a burial-ground, however, is of great importance. With regard to the choice of the spot, it ought to be a place perfectly dry, not near to springs or rivers; it should be thoroughly exposed to the wind, care being taken not to suffer the exhalations to pass over places which are inhabited; for though burying bodies may retard putrefaction it does not stop it, and in warm days, exhalations from the best regulated burying-grounds are unpleasant and injurious to health.

2790. Are you aware that in the regulations on that subject in the Code Napoleon there was a direction that burying-grounds should be permitted only on the north side of the town, from the idea that when the north wind blew it was the most drying wind, and therefore the less likely to injure the inhabitants?—It was strongly recommended in a memoir drawn up by a committee, that they should be exposed to the easterly and northerly winds, because they were dry winds. The same committee also recommended that no excavations should be made, except in particular seasons of the year, for example, in the winter and early spring, when those dry winds prevail, on account of the risk from opening the ground.

2791. Chairman.] Without entering particularly into the subject, you think that due sanitary regulations, with regard to the provision of burying-grounds, ought to be enforced by legislative authority?—Certainly, that is decidedly my opinion.

2792. Mr. Greene.] Having spoken of the practice on the Continent with regard to the burying-grounds, what is your opinion with respect to providing abbatoirs out of the towns, and preventing slaughtering in the towns?—That is one of the last improvements on the Continent. In Rome, where formerly the slaughter-houses were a great nuisance, now all the animals are slaughtered outside the town; a large abbatoir has been built within the last 10 or 12 years, and an excellent establishment it is, provided with abundance of water and every other convenience, and kept in the best possible state of cleanliness.

2793. Do you not conceive such establishments very much promote the health of towns?—I have no doubt they do, for I think slaughter-houses in a town, particularly if it is densely populated, constantly give out bad and putrefying exhalations. During the war, in the city of Cork, where enormous quantities of cattle were slaughtered for the use of the fleet, there is no doubt fever prevailed in the districts where those slaughter-houses were situate.

G. S. Jenks, M.D.

18 May 1840.

Veneris, 22^o die Maii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Brotherton.
Mr. Cowper.
Mr. Greene.
Mr. Mackinnon.

Mr. R. A. Slaney.
Lord James Stuart.
Mr. Tufnell.
Mr. Vigors.

R. A. SLANEY, ESQ. IN THE CHAIR.

James Pennethorne, Esq. called in; and Examined.

*J. Pennethorne,
Esq.*

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2794. *Chairman.*] YOU have been professionally engaged in surveying buildings for some years past?—Yes, I have been engaged in various improvements of the metropolis, under the Commissioners of Woods and Forests.

2795. Are you acquainted with the construction of buildings throughout most parts of the metropolis?—Yes, I think in all parts.

2796. Are you acquainted with the buildings, particularly that are inhabited by the humbler working classes, in various parts of the capital of London, and the suburbs?—Yes; I have had occasion, within the last three months, to survey the whole of St. Giles's, and the worst parts of Essex-street, Spitalfields, and the parts north of Farringdon-street, round Field-lane and Saffron-hill, which are, I believe, almost the worst, if not quite, in London.

2797. Will you describe the state of the buildings, particularly with respect to their forms, in those districts?—Those districts are composed almost entirely of small courts, very small and very narrow, the access to them being only under gateways; in many cases they have been larger courts originally, and afterwards built in again with houses back to back, without any outlet behind, and only consisting of two rooms, and almost a ladder for a staircase; and those houses are occupied by an immense number of inhabitants. I have seen three and four beds, and more than that, in each room; they are all as dark as possible of course, and as filthy as it is possible for any places to be, arising from want of air and light.

2798. Are those places extremely close and badly ventilated?—Yes.

2799. The entrance, you say, is under an archway?—Yes.

2800. The court has no thoroughfare through it?—In many instances, and in some instances there are thoroughfares through them.

2801. Many of the courts are so built that there is no thorough draught for the air?—Yes.

2802. Does not that form of construction appear to you very injurious to the health of the inhabitants?—I have no doubt it is extremely injurious.

2803. Are the front walls of those houses close to each other, or is there a good space between them?—In many cases less than 10 feet; they will not, in any instance, I believe, be found 20 feet apart, not even in the wide part of a court; but generally they will average 10 feet, and in some instances be as little as five.

2804. Is that sufficient for the purposes of due ventilation, and cleanliness, and air?—No; no houses ought to be allowed to be built less than 20 feet apart from front to front.

2805. The entrances, you say, are under archways, there is no thorough draught of air, and the houses are built very close to each other in front; are they not, in many instances, also built back to back, so as to have no means of giving a circulation of air through them?—Yes.

2806. So that in addition to their being in courts with archways, they are also constructed so that no air can pass through them?—There is no thorough draught through the houses.

2807. Do

2807. Do not you think it is difficult to conceive any construction or form of a house which can be more injurious to health than those so situated?—I believe it is the very worst possible construction.

2808. Do you speak only of singular instances, or of numerous instances, throughout parts of London densely inhabited by the poorer population?—That is a common description of building in those districts.

2809. In those districts where the houses are so constructed, what is the nature of the under-ground drainage generally?—There is no under-ground drainage of any sort or kind to many of the districts; not to the St. Giles's and to the Spitalfield's districts; and the drainage to that north of Farringdon-street is by an open ditch, which is quite as bad as no drain, if not worse.

2810. The only mode by which the dirty water and other refuse liquids from those houses escape is by means of surface drains, or surface gutters, which are open to the air?—Yes; and in Rose-lane, which is a great deal better than the courts I have described, and which is, perhaps, one of the best streets about that part of Spitalfields, I have seen the place completely flooded with blood from the slaughter-house.

2811. Those open gutters being the only mode by which such refuse can escape, are they not constantly choked up with refuse, and filth, and various substances thrown out from the houses, ashes and so forth, so as to impede the quick passage away of those refuse liquids?—That is probably frequently the case.

2812. Is there any regular inspection of those close courts, in order to have a good system of cleansing and of scavenging applicable to them?—I do not think there is any system of the kind; certainly there is no appearance of it from the state of the districts.

2813. Is it, as far as your observation goes, quite ineffectual at present?—If there is any, it is quite ineffectual; and in some of the better parts again, where the houses have small back-yards, they were in such a filthy and dirty state, that we positively could not walk out in them.

2814. Have you in your visits to those miserable places frequently perceived the effects of bad air and fetid exhalations from those places?—Bad smells of all kinds.

2815. Have you found that there were cesspools in any of those places?—I take it there must be cesspools, because there are privies.

2816. In what state are the privies and places in which they cast the refuse in those districts; are they neglected and filthy, or otherwise?—They are places one can hardly call privies; in many cases they are only a few boards tacked together, and sometimes we could not find where the privy was, and doubted whether there was such a thing in all the court, and generally we found only one appropriated to each court.

2817. Was there any system of cleansing and keeping them in order, or were they generally filthy?—There was none; the inhabitants appeared to be living in such a state of dirt and filth, they thought of nothing in the shape of cleanliness.

2818. Were those places themselves in fact dirty and neglected?—Very bad indeed.

2819. You speak now not of particular places, but of wide-spread districts?—I speak of the districts I have named.

2820. They are inhabited by a dense population, chiefly of the working classes?—Yes; St. Giles's mostly by Irish labourers; and other districts appeared to be of the working classes, but I should think they get their living as they can; they must be of the very poorest classes; they appeared to be worse than the working classes.

2821. Do you know of fevers or contagious disorders existing in those particular districts, or have you in the course of your inquiry found out such to be the case?—I do not know that of my own knowledge.

2822. Are there a great number of children in those districts?—Yes; I saw a great many of the children almost naked, and very filthy and dirty, playing in the courts.

2823. Such a state of things must be highly injurious to the health of the inhabitants?—It must be highly injurious to the health of the inhabitants.

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2824. The Committee have had very many cases stated to them of a similar form of construction of the houses in close courts, without any effectual drainage, built back to back, and without thoroughfares, in the town of Liverpool and some other districts; therefore the remedies which would be applicable to those you speak of would also be applicable generally, would they not?—I should imagine they would.

2825. Are you not aware that in some of the densely populated districts, where there are courts in the form you speak of, that is, without any thoroughfare, it has frequently been the case that on the small space which still remained a house has been built, as a sort of excrescence, taking away a part of the small space which remained?—That has been the case very much in St. Giles's; they have been building there within this last twelvemonth under such circumstances.

2826. Is there anything to prevent that?—I am not aware of anything.

2827. There is a Building Act applicable to London?—There is.

2828. The chief provisions of that Act are, that there shall be party-walls of a certain thickness, to prevent fires, and there are some rules to prevent overhanging buildings?—Yes, and encroachments on the pavement.

2829. Are there any regulations forbidding certain forms of buildings, which are found by experience to be injurious to the health of the inhabitants; or any rules to prevent houses being built back to back, or anything of that kind?—No, nothing of that kind.

2830. Are you aware of any building Act comprising such sanitary regulations in other places?—I am not aware of any.

2831. Do you not think, from the vast increase of the population, and the experience you have had of the evils arising from the bad form and construction of the dwellings of the poorer classes, that it would be highly desirable to have a general Building Act that should lay down general regulations to prevent such forms of construction as are found to be highly injurious?—Yes, that would be very beneficial indeed; and not only to do that, but to regulate the width of the streets; anything which would regulate those buildings so as to prevent the great masses of poor houses being congregated together as they are now would be beneficial.

2832. In such a Building Act the object would be to avoid all interference with private property not applicable to the object in view?—It would be, of course, an object for the framers of the Bill to prevent the clauses interfering more than was necessary with private property.

2833. Do you not think that for the preservation of the health of the great masses of the community, some rules ought to be laid down which could not be contravened?—I think it very desirable, and that they could be framed so as not to be injurious to private property.

2834. Under the present Building Act houses are divided into certain rates of building?—Yes.

2835. The question has reference to houses of the smaller rate, inhabited by the lower classes; as referable to them, do you think the rules proposed would be advantageous, and that they might be carried into effect, first, that wherever houses are built in close courts there should be a thoroughfare for the air?—There would be no objection to that.

2836. That is to say, that the space for a house should be left vacant at the end, so as to let the air pass through?—I think that would be of very great advantage in practice.

2837. Do you not also think that the form of building back to back in such localities ought to be forbidden?—I think they should be prevented being built back to back; I would not allow any houses to be built nearer than 10 feet to each other at back.

2838. Do you not think that cellar dwellings below the level of the underground sewer ought also to be forbidden?—Yes, decidedly, if used as habitations.

2839. You think that where cellar dwellings are at all permitted there should at all times be a drainage below the level of the floors, so as to insure their being dry?—Yes.

2840. Do you not think that, as applicable to rows of houses of this class, there ought to be some regulation with respect to the space in front and at back?—Yes.

2841. Do

2841. Do you not think that such regulation as to the space in front should be proportioned in some measure to the heights of the houses?—Certainly.

2842. And that that at the back should also have some reference to that circumstance?—Yes, I think it should.

2843. Opinions may differ with respect to what that proportion should be, but what proportion of height do you, as an experienced architect, think ought to be observed in the front?—Of course it is very difficult to give a proportion without consideration, but I have already said that no street or court should be less than 20 feet wide, and I think no dwelling-house should be allowed to be erected of greater height than the width of the street.

2844. That is to say, that the space in front should be the height of the building?—Yes.

2845. The Committee have had evidence from experienced men that two-thirds was sufficient, but you think it should be equal?—Yes; suppose you have houses 21 feet high, and allow two-thirds, then the street will be but 14 feet wide, which will be too narrow, and most of the small houses are within that height.

2846. What do you think it ought to be at the back?—I hardly know; but I should say not less than 10 feet in any court from back to back: there may be some cases of corner houses where the rule is not applicable; but I think every house should be built with a back yard of at least one-fourth its own size.

2847. You think some regulations of that nature are necessary, for the protection of the health of the poorer classes?—Yes.

2848. In a Building Act this matter would be considered with great care, as referable to the different districts; but you think there should be a space both at the front and at the back?—Yes; and I think that would be very easily accomplished.

2849. With reference to the humbler dwellings situated in the district spoken of, do you not think there should be some regulations as to those conveniences necessary for health being attended to?—Yes; I think every house should be provided with a privy, taking care that it is light and well ventilated.

2850. Do you not think, also, that there should be some receptacle for ashes and dirt, and so forth, so constructed as to prevent the evils arising from the present neglect?—Yes; but perhaps not to every house; one place might be common to the court.

2851. Do you not think that there ought to be a provision in the Building Act, or the Sewers Act, requiring some system of paving the courts and alleys, so as to prevent stagnant water and filth remaining in close courts?—It would be a great advantage; but there might be difficulties attending that; it would be throwing expenses perhaps upon the parishes: a general regulation to preserve the paving, of course would be a very good thing.

2852. Mr. *Cowper*.] Is the paving kept quite distinct from other matters?—Yes; there are paving commissioners, who pave the streets and take the rates.

2853. Are there any other points referable to suggestions for a Building Act applicable to this scale of houses which you would think necessary, in order to protect the inhabitants from the present defects?—No; with regard to buildings no others strike me at the moment.

2854. You think that these, if duly enforced, would be at all events a very great improvement to the health and comfort of the vast masses of the community residing in those districts?—I think they would be, and I think there ought to be, if possible, power to prevent an estate being laid out in great masses of small houses.

2855. You have spoken of the inefficient or imperfect state of the drainage in many of those districts; are you aware of the powers of the commissioners of sewers?—In some measure.

2856. Do not you think that a general Drainage Act, which should be applicable to populous districts, suburbs of towns, and so on, which should lay down general regulations, which might be enforced by the rate-payers choosing so many trustees, and going through certain forms to give facilities for drainage, would be very valuable?—Certainly; because I consider drainage much more important than any other regulations for the preservation of health.

2857. Do you not think a good system of under-ground drainage is essential to the health of any district, however well it may be built?—Decidedly.

2858. Are you not aware, that under the present powers of the commissioners, even though there are Sewers Acts, they have no power to compel the inhabitants

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tants of any houses to make a communication from their houses to the common sewer, even when it comes close to them?—They cannot compel them to use the sewer, which they ought to have the power of doing.

2859. Ought they not also to have the power to prevent cesspools or other receptacles for liquid filth being sunk below the level of the common sewer?—Certainly.

2860. They have no such power as that at present?—They have not.

2861. Ought there not also to be some power given them to enable them to make new common sewers up to houses or fresh buildings which may arise round about them in their district?—I think they not only ought to have the power, but to be compelled to do it.

2862. You are aware that the commissioners conceive they have not the power at present?—I know some commissions have no power to build new sewers, only a power to repair those in existence.

2863. That is not the case with respect to all of them; but a declaratory or enabling Act is necessary with reference to many?—In the instances I have been speaking about, they stated to me that they had no power to make new sewers.

2863*. There are three points in which even the present commissioners of sewers wherever they are acting require additional powers; one to make new sewers; a second when the sewers are made to enforce a communication from the houses to the sewers, and a third to prevent cesspools and other receptacles for filth being sunk below the level of the sewers?—Yes, and not only to compel them to empty into the sewers, but to have proper traps on the drains to their houses, or they may become themselves nuisances.

2864. Do you not think there should be a power to enable the commissioners of sewers to cover up any open drain, which is a power which they conceive they have not at present?—If they have not that power I think they ought to have it.

2865. You are aware that though there are populous communities spreading themselves around certain districts they have no power to do those things, and must apply in each case for an Act of Parliament, which cost them from 300*l.* to 500*l.*, even if not opposed; do you not think that a general Act giving certain powers would be beneficial?—I should think it would; there may be technical difficulties which might prevent its being so that I am not aware of.

2866. Do you see any objection to an Act with general powers?—No, I do not. There may be this objection, that on large estates a man may choose to drain his own estate entirely; he might desire to preserve the power of doing that, without reference to any public body. In such an estate as that of the Marquess of Westminster, near the water side, if he chooses to cleanse his whole estate and take the rates, I do not think that he ought to be compelled to resort to any public body.

2867. So long as it is shown that is well done?—Certainly.

2868. Do you not think that for the sake of the health of the poor it is necessary there should be some system of inspection, to see that those things are well performed?—Yes, and to enforce cleanliness, particularly in the whitewashing and painting of the houses.

2869. With respect to the cleansing of courts, the cleaning of cesspools, the removal of filth, the stoppage of sewers or of drains, the prevention of such buildings as will impede the transmission of the air; for all these purposes do you think there should be some person who should be an inspector, and should have power to give notices to persons who are injuring the health of the inhabitants from any of those causes, and who should report to some superior power?—Yes, I think that would be one of the most useful clauses in the Bill.

2870. Do you think it is necessary, looking to the present state of things?—Yes, quite necessary; generally speaking, the medical man employed by the Poor Law Commissioners, or some other person, might report to some competent authority.

2871. Do you think it would be advisable to have appointed, by either the Poor Law Guardians or the rate-payers, or some competent authority, persons as a board of health, resident in those very populous districts, who might make such suggestions from time to time as might be requisite, and to whom the inspectors might report?—It would be a very desirable thing to have a body of men to enforce the provisions of the Bill; but I am not competent to say whether it should be a board of health or the parish authorities, or who it should be; there should be somebody to have the power to enforce the clauses of the Bill, and also officers appointed,

appointed, who would report to them. If the Bill is made sufficiently strong to answer all the purposes referred to, I think almost anybody would be competent to carry it into effect. I should think the medical man appointed by the Poor Law Commissioners is a very fit man to report on cleanliness.

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2872. Do you think that the medical man appointed by the Poor Law Guardians, with perhaps two or three respectable inhabitants of the district, chosen by the parish, would be sufficient to act as a board of health?—I should imagine so.

2873. Do you not think that a good supply of water is one of the first requisites for the health of the poorer classes of the inhabitants of those districts?—Certainly, a supply of water is of great importance; it should not be supplied perhaps to each house individually, for the rates would be too heavy, but there should be some system of supplying water to the courts generally.

2874. Is not the supply of water, independent of its necessity in point of health to the inhabitants, also absolutely necessary for the purpose of cleansing, where there is a system of under-ground sewerage, so that there may be a considerable passage of water through the drains and sewers to keep them clean?—Yes; but I do not think the water supplied in that way would have much effect upon the sewers; they are cleansed more by the rain than by the water from other sources.

2875. In those populous districts where you have been, are there any schools where the children of the poorer classes attend?—Not within the districts themselves, but immediately around them, there are schools.

2876. Were the schools you have visited well ventilated?—Yes, I think so, in the schools lately built; but they have great difficulty in getting the children to attend them in those miserable districts.

2877. Have you visited any of the dame or day schools in those districts?—No, nor did I hear of any.

2878. Do you know whether there are any play-grounds to which the children can have access in the neighbourhood of those schools?—In the national schools there are, for infants, and sometimes for girls.

2879. You think there would be no difficulty in carrying into effect the general regulations referred to in a Building Act and a Sewers Act, and that such are absolutely necessary to the health of the inhabitants of those populous districts?—Yes.

2880. Are there any other matters which you feel to be applicable to the subject before the Committee?—There are some matters very injurious to health, such as poisonous manufactures and slaughter-houses, the boiling of bones, and so on, which I believe may be put down by law now, but at a great expense. I think regulations allowing a more easy mode of getting rid of those nuisances would be highly advantageous. (*The Witness produced a plan.*) This is a plan of the Rookery in St. Giles's, which exemplifies that I have stated; it is divided into little courts, through very few of which there is a thoroughfare of air. The white indicates the open spaces. The houses were originally built all round those squares, with open spaces in the centre; but from time to time they have been built within, and so divided into the numerous little courts, and houses have been so built within 12 months since.

2881. There appear to be several courts entirely built round, into which there are nothing but narrow openings?—Yes, about three feet wide and six or seven high.

2882. And in many instances the houses appear to be built back to back?—Yes.

2883. Is this same injurious mode of construction followed in other districts?—Yes. This is a plan (*producing it*) showing the courts between Whitechapel and Wentworth-street; the only entrance is by covered archways, opening into a very narrow street, which has no entrance again, except through an archway at one end, and there is a very narrow dark alley at the other end, not above seven feet six high. This is all inhabited by the humbler classes. It tends not only to the destruction of health, but quite as much to the destruction of morals; and it is quite certain, that as long as those districts remain in London and other towns, the formation of schools will be of no use. I am told on good authority, by a man whose property overlooks the courts, that frequently, on a Sunday morning, he sees a dozen women perfectly naked, without the least dress at all, dancing to a fiddler.

2884. Have you visited those districts?—I have.

2885. Are

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2885. Are you of opinion, from what you saw of the habits of the children, that any good effect arising from education in the schools in the day must be very much neutralized by their habits of filth and misery?—I am quite convinced that very little good will be done to the children by education, and very little good to the population by prison discipline, as long as those scenes exist. I am told that there are as many as 18,000 persons let loose from the prisons in London every year; the moment they leave the prison they come back to those places, make their parties, and go into the country upon their beats.

2886. Are there a great number of children in those districts?—Yes, they are very populous; each house is inhabited by a great many families.

2887. *Mr. Cowper.*] Are the children under education in those districts?—I am afraid there is very little education among the inhabitants of those miserable districts; the property is owned by one person, who lets out to another, and he again to another weekly, who underlets daily and nightly.

2888. *Chairman.*] Do you not think it would be advisable that the small rents for water and poor's rate, and so on, should be rather borne by the landlords than squeezed out of each of the tenants?—All the parish rates at the present moment are paid by the landlords, not by the ground landlord, but by the lessee under the ground landlord.

2889. Do you not think such a practice would be beneficial as applicable to other districts of a similar nature?—Yes; I do not think the rates could be collected without a provision of that kind.

2890. *Mr. Cowper.*] In the case of those houses built for the poorer classes, can you give any idea of what proportion the expense of a good system of sewerage would bear to the whole expense of building the houses?—No, I cannot do that, but it would be very trifling indeed; the great expense would be in the rates. I think the commissioners should be compelled to make great lines of sewers through every district on which buildings now stand, or on which they are about to be erected.

Thomas Allason, Esq. called in; and Examined.

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2891. *Chairman.*] YOU are extensively acquainted with buildings?—I am.

2892. In what district?—I have been surveyor to a fire-office for the last 15 years; I have been 36 years in the profession.

2893. With what districts are you particularly acquainted?—I am acquainted with the whole of London.

2894. Are you well acquainted with the populous districts in the south and east of London, Lambeth, Rotherhithe, and others, in which a great body of the working classes reside?—I am.

2895. Are you aware that in many districts the form of the construction of the buildings they reside in is found very injurious to the health of the inhabitants?—Highly objectionable.

2896. Such as close courts, the entrances to which are often under archways, through which courts there is no thoroughfare for the air?—Yes.

2897. In which the houses are built very close to each other, and many others in which they are built back to back?—Yes.

2898. All these forms of construction apply in many parts of London?—Yes, it is general in that class of building.

2899. Are there many in which there are cellar dwellings?—Yes.

2900. Do you not consider that, considering the bad effects of buildings of this nature, some prospective regulations are necessary for the prevention of them?—They are absolutely necessary.

2901. Does your knowledge extend to buildings in other populous towns of the kingdom?—To the large towns generally, such as Birmingham, Norwich, Liverpool, and so on.

2902. Does the same apply to other large towns?—Yes, and Manchester also.

2903. From the vast increase of population of this class, you think those regulations are essentially necessary?—Unquestionably.

2904. Do you think some regulations to prevent the construction of buildings in those forms would be beneficial if introduced into a Building Act?—Yes.

2905. Houses are divided into different rates; taking those inhabited by the humbler classes, would there be any difficulty in laying down regulations which would

would be beneficial?—I think there would not; that such regulations might be laid down as would prevent that inferior class of buildings being erected at any time.

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2906. You are of opinion that to the inferior classes this construction of their dwellings is highly injurious to health?—Just so.

2907. Do you not think that one regulation should be that houses should not be built in close courts without a thorough ventilation of air?—That should be one leading feature, certainly.

2908. That there should not be cellars occupied for habitations permitted, unless there was, at all events, a drainage below the surface of the cellar?—Certainly.

2909. Thirdly, that no houses for human habitations should be permitted to be built back to back?—Certainly; there can be no ventilation in such a case, and not sufficient light.

2910. In addition to this, do you not think that with regard to rows of houses in populous districts there should be some regulation as to the space left in the front of them?—I do, certainly.

2911. And also behind them?—Yes.

2912. Have you turned your attention to what proportion of height would be desirable?—I have not given the matter very deep reflection; but having heard the evidence of Mr. Pennethorne, I have turned the matter in my mind, and I should lay down this regulation, that the height of the houses should determine the width of the street, whether it be a street in a public place, or in a corner of St. Giles's.

2913. You would not probably enforce so great a width at the back of them, but some proportion should be taken?—I should, even at the back, as far as the main buildings; for instance, in the lower classes of houses, if there is a width of 20 feet between the fronts of the houses in the rear, there should likewise be a width of 20 feet between the width of the main house.

2914. You would not prevent lean-to's, or small buildings below?—No.

2915. But it would be desirable to have some space even between the ground-floors?—Yes; that regulation gives the best effect to a street. A street where the houses are 50 feet high should be at least 50 feet wide; then the sun has an angle of 45 degrees, which gives great cheerfulness and air.

2916. Do not you think that in any such Building Act there ought to be regulations providing for the erection of those buildings necessary for the decency and comfort of the inhabitants?—No doubt of it; and if they could be made separate for each house, it would be very desirable.

2917. You think there should be proper regulations referable to the drainage of the district?—Yes.

2918. Also proper conveniences for the refuse offal and ashes cast out?—Yes.

2919. Without defining what it should be, but such as the experience of persons conversant with these matters would determine?—Certainly.

2920. Would there be any difficulty in carrying out regulations on these subjects?—None at all, in my opinion.

2921. With reference to drainage, is that a point to which you have turned your attention?—I have, particularly.

2922. In many of those populous districts there is no system of under-ground drainage, or a very imperfect one?—None; and I think all the object would be very well attained, without effecting it in a compulsory manner, by a good system of drainage.

2923. That would go far to improve the health of those densely populated districts?—It would never be the interest of a freeholder to have that inferior class of buildings which they have now throughout the metropolis, and in all populous towns, if they were compelled, in the first instance, to adopt some regulations for drainage.

2924. Do you think a general Sewerage Act, which would lay down general regulations, so as to enable the inhabitants in all populous districts to choose trustees who might carry out those regulations, would be valuable?—I think the proprietor of the estate should incur the expense of his own drainage, under the surveillance of some public body.

2925. *Mr. Cowper.*] Why do you think that under a good system of drainage on inferior class of houses would not be built?—A freeholder or lessee, or

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party intending to cover the ground, would necessarily have to wait a considerable time, and incur an expense in making proper drains. The commissioners at the present time have certain regulations that no floor shall be placed in a situation that shall not have a certain height above the general drainage; but as it is, now the custom is first to build the house, or first to cover a district with houses, and then to effect the drainage of them in part.

2926. *Chairman.*] Is not that much more costly than if it were done at first?—Yes, and sometimes impossible. The city of London are now struggling with those difficulties; they have been in some districts obliged to shore up the whole of the houses, or to rebuild them; but the result is, that when you build before you construct your sewerage, one half or two-thirds of the houses are never drained at all, and it is at an increased expense that they can effect any drainage.

2927. *Mr. Cowper.*] You think a freeholder would not think it worth his while to build a very inferior class of houses, if he must first provide for the drainage?—Having made certain improvements upon the ground, though it would not be heavy on a good house, it may be 5 *l.* or 10 *l.*, and the freeholder has an interest in carving out his estate with all its advantages.

2928. *Chairman.*] You think a Drainage Act, making those regulations, would have an important influence on the health of the inhabitants?—I think it would.

2929. Are you not aware that the commissioners acting under district Acts have no power to compel the inhabitants of houses to connect their houses by under-ground drainage with the sewers?—There is no power.

2930. Secondly, they have no power to prevent cesspools for liquid refuse being sunk down below the level of the sewers?—None whatever.

2931. And thirdly, they have no power, as they conceive, to build new sewers up to new bodies of houses if erected?—Not in all cases; they have in certain points; they are now proceeding in connecting main lines of sewerage for the purpose of improved drainage to the district.

2932. Do you not think that such powers as have been referred to, which they do not at present possess, ought to be given to them?—No doubt.

2933. Should not there be some system of inspection in those thickly-peopled districts, so as to see that a proper system of cleansing and scavenging, and so on, takes place?—Certainly that is necessary.

2934. At present that is very greatly neglected? In some districts totally.

2935. The health of the inhabitants suffers in consequence?—Very much.

2936. Do you not think such inspectors should have the power of reporting any matters which interfere with the health of the inhabitants to some competent authority?—That would be very proper.

2937. Do you think a board of health, chosen by the rate-payers, or in some manner, to preside over populous districts, and to whom the inspectors might report, would be a valuable establishment?—Certainly it would.

2938. Do you not think that some such suggestions as these are absolutely necessary to be carried out for the sake of the health of the vast masses of the community now congregated together in large towns?—Certainly.

2939. And that the necessity is every day more pressing?—Certainly.

2940. Are you aware that fevers and other contagious disorders generated in those districts frequently spread into other portions of the town?—I believe that to be the case.

2941. Are you aware that, in consequence of the illness caused by the neglect referred to, very great expense is continually cast upon the parishes and upon the richer classes, either in the form of poor's rates, or contributions to assist those whose health is so injured?—Yes, I know that.

2942. Then the regulations contemplated would produce a very considerable saving in those points, either to the parish or to the richer classes?—Undoubtedly.

2943. Are there any other general suggestions on these points you would favour the Committee with?—If you could secure a perfect drainage and a good supply of water, all other matters would follow of course; everything hinges upon those.

2944. The inspector would have the power of putting down all nuisances in his district?—Yes.

2945. As, for instance, slaughter-houses, cemeteries, burying-grounds, from which any noxious vapour might arise, and any kind of manufactory which was found

found within a crowded district extremely injurious to the health of the inhabitants?—Yes.

2946. Such an officer would be very valuable?—Certainly.

2947. *Mr. Cowper.*] Does it occur to you that there is any existing authority who might take the duties of inspector upon him?—No, I think not; there is only the beadle, or constable of the parish; the beadle is a parochial officer.

2948. *Chairman.*] Some person might be appointed, either by the rate-payers or the board of guardians?—I think a more important personage is requisite than the beadle; a person of intelligence and information.

2949. *Mr. Cowper.*] Would it be desirable he should be a medical man?—No, I do not think that is essential; if there is a board of health a medical man would be essential.

2950. *Mr. Mackinnon.*] You think no legislative enactment would be necessary if you have good drainage?—My opinion is, that no legislative enactment would be necessary if there was good drainage and an ample supply of water.

2951. In the first part of your evidence, you stated you would recommend that whenever a street was built the width of it should be in proportion to the height of the houses; would not that very much trench upon the rights of private property, if a person bought land and wished to build upon it houses of a certain rate?—Yes; but then I think another object is paramount to that, and that is the public benefit.

2952. Are you not aware that though houses might not be so far apart as you recommend, perhaps they would come within six inches or a foot of the width, and do you not think it would be very hard to prevent their building those houses of a certain description?—I believe the present regulation with regard to public roads is, that no house shall be built within 30 feet of the centre, but sometimes I believe it is done. Where parties have property on the road-side they might consider it a hardship that the public benefit should be considered in preference to their individual rights, but they might find in the end their property was improved.

2953. *Chairman.*] You would as little as possible interfere with private property; you would only enforce that which you consider essential to the health of the inhabitants?—Just so.

2954. *Mr. Mackinnon.*] Would you think that the parish vestry would be the proper persons to appoint the inspector?—I think so.

2955. Do you think if a board of health was established who should nominate a person to act as surveyor, the power of appointing that board of health had better be in the guardians, in the vestry, or in the magistrates?—I think the vestry would be competent to select the proper individual, and that it would be most agreeable in general that that should be the case.

2956. You would not be afraid of jobbing?—I think that would not be possible now.

2957. Are you of opinion that the having cemeteries or burial-places within populous towns is injurious to the health of the inhabitants?—I consider it highly so.

2958. Has it come under your knowledge that places for slaughtering animals are injurious to health?—They are very unsightly and disgusting, but I do not think that any injury arises from them.

2959. Do you think any injury to the inhabitants arises from Smithfield market?—I never heard of any objection arising from that circumstance.

2960. *Mr. Greene.*] The slaughtering of cattle in cellars is frequently practised in London; do you think that injurious to health?—I think if you look at the slaughtermen they are generally very healthy men.

2961. *Mr. Cowper.*] Do you know whether the slaughter-houses are well drained in London?—In many cases they are, but in many others not at all; in Whitechapel the whole of the drainage there is surface drainage, and generally throughout the city; there is no part of the metropolis so ill drained as the city of London.

2962. That is not healthy?—No, for the whole mass is impeded in the gutter, and there it lies in hot weather to become fetid and putrid.

2963. You think if the slaughter-houses are well drained they are not injurious to health?—I think not.

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2964. *Chairman.*] YOU are a medical man, residing at Birmingham?—Yes.

2965. How many years have you been resident there?—Upwards of 20 years.

2966. During that time you have been in extensive practice throughout the district as well as Birmingham?—Yes, in pretty extensive practice.

2967. Are you well acquainted with the state of the habitations and the habits of the poorer classes of Birmingham?—Yes, in the town I am tolerably well acquainted with them.

2968. The Committee understand that the habitations of the humbler classes in Birmingham are superior, in many points, to the habitations of the corresponding classes in the Lancashire towns; that, generally speaking, each family has a habitation for itself; that they do not live in flats one above another; and that they do not reside in cellars, as they do in some of the Lancashire towns?—That is the case.

2969. Are there in Birmingham many close courts to which there is not a free access of air?—Yes, there are some in the old part of the town, but not many in the modern parts of the town.

2970. Are there some in which the houses are built back to back?—Many are built back to back.

2971. Do not you consider such a construction injurious to the health of the inhabitants?—I think that depends very much upon the size of the rooms, the size of the windows, and the size of the court altogether.

2972. Comparing one class of courts with another, one in which the houses are built back to back and another in which they are not built back to back, are not those in which they are not built back to back preferable?—In the courts in Birmingham where they are not built back to back there is not always thorough ventilation; there is not a window on the other side of the house, in many cases; they seem to have been so erected in the expectation that others would be built behind them; it is the general practice to build so.

2973. Birmingham has increased rapidly in population within the last 30 years?—Yes, extremely so.

2974. Is there any general Building Act in Birmingham?—I am not aware that there is any general Building Act; but there exists in the town a body of commissioners, possessing powers under an Act of Parliament. This board has considerable powers with reference to the erection of buildings, the sewerage, cleansing, lighting and paving, and so on.

2975. That power is, in many respects, very well exercised, is it not?—Extremely well exercised, and becoming more so every day.

2976. You have in Birmingham some considerable advantages in the form of the land on which Birmingham is situated; it is undulating?—There are very great natural advantages in Birmingham in this respect; it is built, for the most part, on the sides of hills, and the valleys which divide these hills constitute a natural drainage; the soil also, being sandy and gravelly, is very porous; the moisture readily percolates, and what does not run down the drains is absorbed.

2977. Are there not some portions of the suburbs of Birmingham in which there are open drains of a noisome nature?—There are some, but not so many as there were at the time the cholera prevailed in this country. In consequence of the spread of the cholera to neighbouring towns, we sought out all those drains, and had some of them covered over; others have been covered since; there are now very few in the town; there are some in the neighbourhood of the town.

2978. *Mr. Cowper.*] On whom did the expense fall?—Some part of it on the Cholera Board; we got the money from the overseers of the poor, under an order from the Government; but since that time, what has been done has been done, I believe, by the commissioners.

2979. *Chairman.*] Have the precautions taken in consequence of that visitation been beneficial to the inhabitants?—I cannot say that they have been particularly so; of course they have been so in some degree.

2980. Will you be kind enough, with reference to the subject on which the Committee are inquiring, namely, sanitary regulations with reference to the humbler classes in large towns, to lay before the Committee any suggestions which occur to you?—On the subject of drainage, I would say the commissioners of the streets in Birmingham have considerable power, which they execute very well indeed; lately they have appointed a very able man as the surveyor, who is making

making great improvements in the condition of the roads and the drainage, but very great difficulties, I believe, arose from there being no plan or scheme originally by which the sewers were laid down; they are not, in all parts, laid down on a right level; I am told that in many parts of the town the levels are so high that they do not drain the cellars; we might almost as well have no drains at all, as far as the houses are concerned, as such drains; then again, in my opinion, the main sewers are of comparatively little advantage, unless they are so large that a man can go up and clean them, or unless there is a great fall in them; there are very few in Birmingham large enough to admit a man to go up and clean them; the consequence is, an obstruction takes place in one, the liquid accumulates above that obstruction; they are not aware of it till it begins to annoy the people in the houses, and when this happens, there is for a time a great stagnant pool of corruption under ground. It is very important that the size of the main drains should be such that a man could go up them, that they should be laid so deep as to drain the cellars, and that there should be a certain slope, so that everything should run out quickly; in many instances I believe that is not the case. Another point with regard to drainage is this, I think that above-ground drainage is better than under-ground drainage, unless the drain has a great fall, or is so large that a man can get up and clean it; for when an under-ground drain becomes obstructed, there is an accumulation of filth, in consequence of its not being known, whereas it is readily seen and removed in above-ground drains.

2981. Those above-ground drains, unless constantly inspected, are liable to be choked?—Yes; but I think they should be inspected: there should be a main drain in the street laid very deep; then the houses must of course have them under ground to drain the cellars; but I speak especially with reference to drains out of courts and alleys when under ground; these are very apt to become choked, and remain so for a length of time.

2982. If they were constructed of a proper slope and the proper width, they would not be liable to be choked?—No, if the weirs or grates were kept in proper order.

2983. Do you not think a general Drainage Act applicable to those districts where there is no drainage at present, which would enable the inhabitants, through commissioners or trustees, to bring into force proper regulations, would be valuable, not interfering with existing authorities, but giving them more powers where they are wanted?—I think some additional powers might be well. I was about to mention a circumstance which often occurs: a street is laid out, a man takes a bit of ground and builds a house; there is no sewer in that situation, but perhaps there is a main sewer at some distance; he carries a small detached drain from his own house to this sewer; another takes a bit of ground next to his house, and there will be another drain made from his house. Before a street is built, it would be a very good thing if the commissioners or others were compelled to make a main sewer; there is very often none till the street is built; there should be some regulation by which a general plan of sewerage would be secured before the houses are erected. I believe the great objection to doing this has been the expense of it, the commissioners being unwilling or unable to incur the expense until the street is nearly finished.

2984. Do you not think that a general Sewerage Act, under the powers of which the inhabitants might meet and carry such a plan into effect, would be desirable?—Yes; there are difficulties which can only be met in that way; I should think that some board like the commissioners of the streets in Birmingham is extremely desirable in every town or district.

2985. Mr. Cowper.] What do the commissioners of the streets in Birmingham do with reference to new streets?—We will suppose a street about to be built; they do nothing with reference to the sewers until a certain portion of the street is built; you may get near to one if you can; they will let you, if there is a sewer in the neighbourhood, carry a drain into it, but they will not require you to do it.

2986. Have they no power?—I cannot say whether they have the power.

2987. Chairman.] Practically this system is inefficient for the purposes of general drainage?—When a sewer is made, it is very easy to enforce drains being made into it, but on a street being begun, the people building the houses are not obliged to provide drainage before the street is begun.

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2988. *Mr. Cowper.*] It would be very desirable to have the sewer provided before the houses are built?—Yes, it would be, certainly.

2989. *Mr. Mackinnon.*] The great difficulty is the expense, where there is no immediate prospect of benefit?—Just so.

2990. *Chairman.*] Are there any other suggestions you would make, referable to measures to promote the general health of the inhabitants?—I think that one great source of disease in Birmingham is the existence of poor lodging-houses, and not only of disease, but of immorality and crime and very great misery; that what are generally called beggars' lodging-houses are great sources of disease and crime, and demoralization in every way.

2991. Does fever frequently prevail there?—Fever is rare, comparatively, in Birmingham; it is a very healthy town; there is very rarely any severe contagious fever in the town; but when there is any contagious disorder, it often begins in those beggars' lodging-houses, which abound in the town, which are great sources of disease and vice. I have been informed by the head of the police, and by several of the police, that it is hardly possible to conceive these houses to be in a worse state in any town in the kingdom.

2992. Do you think you require additional authority for the purpose of the inspection, cleansing, and regulation of lodging-houses?—I think it would be extremely conducive to the welfare of the community if those lodging-houses were under some system of inspection, or there were places provided to which trampers and beggars could resort, and which should be kept in a healthy condition.

2993. Some precautions appear necessary, not only for the health of that class, but for the prevention of the spreading of contagious disorders from those places into other districts of the country?—Just so.

2994. Many of those persons are migratory in their habits, and therefore any contagion they receive is likely to spread to other parts of the country?—Certainly; it is important not only on account of the inmates themselves, but the persons who live in the neighbourhood, and it is important in a moral point of view, that those places should be under some inspection; they certainly are great nests and sources of crime.

2995. At the present time is there any regulation which provides for attention to cleanliness in those lodging-houses?—I am not aware of any.

2996. Supposing that a fever has prevailed in any of those lodging-houses, is there any precaution which could be taken by any one authoritatively to prevent its continuing in that state?—I am not aware of anything which could be done. I think there should be some system to insure the seeing in what state those places are, and of compelling their being put into a proper state.

2997. Do you think that if this duty were committed to the same person who sees to the state of the scavengers' work, and so on, if an officer were appointed for that purpose, that would be beneficial?—I think that the person looking after the lodging-houses would have enough to do; that the lodging-houses would be better under the supervision of the police.

2998. You think an inspector for the purpose of seeing to the state of the courts and alleys, and the cleansing of them, would be very beneficial?—Extremely so; very desirable.

2999. Do you not think such an officer, in the present state of towns, is very desirable?—I think it is very desirable, there should be such a person.

3000. Such a person would have the power of reporting to some competent authority for the purpose of having such evils removed?—Yes, and have the power of removing them, not merely reporting.

3001. Do you think a board of health, chosen by the poor law guardians or the rate payers, would be desirable, for the purpose of attending to the health of the inhabitants, and making such regulations as would be necessary?—I hardly know whether a medical board of health would be required; it would be well that there should be some power to look into these matters, of course; whether it should be done by any existing body, or whether it should be a fresh body, is another thing.

3002. Who should make such suggestions, not only of a remedial nature, but of a preventive nature, looking forward to what they might expect might flow from the indirect precautions they would suggest for improvements from time to time?—Yes, I think that would be desirable; but I apprehend the commissioners of the streets in Birmingham would feel it their duty to look after these matters if they had the power to do so.

3003. Your

3003. Your town being, from its situation, well kept in point of health, and well attended to in point of sewerage?—Pretty well in point of sewerage. *J. Hodgson, Esq.*

3004. Would it not be desirable to have some officer appointed in other places which have not the same advantages that you have?—It would be very desirable indeed, in my opinion. *22 May 1840.*

3005. Is there any other circumstance you would mention?—There is one other point I would mention: there is a habit in Birmingham of keeping pigs in the courts and in the houses of the poor, which is productive of great evil. I think the condition of the privies, and the ash-holes and the receptacles for filth ought to be under some sort of supervision; they are in a very bad state indeed in some parts of the town. I think in all large towns there should be a power to compel the people to keep those places in a good state, or to do it for them, and to prevent their having the pigs living with them in the courts and alleys and houses.

3006. The duty of the inspector would be to remove, or take measures for the removal, of nuisances of any kind which might be injurious to health?—Yes; the commissioners in Birmingham have the power, I believe, to fine a person if he does not empty his ash-hole when it becomes a nuisance; but suppose he does not do it; he is living in a place perhaps paying 2*s.* 6*d.* a week rent; he cannot afford the expense of doing it; the commissioners of streets should have the power to do it themselves, at the public cost, or at the cost of the landlord.

3007. Are you aware that in the Metropolitan Police Act there is a clause enabling the authorities to give notice to any person that those things are in a bad state, and to order them to do a certain thing, and if they do not do it, to do it themselves and charge them the expense of it?—Yes, but it is of no use charging these poor persons with the expense; it ought to be done at the public cost, or charged on the landlord. It is absolutely necessary, if not paid by the public, to make the landlord responsible for such charges. The overseers of the poor compound with the landlord for the poor's rates, and so it should be with regard to the cleansing and lighting, and all that. The landlord should be made the responsible person, let him make what agreement he pleases with his tenant, otherwise it will not be done, for the tenants of such dwellings have not the means of doing it. Very few of the inhabitants live in cellars in Birmingham; the lower classes of persons live in small houses in courts principally. Much is said against living in cellars, but if they are sufficiently lighted and well ventilated, I know many which are not unwholesome.

3008. Are they well drained?—In Birmingham the nature of the soil and the declivity occasions the houses being generally well drained. I know many cases where servants and others live in cellars, and where there is no disease from this cause.

3009. Those are cases in which there are areas on each side?—Generally, and where the windows are large.

3010. With reference to the district between Birmingham and Wolverhampton, comprising Bilston, Wednesbury, and a very populous district, what is the state of the habitations of the poorer classes in the more crowded parts?—I do not think I have a sufficient knowledge of the habitations of the poorer classes in those districts to be able to give much information about them. I think in some of them it is evident that the habitations are of a very miserable kind, and that there is no drainage; but there would be great difficulty in adopting any general plan there, for the houses are not built in streets, but a few together in many situations.

3011. There are Wednesbury, Bilston, Walsall, and other towns?—Yes, some of them are very large, as Walsall and Bilston. The observations made as to large towns generally would apply to them.

3012. They are deficient in drainage?—I believe them to be so. I have seen the abodes of the poor in Liverpool and Manchester and London, and I conceive, with reference to Birmingham, the poor in Birmingham, as to habitations, are much better off.

3013. Have you a good supply of water in Birmingham?—Yes; it is hard in the upper part of the town.

3014. You consider a good supply of water essential to the health of the inhabitants?—Certainly.

3015. Mr. Mackinnon.] You conceive that being on a sandy soil is favourable to health?—Yes; and the nature of the occupations of the poor at Birmingham,

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generally speaking, I do not consider to be unhealthy. They are not much crowded in low ill-ventilated rooms, they work for the most part in the neighbourhood of large fires, and have their windows and doors open very much.

3016. *Chairman.*] There are a great number of day schools and dame schools, and so on, in Birmingham?—All sorts of schools.

3017. Have they generally play-grounds for the children?—In some they have. I know an infant school, which I am in the habit of looking into, in the very middle of the town; they have a piece of ground, quite enough; and I know another large school where they have a play-ground; they have generally a little bit, more or less.

3018. Do not you think that some such provision is very advantageous to the health of the inhabitants?—Certainly; there cannot be a doubt about that; good air and exercise are essential to health.

3019. *Mr. Mackinnon.*] Do you think that any injury arises to the health of the inhabitants from burial-places within the town?—In a general way, one would conceive it must be injurious; but after all, I cannot help expressing my doubts whether merely putrid animal matter is injurious to health. I think putrid decomposed vegetable matter is very injurious to health, and occasions what we call miasma; but taking all the facts together, I think it is very doubtful whether much injury arises from putrid animal matter. I cannot help being struck by some facts, looking at butchers, looking at persons who work in animal matter, men in dissecting-rooms, and so on.

3020. You think that putrefied animal matter is not so injurious as putrefied vegetable substance, in a damp situation?—I think that being exposed to the contact or fumes of putrefied animal matter is not so likely to produce disease as being exposed to the contact of decomposing vegetable matter, particularly if accompanied with moisture.

3021. *Mr. Vigors.*] Are there many of the lower class of Irish in Birmingham?—A considerable number; they are chiefly employed by the builders.

3022. Are their habits worse than those of the lower classes of the town generally, as to cleanliness, and so on?—The habits of the poorer classes of the Irish in Birmingham are better than those of the poorer classes of the Irish I have met with in other places; they are not so reckless, and appear to be better off.

William Henry Miller, Esq. a Member of the House, Examined.

W. H. Miller, Esq.
M.P.

3023. *Mr. Mackinnon.*] YOU are a Member of the House of Commons?—I am.

3024. Some information is required with regard to the manner in which the neighbourhood of Edinburgh is irrigated, as far as the health of the inhabitants of that town is concerned. Will you have the kindness to state to the Committee your opinion on this subject of the manner in which the meadows of that city are irrigated?—I shall be happy to state, as far as I know, the circumstances connected with the irrigation near Edinburgh.

3025. How long have you been acquainted with the neighbourhood of Edinburgh?—For 36 years.

3026. How are the meadows irrigated?—The meadows on the east side of Edinburgh are irrigated from a stream, which rises partly from springs in several places in or near Edinburgh, and which receives the water which formerly formed the North Loch, and much of the surface water and sewerage of the city and neighbourhood.

3027. Has this stream ever been used for other purposes?—It was used early in the present century as a mill-stream for many years, but the mill was given up about 20 years ago, as it was thought to interfere sometimes in summer with the supply of water for the meadows.

3028. Was there not a case brought into the courts some years ago on this question?—There was. About 35 years ago, Mr. Duncan, who had a house at Restalrig, about two miles from Edinburgh, and very near the stream, brought an action against the tenants of the proprietors of the stream, to restrain them from irrigating their lands, or from forming ponds to collect the sediment of the stream, which several of them were in the practice of doing. It was proved in evidence, that not only was the village of Restalrig and the neighbourhood perfectly healthy, but rather remarkable for the longevity of its inhabitants. Mr. Duncan lost his cause, with full expenses.

3029. Did

3029. Did Mr. Duncan after his failure in that action continue to reside there?—He afterwards rebuilt his house, at an expense of 8,000*l.* or 10,000 *l.*, and continued to reside there till his death, at a very advanced age.

3030. Has the extent of irrigated meadows to the east of the city been much increased within your remembrance?—There was a considerable increase about 18 or 20 years ago along the sea-shore, and at the distance of several miles from the city; but between Restalrig and the city there has, I think, been no increase.

3031. Has there been no increase in any situation within a mile and a half or two miles of the city?—I think no increase whatever; I think I heard that Lord Moray's tenant had levelled an old sand-pit adjoining his meadows, and added it to them; but on the otherhand, a piece was taken off those meadows, about 20 years ago, for a public road.

3032. How long has this land been under irrigation?—A very considerable portion, including all or most of that part nearest to the city, has been under irrigation quite beyond all memory.

3033. Has any portion been irrigated for the first time within the last 10 or 15 years?—Within the last 10 years, certainly there has been no increase whatever of the meadows to the east of the city; within the last 15 or 16, I think there has not been any increase. About 12 years ago, there were several fields added to the meadows, but a part of the old meadow was ploughed up, and has not been since irrigated.

3034. As you state that the neighbourhood of these meadows is perfectly healthy, their extent can be of little importance to the public?—Certainly not; but it has been attempted to connect alleged increase of disease in Edinburgh with pretended recent increase of irrigation.

3035. Does any considerable proportion of this irrigated ground belong to you?—A very considerable proportion; all those meadows between the village of Restalrig and the sea.

3036. To what extent may that be?—To the best of my knowledge, the whole of the irrigated meadows to the east of the city are considerably under 200 Scotch acres; they may a little exceed 200 imperial acres; and of that quantity perhaps 40 or 50 acres may belong to different proprietors within two miles of the city, and the remaining portion, all of which is about two miles from the city, or from that to three miles, belongs to myself. I should think perhaps 130 Scotch acres belong to myself; mine is all a considerable distance from the city.

3037. Do you believe the meadows to the west of Edinburgh to be of equal extent with those on the east side?—They are of nothing like equal extent. I have very little acquaintance with them, but I believe there are only about 50 acres.

3038. Have you any residence on this property, and is it near the irrigated lands, or the stream from which they are irrigated?—I have a residence within 50 yards of the main stream from which the lands are irrigated, and within the same distance of a portion of the irrigated meadow.

3039. Have you resided there a considerable period?—For the last 16 years; it was formerly let on lease; I have repeatedly resided there for three or four months at a time. I have resided there at one period for 14 months, without having been absent for a single night.

3040. Have you found much inconvenience from the alleged nuisance arising from this mode of irrigation?—Not the slightest; my family and servants have found it perfectly healthy at all times.

3041. If you had thought it at all unhealthy, of course you would not have resided there with your family?—Certainly not for a single day; 17 years ago, before repairing the house to make it fit for an occasional residence, I remember asking the late Dr. Hamilton, senior, an eminent physician in Edinburgh, and well known by his writings, and with whom I was well acquainted, whether it was not possible, notwithstanding the general healthiness of the neighbourhood, that it might be unadvisable to live so very close to this stream, nearer in fact than almost any other house; he said that it was quite impossible that there should be the slightest injury to health from this cause.

3042. Though you have experienced no injury to health, have you not sometimes felt an unpleasant smell from the stream?—Yes; but this has been chiefly in consequence of the very improper admission of gas water into the stream; there is very little smell of any other kind; and even notwithstanding the fre-

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quent admission of gas water, I have sometimes resided there for a month together, without ever feeling any smell whatever 10 yards from the bank; at other times the smell of gas has certainly been very disagreeable. The gas water was, I believe, put in only on some days of the week, and generally at an early hour; it must on those occasions have been very offensive close to the city, where it first mixes with the drainage of the valley above.

3043. You attribute the smell to the gas water?—I do, and I believe it was the infusion of it into the burn which was the chief cause of complaint.

3044. Could not the gas company have been prevented from putting their refuse into the stream?—I have no doubt they could; they have lately applied for a new Act; the proprietors of the stream determined to interfere, but they were saved all trouble in the matter, for the Committee on the Bill unanimously inserted a clause to stop the practice of putting gas refuse into this stream, but at the same time giving the privilege of putting it in for six months, until the company can make new arrangements for otherwise disposing of it.

3045. When and in what way did you first, at any time after Mr. Duncan's process, 35 years ago, find the salubrity of the meadows and their neighbourhood called in question?—When the cholera was in this country, in 1832, anonymous letters were inserted in some Edinburgh newspapers, representing the meadows as a source of contagion.

3046. Were there any cases of cholera in the village of Restalrig and its neighbourhood?—I believe not one; I think I was told that one case was reported, but it was said afterwards to be a mistake.

3047. Are the Committee to understand the last time the commissioners applied for a Police Bill no attempt was made to interfere with the irrigation?—The last time the commissioners applied for a Police Bill no attempt whatever was made to interfere with the irrigation; in 1832, and again in 1834, they did attempt to interfere with the irrigation, indirectly, by a drain clause in the Police Bills, and a proviso was inserted in the drain clause, which defeated their object, by the Committees on the Bills; but when they last applied for a Police Bill they voluntarily inserted that proviso, and did not at all attempt to interfere with the irrigation, nor to obtain any power which could by possibility enable them to interfere with it.

3048. When and how did any further revival of this agitation take place?—I think in the spring of last year. In the first place, again by anonymous letters, attributing the alleged increase of fever to the meadows; then by several meetings, and by a pamphlet published by the police commissioners, and containing statements, from the accuracy of which throughout I entirely dissent.

3049. Do you believe that fever has prevailed more in Edinburgh than in other places?—Certainly not more than in many other places; never to anything like the extent it has in Glasgow, where there are no irrigated meadows.

3050. Are there barracks at Piershill, near Restalrig, and not far from the course of this stream?—There are.

3051. Have you any reason to suppose those barracks are less healthy than other barracks?—It has been so stated by some of the agitators I have mentioned, but I utterly disbelieve them. I have made no investigation on this head myself, but I am informed by a gentleman who has, that the barracks at Piershill are more healthy than any in Scotland, those in Edinburgh Castle excepted, and that the average cases of sickness and mortality in the cavalry barracks at Glasgow and Hamilton are 25 per cent. more than at Piershill.

3052. Has there been an extension of the irrigation near the barracks since you first knew the neighbourhood?—There is no more irrigation in the immediate neighbourhood of the barracks than when I first knew the neighbourhood, or than I believe had existed there long before the barracks were erected; but the ground where the stream passes nearest to the barracks is a market garden, which belonged to Mr. Duncan, and afterwards to the late Sir Henry Duncan. Part of this I remember meadow, and there also had been, I believe, formerly a pond for collecting the sediment of the water. Now the only use made of the water in this garden is for irrigating strawberry-beds.

3053. Have these ponds for collecting the sediment of the stream increased or diminished within your remembrance?—I think they have diminished. I had an acre of them. They were unsightly and of little value, and I filled them all

up

up and converted them into a meadow, 20 years ago. Such ponds may, however, be more valuable nearer to the city.

3054. Is there any clause in the Edinburgh Police Acts to prevent any one questioning the uses of the stream?—Certainly there is no such clause. The uses of the stream are sufficiently protected, as already proved, by their innocence, and by the unquestionable right of property in the stream; either of these would be sufficient. The only protecting clause or proviso in the Police Bill is that to restrain the attempt to divert any portion of the water from its natural course, under the pretence of making drains.

3055. Has the irrigation been introduced near houses which existed previously?—Not that I know of; certainly not on the east side of Edinburgh; but various respectable houses have been built close to the irrigated lands of late years.

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Martis, 26^o die Maii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Brotherton.
Mr. Cowper.
Mr. Ingham.
Mr. Mackinnon.

Mr. Slaney,
Lord James Stuart.
Mr. Tufnell.
Mr. Vigors.

R. A. SLANEY, Esq. IN THE CHAIR.

Mr. William Sowten, called in; and Examined

3056. *Chairman.*] WHERE do you reside?—In the Westminster Road.

3057. Are you the proprietor of the baths there?—I am.

3058. The Committee has been informed that there have been lately established some baths, or rather an extensive plan for the accommodation of the different descriptions of persons, the richer and the humbler classes?—There have.

3059. How long have they been established?—This is the fifth season.

3060. Can you tell the Committee what is the price and the accommodation referable to the middling and the humbler classes?—The price for the middling classes is 1 s. for each bath, and for the humbler classes 3 d.

3061. What is the size of the bath for the middling classes?—One hundred and sixty feet long by 60 feet wide.

3062. How is that replenished?—It is constantly going through the operation of replenishing; we throw in 25,000 gallons of spring water every hour.

3063. And it flows out, does it?—Yes, into the two shores.

3064. What is the size of the other bath, the one for the humbler classes?—The mechanics' bath is 200 feet long by 50 feet wide in the water; the building is 70 feet wide.

3065. Is that also continually replenished in the same way?—No, that is done in this way: we pass off the water from the best baths through a filtering bed again into the mechanics' baths; that is, a portion of it.

3066. What heat is it kept at?—The bath for the middling classes is kept at 80, the subscription bath at 84, and the mechanics' at 70.

3067. *Mr. Ingham.*] What is the subscription bath?—The subscription bath is a building in the centre, where the water is about 44 feet in length by twenty wide, with commodious dressing-rooms, and the water kept at 84.

3068. What is the price?—One shilling and sixpence for the single bath.

3069. *Chairman.*] With reference to the two other classes of baths, the one at 1 s. and the one at 3 d., can you inform the Committee what are the respective numbers of persons that have visited those baths within any given period?—No, because it entirely depends upon the weather.

3070. Can you tell the Committee how many persons have visited them in a twelvemonth?—

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a twelvemonth?—We only keep them open for six months during the year, that is, from the month of April to the month of October.

3071. Can you tell the Committee how many persons have visited the baths during those six months upon an average?—I should say the average of the season would be about 180,000 mechanics, and about 20,000 of the middling classes.

3072. In six months?—Yes.

3073. Including children and adults?—We do not let them in if they are children; that is, we do not let them in till they are from 10 to 12 years of age.

3074. Are there any separate baths calculated for the reception of women?—No, there are not.

3075. Have you kept any account of the number of persons that have visited the baths for the last five years?—Yes.

3076. Have you found that the numbers have gradually increased during that time?—No; they have gradually decreased.

3077. To what do you attribute that decrease?—To the excessive coldness of the last three summers.

3078. Then you refer it to the circumstance of the coldness of the weather, and not to any unwillingness on the part of the people to avail themselves of the baths?—Certainly not; because we find that, during the few hot months we have had, there have been quite as many as ever there were.

3079. Have you had an opportunity of hearing from medical men whether the persons who have used the baths have derived benefit from the use of them?—I am mortified to find that, instead of being used as matters of health, they have merely been used as matters of pleasure in a very great degree.

3080. They learn to swim, do they not?—Yes; an immense number of them are taught by us.

3081. Have you heard any opinions expressed by medical men that they are beneficial?—We have had some sent for medical purposes, and they have stated that they have derived great benefit from them.

3082. Are you aware, from medical opinions or otherwise, that the great body of the persons using them have derived benefit from them?—They have invariably expressed themselves very much refreshed and highly delighted.

3083. Are you aware whether there are any institutions of a similar nature in other parts of the metropolis, and to what extent?—There is one in Holborn, with which I am also in some degree connected.

3084. Is that a mechanics' bath?—Not at present; but it is their intention to build one as soon as they can get space enough.

3085. Is there any other in the nature of a mechanics' bath?—Yes, there is one in the Shepherdess-fields.

3086. Do you know what number of persons they accommodate?—They have two baths, but they are not so large as ours; I should think the numbers they would accommodate would be about half what we can.

3087. Do you know any others?—None that I am aware of.

3088. Have those baths in Shepherdess-fields been long established?—Longer than ours have; they have been established about nine years.

3089. Have they gone on improving?—They are just on precisely the same footing as the others; they have not improved on account of the weather.

3090. Mr. Ingham.] What are the terms of the baths in Shepherdess-fields?—One shilling, ninepence, and sixpence.

3091. Chairman.] Then there are none so low as yours?—None so low, and none so high.

3092. From your knowledge of the construction of baths generally, do you think there would be much difficulty, where there was a good supply of water, in establishing baths in large manufacturing towns, where there were many steam-engines?—Not the slightest.

3093. Would there be any difficulty in establishing baths in such towns as Birmingham and Manchester and Leeds?—No, not the least; and they would be better attended there than they are in London, on account of the smaller number of amusements which there are there.

3094. Do you think that any facility would be given by the number of steam-engines in the vicinity?—Most decidedly so.

3095. How is the water in your establishment heated?—We pass it through fire in pipes.

3096. Mr.

3096. *Mr. Ingham.*] Is it the furnace of the steam-engine you pass it through?
—Yes, that and other furnaces as well.

3097. Have you a steam-engine?—Yes, for the purpose of raising the water.

3098. *Chairman.*] The expense of heating any given number of cubic feet of water would be proportioned, in some measure, to the cost of the fuel, would it not?—Yes, and the application of the heat.

3099. Therefore the cost of heating baths of this nature would be less in a district where the cost of fuel was less?—Of course; in fact if it were in the neighbourhood of Manchester or Liverpool, there would be no necessity for heating the water at all.

3100. *Mr. Ingham.*] How would they get their supply?—There would be quite sufficient water for the supply from the condensation of the engines, passing it through filtering beds prior to its getting into the bath.

3101. *Chairman.*] At all events, then, in all the great manufacturing towns which are situated within coal districts, and where coals are cheap in those districts where such accommodation is most wanted, the heating of the water would be the cheapest?—Certainly.

3102. *Mr. Ingham.*] Can you tell the Committee what is the greatest number of persons that ever attended at your baths in any one day?—There were 2,500 in the mechanics' bath, and 1,000 in the other two.

3103. At what hours do you find they most frequently attend?—In the working days after six o'clock in the evening, and on Sundays in the morning and afternoon.

3104. What description of persons are they that frequent the mechanics' bath?—They are of an exceedingly bad description; not at all the description of persons that I reckoned upon when I fitted up the place.

3105. Are there any large manufacturing establishments near to your premises?—None at all, except Messrs. Maudesleys'.

3106. Do the men from Messrs. Maudesleys' works attend?—Yes, a great number of them do, and also from Mr. Clowes'.

3107. That is a printing establishment, is it not?—Yes.

3108. Had you more men that attended the mechanics' bath in the succeeding years than you had the first?—The first year we had not the mechanics' bath open.

3109. Then you have only had it open one season before the unfavourable summers set in?—Exactly so.

3110. But it is your intention at the baths in Holborn, as soon as you can get a sufficient space for the establishing of a mechanics' bath, to establish one there also, is it not?—Yes.

3111. *Chairman.*] Should you think, from your experience of the mechanics' bath, that it is a preferable employment for your capital to the superior baths?—I think it is preferable.

3112. Then the advice you would give to any person in the establishing of public baths, would be to have large accommodation for those persons who are of the class of mechanics?—No doubt of it.

3113. And comparing what takes place at your establishment with what has taken place at Shepherdess-fields, do you think it preferable to charge only threepence, instead of retaining the charge of sixpence?—I have had some doubts upon the subject, as to whether the same quantity of money would not be obtained if the charge of sixpence were made instead of threepence, and there would be much less vagabondism and noise.

3114. You have not examined the accounts of those baths at all, have you?—No.

3115. Is there anything that has occurred to you upon the subject of baths that you wish to mention to the Committee; anything as to the method of increasing the use of baths?—No; unless we could find some mode of insuring warm weather.

George Alfred Walker, Esq. called in; and Examined.

3116. *Chairman.*] You are a medical man residing in the neighbourhood of Drury-lane, are you not?—I am.

3117. That is a district surrounded by a populous neighbourhood, with a considerable

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considerable number of courts opening into it in different directions, is it not?—Yes; but I consider it a good neighbourhood upon the whole.

3118. Are there not some courts in which there is no exit through them?—Yes; there is a cul-de-sac, named Wellington Court formerly, and which is now called Nag's-head Court.

3119. Is that inhabited by a considerable number of persons of the poorer class?—It is inhabited principally by Irish. The sewerage is in a very bad state; in fact, there is no sewerage there; there is a contrivance which is a sort of cabinet d'aisance, in which the excrementitious matter has frequently been ankle deep on the floor. I visited the place only yesterday.

3120. Mr. Cowper.] Do you mean the floor of the house?—You pass through a passage, you enter the passage door, and in the corner is this place, and a most filthy and disgusting one it is.

3121. Chairman.] Is there any system of cleansing or scavenging there?—There used to be a contrivance that would be something like an ordinary place; there are two holes, and when they are filled with the excrementitious matter it may, perhaps, pass through into a reservoir, or else run over the seat, which ever may chance to happen.

3122. Is there any system of scavenging and cleansing by proper authority?—No; it is most grossly neglected.

3123. Does the health of the inhabitants suffer in consequence of the want of draining and cleansing, and the neglect of sanitary regulations, in that district?—Most unquestionably; and it is easily provable.

3124. Does fever prevail in that district to any extent?—Yes; I do not speak of the immediate district, but right and left about it. I have had two most terrible cases of disease in that court lately.

3125. Are there any other courts in the vicinity, which, though not so much neglected as that, are somewhat in a similar state?—Yes; Clement's-lane is a sample of filth and abomination.

3126. Is that also a cul-de-sac?—No.

3127. Are the houses close to each other?—The street is narrow.

3128. Is there any good system of sewerage there?—No; the sewerage is bad.

3129. Is there any system of scavenging or cleansing there?—It is sadly neglected.

3130. Is there any officer whose duty it is to inspect this district, and to give notice to the proper authorities, or to take care that the cleansing is properly done?—None that I am aware of. There ought to be a power of enforcing it somewhere; and I have long wondered that whilst in this country so much attention is paid to the protection of the person and property, so little care should be taken of the health of its inhabitants.

3131. Are you aware that the neglect of some sanitary regulations which would tend to promote the health of the poorer classes, is a cause of great expense to the richer classes?—There can be no question about it, and it is also a source of great dissatisfaction on the part of the poor with regard to those above them in authority.

3132. In consequence of the illness arising from the neglect of such regulations, do you conceive that a great burthen is frequently cast upon the poor rates?—There is no doubt of it; and also upon the hard-working surgeon. I am sure I give away from 100 l. to 200 l. every year to sick persons, and I cannot help it, as I am compelled to have those cases come under my notice.

3133. A great cost is also incurred in dispensaries and hospitals, and all other benevolent institutions, that have for their object the relief of the poorer classes when out of health, is there not?—Precisely so; and I was about to say, I take this view of the question, that although these places are good establishments, yet a great deal of disease is caused by the neglect of sanitary regulations, and this neglect is a source of expense that might otherwise be saved. There is one point I wish to advert to particularly, with respect to Drury-lane; from Queen-street (I know nothing of the ground plan there), but I think from Queen-street opposite Long Acre, we have no sewerage; the consequence is, that the excrementitious matters are pumped up, and they pass of course on the surface of the gutter; now while these gases are quiescent, little harm is done; but the instant they are mixed with the air, it is breathed by the inhabitants, and becomes noxious, and of course highly injurious to health.

3134. Now with regard to the evils arising from burial-places in the midst of the

the dense population of London or other large towns, have you made any particular observations upon that?—Yes, I have paid rather particular attention to that.

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3135. Will you give the Committee the result of your observations?—I think it is very easily provable, that bodies have been placed, by some system of management, which at present I cannot understand, in spaces utterly inadequate to contain them.

3136. Do you apprehend that the health of the inhabitants in vicinities close to burying-grounds has frequently been injured?—I do.

3137. By the effluvia arising from the decomposition of bodies in these burying-places?—I think so, and no conservative power of constitution can resist it.

3138. Can you state any particular cemeteries or burying-places near the locality that you are best acquainted with, from which such evils arise?—I know very many, in every one of which that evil exists.

3139. Will you mention a few?—There is Enon chapel, in Clement's-lane, Strand, that is a Particular Baptist meeting-house.

3140. Is that in a populous district?—Yes, surrounded with numerous inhabitants.

3141. Will you mention another?—There is the burying-ground of Portugal-street, Lincoln's Inn Fields.

3142. Any other?—There is one in Russell-court, Drury-lane, which is excessively full; and there is another in St. Martin's-in-the-fields, in Drury-lane.

3143. Where is that situated?—That is to the left, on the eastern side, that is, a little way beyond this court I have been describing.

3144. Are there any other?—Yes; in St. Giles's, and in many other parishes, they are in the same condition; I have examined and described more than forty of them in a work entitled "Gatherings from Grave-yards."

3145. *Mr. Cowper.*] Have you any proof of the injurious effects of these church-yards?—Yes, abundance of proof.

3146. Of what character?—Of death arising instantaneously, and deterioration and depreciation of health.

3147. *Chairman.*] This is not your own individual opinion, but the concurrent opinion of most medical men, is it not?—No; it is not an universal opinion, there are some of a different opinion.

3148. But although there may be difference of opinion as to the evil to health arising from these exhalations, there can be no question as to their being disagreeable and unpleasant to the inhabitants of that vicinity?—Yes; and more than that,—they are decidedly injurious to health.

3149. Then although persons may differ about the one, they cannot differ about its being excessively unpleasant and noxious to the inhabitants to have smells of that kind arising?—No; but life may be destroyed without any smell being perceptible.

3150. Is there any other point upon which you can give evidence referable to sanitary regulations beneficial to the humbler classes in large towns?—I have spoken of the sewerage being very deficient in my neighbourhood; another point is the deterioration of the water. There is a police station-house in Pickett-place in the Strand, and I was called upon some time ago to attend a family who were just arrived from the country; I had some reason to suspect that there was some generally acting cause, for of upwards of 40 individuals living in this station-house, scarcely one of them could be pronounced to be in good health. I instituted some inquiries; made an examination, and found that the pipe conveying the excrementitious matters from the two upper floors ran parallel with and within a few inches of the pipe bringing up the water that supplied the whole of the building. This water was of course drunk, and employed for washing and cooking. I requested a little water to be drawn for me when pumped up; the smell was exceedingly offensive; dissolved excrementitious matters were easily distinguishable.

3151. There was a deterioration of the water from this filthy stuff then?—Yes; it was dropping, in fact, into the cistern; I went and examined it, and found the pipe was about four inches and a half in the bore, and in a most wretched state.

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3152. Then do you attribute the illness to this cause?—I do; but I should say that has since been amended; I was there two or three days ago.

3153. Is there any other point you can direct the attention of the Committee to, connected with this inquiry?—I think the proximity of the cabinets d'aisance to the water-butt is a great cause of disease, because these gases pass off, and then they become absorbed to a certain extent. And I would also beg to state in general terms that the mortality in Clement's-lane has been very great.

3154. Can you state what it is in reference to the population?—Yes, at a rough guess I think there are 70 houses, and giving 10 persons to each house, that would be 700 persons, and the mortality has been four per cent. from fever of various grades. There were 41 deaths within 18 months.

3155. That is one in 25, is it not?—Yes; the mortality in this particular lane equals that of the worst district in London, the Whitechapel, and that is calculated from all the causes of death put together.

3156. Independently of the deaths caused by fever, were there not also in that district many cases of persons whose health was injured, and whose forces and powers for industrious purposes were very much lessened, in consequence of the fever?—Most unquestionably; and I have no doubt that a vast portion of the poverty and destitution that exists arises from the combined operation of many causes of disease, that under a good system of medical police would not be permitted to exist.

3157. Does the practice of drinking ardent spirits prevail much in those low districts?—It does; and that is one point I would wish to touch upon: many persons take stimuli from various causes, and one vastly exciting cause is the condition of the air they breathe.

3158. Do you not conceive that in the neglected localities you have spoken to, in which dirt and disease prevail so much, that these poorer classes frequently fly to spirits as a temporary resource and refuge as it were from the evils around them?—Yes, constantly. They are smitten by an invisible agent, the bad air they breathe; there is no question that that is one vast cause.

3159. Then these neglected points to which the Committee have adverted, is in one respect the cause of their spirit drinking, and then the spirit drinking becomes in its turn a cause of disease and neglect?—Unquestionably.

3160. Mr. Cowper.] Do you mean that the infected atmosphere has a depressing effect upon the people subjected to its influence?—Yes; it involves the necessity of taking something as a stimulant.

3161. Chairman.] These neglected districts have among them a great number of children, have they not?—A very great number.

3162. Are there any schools there?—There are.

3163. For the younger children?—Yes.

3164. Are there any play-grounds appendant to those schools?—Not one of them has a play-ground; that is a sad piece of information I am sorry to give.

3165. Is it not almost absolutely necessary to the developement of their strength and the spirit and energies of youth, that they should have some place of exercise?—There is no question about it. I have seen in my neighbourhood 18 children in a room, perhaps not more than 12 feet square, and that too over a receptacle for old bones.

3166. Was the air close and noxious?—Of course it was.

3167. And injurious to the health of the children? Unquestionably; Enon chapel has been employed as a school-room, and the children have met there over the bodies of the dead, which have been piled up to the ceiling of the cellar beneath; the ventilation is bad, and the rafters supporting the boards of the floor on which these children stand were not covered with the usual defence, lath and plaster.

Veneris, 29^o die Maii, 1840.

MEMBERS PRESENT.

Mr. Baines.
Mr. Cowper.
Mr. Greene.
Mr. Ingham.
Mr. Mackinnon.

Mr. Slaney.
Mr. Tufnell.
Mr. Vigors.
Mr. Walker.

R. A. SLANEY, ESQ. IN THE CHAIR.

Henry Maunsell, M.D. called in; and Examined.

3168. *Chairman.*] YOU are a Physician, resident in Dublin?—I am.

3169. You have been long resident in Dublin?—Yes; I have been all my life, except four or five years while I was abroad or in the country.

3170. You are now resident in Dublin?—I am.

3171. Have you turned your attention to sanitary regulations affecting the state of the great body of the humbler classes in Dublin?—I have, a good deal.

3172. Have the goodness to state what is the condition of the working classes in Dublin, with regard to the construction of their dwellings; are there in the parts of Dublin inhabited by the humbler classes a considerable number of them living in close courts; courts from which there is no exit?—There are a considerable number; but, perhaps, not so considerable as in some other large towns in England and Scotland.

3173. Those courts are chiefly of an old construction?—Yes; almost altogether.

3174. Are those courts built in such a way that the houses are near each other, and there is no possibility for a thoroughfare of air?—Very many of them are exceedingly narrow, and the houses very high; they are four or five stories high.

3175. The form of those courts is one which prevents that free circulation of air which is necessary in a great measure for dryness?—It is so.

3176. Are there within those courts any cellar dwellings?—Very frequently; in a great majority of cases there are cellar dwellings.

3177. When you speak of cellar dwellings, do you mean below the surface of the ground, and where the earth comes up to the exterior walls, so as to render it damp?—That is almost invariably the case.

3178. There are no areas?—None, in the older part of the town, chiefly occupied by the poor.

3179. No windows, so as to allow of a thorough draught of air through them?—I may almost say never any window in the rear, and no means of light except by the door.

3180. Are those cellar dwellings so situated in close courts, as you have described, very unhealthy, from their dampness and closeness, and want of ventilation?—Exceedingly unhealthy.

3181. Are there below the level of the floors of those dwellings any sewers to take off the filth?—I would say, that in those parts of the town where the cellars are inhabited in that way, there are very seldom sewers calculated to carry off the filth.

3182. It is impossible to carry off any damp from the floors of those dwellings, in consequence of the want of sewers?—Just so; very frequently they are obliged to have pumps for the purpose of removing refuse water.

3183. Is not such a construction very injurious to health, and likely to produce disorder?—I should say it is.

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3184. Are

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3184. Are you cognizant of fevers prevailing among the population inhabiting those cellar dwellings?—Yes, I am aware that they do prevail very extensively in such dwellings.

3185. You stated that there were not so many of these, as there are in some other towns you are acquainted with; are the houses in those courts, in addition to being so close to each other, and having cellar dwellings, in many instances built back to back?—They are, or with exceedingly small spaces between them and other houses behind them.

3186. So as to prevent a thorough draught of air passing through them which might in some measure do away with the evil of their being built in close courts?—Yes, quite so.

3187. Such a form of construction, both in those close courts, and in cellar dwellings, back to back, must be highly injurious to the health of the persons who inhabit the dwellings?—Exceedingly so.

3188. Is there any Building Act in Dublin, laying down any regulations to prevent such construction, or any construction which is found to be injurious to health?—There is not any Building Act applicable to Ireland at all, that I am aware of; there are local Acts, but which are not at all effective.

3189. Are there any local Acts which have provisions of that nature?—No, there are some slight provisions in the local Paving Act; they have power to purchase and take down buildings for widening passages.

3190. Those provisions are not for prevention?—No, only for improving, and they are quite inoperative; they have no funds. There is another board, called the Wide Street Commissioners, who tax the inhabitants; they have done a great deal of good in Dublin by removing buildings in inconvenient sites.

3191. They have no power to make regulations to prevent such constructions as may turn out to be injurious?—I am not aware of any.

3192. With respect to the system of sewerage in that part of Dublin which is inhabited by the poorer classes, what is the state of the sewerage?—It is exceedingly imperfect; I have brought with me a map containing a scale of the sewers. (*Producing the same.*)

3193. Referring to the map before you, which you know to be an accurate one, can you state whether, in many parts of Dublin in which the poorer classes reside, the sewerage is imperfect?—It is very imperfect; there appear to be a great many lines marking sewers, but they are very imperfect, and very imperfect in their connexion with each other.

3194. Are there many close courts and narrow streets, inhabited by the humbler classes, in which there are none, or very imperfect under-ground sewers?—There are; the majority I should say.

3195. In many of those places there is nothing but a surface drain?—Yes; or a drain very little below the surface, so as not to give the means of drawing off the wet from the cellars.

3196. In those districts in which there is nothing but a surface drain, is it constantly attended to and inspected, or is it frequently neglected?—It is frequently much neglected; probably, under the Police Act, it is better attended to; we have now a metropolitan police.

3197. Have you visited districts inhabited by those poorer classes, in which you have perceived evils arising from the want of a system of inspection?—I have been in the habit of visiting them; and since I was aware I was to be examined here, I have visited a great part of the poorer part of the city, and examined into it.

3198. What is your opinion, after that supervision, of the poorer parts of the city; is it that it is neglected and wants further provisions, or that it is pretty well attended to?—It decidedly wants new provisions; it is exceedingly neglected.

3199. From your medical knowledge, and your knowledge of the localities, can you state that great evils to the health of the poor arise from those circumstances?—I can.

3200. Do you give a decided opinion upon that subject?—Yes; and if the Committee will permit me to state the grounds on which I arrive at that conclusion, I will do so.

3201. In your inspection, and looking into the localities inhabited by the lower classes of persons, what did you observe to be the case with respect to the conveniences for accommodation and decency to the lower classes; are they

they attended to or not; are the privies or ash-holes kept in order?—No. A great many houses have no privies at all; a great many of them have privies on the stairs, or in the lobbies, the house being inhabited by a great number of persons. There is often no yard or place for throwing filth of any kind, and frequently the whole of it is thrown into the streets. In other instances there is a privy in the lobby.

3202. In cases where it is in the lobby, in the way you have spoken of, is it neglected or periodically cleansed?—I should say it is never cleansed till it is impossible to go on without removing part of it, and then only part.

3203. Does great evil result to the inhabitants from the noisome stench and dirt arising from those causes?—Very great evil indeed.

3204. With respect to the receptacles for dirt and ashes, and the refuse arising from houses of this class, are there any regular and proper receptacles provided, and are they periodically cleansed and kept in order?—No, they are not at all.

3205. Where the refuse is cast into the courts or narrow streets in which they reside, does it lie there for a considerable time before it is swept and carried away?—It does very frequently. I do not think there is any regular system of removing it in the poorer streets.

3206. Is the consequence a noisome smell and stench to the inhabitants?—It is very much so.

3207. Is that very injurious to the health of the inhabitants?—I should say it is exceedingly injurious.

3208. Will you state the results of the observations you have made upon those points?—The only way in which I could get any specific information was by taking two or three of the public charities, the fever hospitals and sick poor institutions. I got the number of patients admitted by them during a month, and then I ascertained from what streets they came, which streets I inspected. I visited Cole-alley, containing about 28 inhabited houses, several of which were let in tenements. The alley is perfectly straight, and open at both ends; it is not very narrow; it is tolerably well paved, but full of filthy refuse from the houses. The street itself is of sufficient width. Two or three houses have fallen in the street, and the spaces which those houses have occupied are full of filth; the straw beds of the inhabitants are thrown into them.

3209. There is no periodical cleansing of those places?—There is none that is efficient; there are four or five other spaces throughout the alley, caused by the falling-in of buildings, which are occupied as dung-yards and receptacles for the filth of the neighbouring dwellings; one of those yards is walled in, and has a gateway, but half the gate has been carried away, so that all who please have access to the yard; it is filled with cow-dung and faeces, and all sorts of filth; straw that has served the purpose of bedding, and other filth, which is left in a semi-fluid state. In several of the houses there are dirt-holes, used as privies, at the foot of the stairs, there being no passage from the house backwards; in others there is a small covered yard behind, into which the filth of the house is thrown; very commonly the halls or passages leading to those receptacles seem to be used as privies for the inhabitants; the most abominable stench proceeds from all those accumulations of filth; there are no cellars or under-ground stories to the houses, all of which are in a ruinous condition. Off that street there is a small square closed off, surrounded by buildings, having six separate entrances and stairs, the former of which, as well as the generality of those belonging to the houses in the alley, have no doors. This yard is called Gill's-square; it is approached by a covered passage or gateway, in which there is a fountain, the only supply of water available for the inhabitants of the alley, for whose purposes it is not sufficient. Quarrels frequently take place about the water; the waste water from the fountain flows through an open gutter into a sewer in the yard, consequently the covered passage is kept constantly wet, and littered with animal and vegetable remains of matters which have been washed at the fountain. At the time of my inspection a woman was washing fish, the offal of which covered the passage, and was not likely to be removed. In one corner of the square there was a dirt-hole, which serves as the common privy for all the inhabitants. On inquiring at the Cork-street Fever Hospital, which is the hospital for that district, I found, that of 1,006 applications for admission during the month of

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January in the present year, 119 were from Cole-alley, and 24 from Gill's-square; that was one-seventh of the whole.

3210. Is one-seventh much greater than the due proportion of fever applications from that district, with reference to the population?—Infinitely greater.

3211. If that be the case, do you attribute the much greater number of fevers there to the dirt, filth, and neglect you have spoken of?—Yes; I can attribute it to no other cause.

3212. Are there any other districts which you have examined in the same way, in which there are a considerable number of fever cases, and which you attribute to the same causes?—Yes, there are; with regard to that street there were 22 cases furnished by one house in a month, and by another 21; those were not the whole number of sick in that street, but only those who applied to that one hospital.

3213. Mr. Cowper.] Do you suppose the new lodgers caught the disease of those who had been in it before?—I think it is impossible they can avoid catching it, for it is occupied by mendicants; they lodge together 10 or 12 in a room, and it is impossible that fever should not spread in such places; the hospital that I have spoken of, though its application is chiefly to the locality, has no restricted district, but there is a dispensary from which the poor are attended at their own houses, which has a district. In this institution there were 1,570 patients from the whole district in the month of March; out of those 95 came from this street.

3214. Is that more than the proportion of that locality?—It is very much more than its proportion.

3215. Are there any other neglected localities in which the same dirt and filth and so forth exist, and in which the same kinds of evil prevail?—Yes, there are many; as an example I may mention another small street which has cellars, Rainsford-street; it is in the same condition, with the addition of cellars.

3216. Are those cellars filthy?—They are very filthy; many of them have been lately closed up in consequence of their being flooded; during the cholera the parish interfered and absolutely ejected the people and closed up the cellars.

3217. Have any of those cellars been re-opened?—Yes; the people have again gone into them.

3218. Is there any drainage below the level of those cellars?—There is no drainage below the level of the cellars; from that street the applications to the fever hospital during the month of January were 61 in 1,006.

3219. Is that much more than the proportion of the population?—Very much.

3220. Does that arise from the same causes as apply in the former case?—Yes.

3221. Will you proceed to another case?—In Robert-street, which is a very short street, not more than six or eight houses, there were nine applications to the fever hospital; that was precisely in the same condition; in Thomas-court there were 19 in the month of January; all those being much out of proportion.

3222. Without going into minute particulars, are there many other localities of a like nature, in which a like neglect prevails, and like effects are produced?—Many others.

3223. Is there any one which is peculiar?—There is a small district of four small streets or alleys, from which there were 23 applications to the fever hospital, which is also out of proportion.

3224. They were neglected in the same way, and the quantity of fever arose from the same cause?—Yes.

3225. Are there many others of the same kind?—There are a great many streets of the same kind.

3226. Can you state the average cost in each case of fever to the community?—I cannot at the present moment.

3227. Is there any doubt that the aggregate expense arising from the numerous cases of fever occurring in Dublin is very considerable?—I have no doubt it is very considerable.

3228. Are many of those cases of the working classes?—Very many of them.

3229. Can you state the period of duration of those cases, one with another?—I cannot

—I cannot state that exactly; but I should think the average is 14 days, at least. H. Maunsell, M.D.

3230. During that time the person is unable to work, and his family are deprived of his services?—Yes. 29 May 1840.

3231. Therefore, there is not only the expense of his maintenance cast upon the public, but the loss of his wages to his family during that time?—Yes; and the result of his family being paupers, and a burthen on the community.

3232. His family become in some way or other chargeable to the community?—Yes.

3233. Is not fever a disorder of that nature that health is often prostrated for some time after the party returns from the fever hospital?—Yes; that I consider perhaps the greatest evil of all. The person is cured *quoad* the fever, but he is dismissed without the means of support, and he becomes a permanent burthen.

3234. Do you consider that the number of fever cases arising from the state of filth and dirt, and neglect, you have spoken of, is a great cause of cost to the community, and of suffering to the working classes?—Yes.

3235. Have you ever made a calculation of the cost?—No; the means of making the calculation do not exist in Ireland.

3236. You state that the drainage is very defective in many of those localities?—Yes.

2237. What are the causes that prevent the system of drainage being carried out efficiently?—The Commissioners of Paving are empowered to construct, alter, change, rebuild, extend or enlarge public and private sewers, drains, and cesspools; the private sewers, at the cost of the owners: those powers are given by the 47th of Geo. 3, c. 109, ss. 55 & 95, and by the 54th Geo. 3, c. 221, ss. 25 & 26; but those are defective, in consequence of their having no right of entry; they cannot go into a house to ascertain whether their sewers are perfect, and they have not the funds to construct public sewers.

3238. Have they power to oblige the owners to communicate with the sewer by under-ground drains?—They have; landlords are required to provide sewers communicating with the main sewer, under a penalty of 20*l.*, by the 103d section of the 47th of Geo. 3.

3239. Mr. Cowper.] Is that inoperative?—It is, from their not having the right of entry; they cannot go into a house to ascertain whether the sewer is made or not, and they have not funds to oblige the landlord to do it.

3240. Chairman.] Is that provision frequently neglected?—I believe it is always neglected; I think it is scarcely ever enforced.

3241. Mr. Cowper.] Could not they know the fact, whether there is a communicating drain, without the right of entry?—Yes; they have the right of opening the street to ascertain that, but that would be a very expensive way of ascertaining it.

3242. They have no funds, you say, by which they could enforce the Act?—They have not, and they say they have too much to do in other quarters.

3243. Chairman.] Have they power to prevent cesspools and receptacles for filth being sunk below the level of the common sewer?—They have power to cleanse private sewers, drains, or cesspools, where they are injurious to the pavement or offensive to the inhabitants; but I do not think there is any provision to prevent their being sunk too low.

3244. With respect to that valuable power they have given them of cleansing private sewers or others, in which there is filth injurious to the public, is that enforced or acted on?—No; I made particular inquiries from the officers of the paving board, and they assured me that it was not so.

3245. Mr. Cowper.] How do they derive the rates for the purposes of the Act?—They assess the rates; the charges of constructing sewers are assessed on the owners, proprietors, or lessees of houses built or building. They have no power to construct a sewer in a street proposed to be built, but if it be building, or the houses be built, they may have sewers.

3246. Do you know whether there are practical impediments to the levying of that rate?—Yes, the assessment is not to extend to houses inhabited by persons so poor as to be unable to pay it; the way in which that operates is, that there are many streets in which there are perhaps three or four houses of persons able to pay, but a considerable number who are unable to pay; it is hard to assess the houses of those who can pay to make the sewer for the

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whole street; besides, they are confined to a certain expenditure; it is confined, I think, to 18*l.* per perch; they can only assess any house to that amount. Then the expense of constructing the main sewer is assessed upon the street, not upon the district.

3247. *Chairman.*] Is the assessment upon the owner of the house, the lessee, or the occupier?—On the owners, proprietors, or lessees of houses; it does not appear that it is upon the occupier.

3248. Supposing the owner dwells out of the district, receiving a high rent from the poor occupiers, have they power to enforce it upon the owner?—They have the power of assessing the landlords, proprietors, or lessees, and they have also the power of obliging the landlord to register his landlordship and his own dwelling; provided the landlord vacates his house, and lets it in tenements, then they can go to him and assess upon him; but that they tell me is also inoperative; they tell me that it cannot be carried into effect.

3249. Why is that inoperative?—I am not aware, but I am told it is inoperative.

3250. *Mr. Courper.*] Can you state of what class of persons those paving commissioners consist?—They are three officers of Government, paid by Government; Colonel Morris is a commissioner, and one of the aldermen of the city, and another gentleman; they are appointed by the Lord Lieutenant.

3251. *Mr. Tufnell.*] Does their power extend over the whole city?—Yes, all within the circular road that comprehends all Dublin.

3252. What is the general feeling of the inhabitants as to whether the powers entrusted to these commissioners are properly exercised?—I do not think there is any feeling of discontent against them, but I think that arises from their not considering the matter; the tax is exceedingly high in comparison with the rent of the houses.

3253. *Chairman.*] The inefficiency of the system appears to arise partly from want of power, and partly from want of funds?—I think they have power enough of execution, but they have not power of inspection; they have not inquisitorial power, and they are deficient in funds, chiefly in consequence of part of the city being so poor that they cannot levy the rate, and it would be unjust to levy a rate upon the better part of the town sufficient to perform all these works.

3254. Can you state what is the rate in the pound?—They are empowered to assess 4*s.* 6*d.* in the pound on the valuation for minister's money.

3255. What do they levy?—I am not able to state that positively.

3256. *Mr. Tufnell.*] Have there been many main sewers made of late?—Yes; there is one making just at present in one of the best parts of the town, near Stephen's-green, communicating with a sewer in Dawson-street. I am not aware of any sewer having been made recently in any of the poorer parts.

3257. On looking at the map, it would appear that on the south bank of the Liffey there is much more drainage than on the north?—Yes, there is; it is the older part of the town, the better inhabited, and more wealthy; at least, the south-eastern part of the town is the most improving at present.

3258. In levying the rates, they can levy them only on the inhabitants of the street in which the sewer is made, not on any streets which branch off?—No. The way in which it operates is this: if the inhabitants of a street wish to have a sewer, they apply to the paving board, some individuals of them; then the commissioners have power to convene the inhabitants of the street by public summons. But though they may convene them to meet and consult about it, and have the power of enforcing their compliance, they seldom do it, unless there is a majority in favour of it. Then it can only be rated on the inhabitants of the individual street, not the branch streets.

3259. Supposing there is a street running at right angles, along which the sewer does not go, but which may communicate with that main sewer, that is not assessed?—No; merely the houses in the street in which the main sewer is, and houses which communicate by cross sewers with the main. They complain that they cannot assess the whole district. At the commencement of this Act there were 40,000*l.* granted from the Consolidated Fund, half of which was applied to the construction of sewers, and there would not have been so many but for that grant.

3260. Can you state what is the sum annually expended by the commissioners?—No; the accounts are not made public; they are only furnished to the Government.

3261. The

3261. The burden you state to be considerable?—Yes; I occupy a house which is valued under the New Poor Law at 65 *l.*, and my paving-rate is about 7 *l.*; it includes the paving, lighting, and cleansing: the care of the sewers, not the making new sewers. H. Maunsell, M.D.
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3262. *Chairman.*] That does not include the police rate?—No.

3263. That is upwards of 10 per cent.?—Yes.

3264. *Mr. Couper.*] Have this Board any efficient power of scavenging the streets?—Yes, they have full power to scavenge the streets.

3265. How do they perform that duty?—They perform it very well in the streets occupied by the better classes, but very ill in the streets occupied by others.

3266. Do many of the sewers lead into the Liffey?—No, the tide rises in the Liffey above the sewers, and many of the houses which had sewers have none now in consequence of the inconveniences which they suffered from the Liffey flooding the lower part of their houses.

3267. When the tide is low, is not there a very great stench from the river? Yes; it is a very great nuisance; there is a great deal of mud laid bare by the falling of the tide.

3268. Is that caused by the sewers emptying into the river?—Less by that than by the putrefying matter which is deposited there.

3269. *Chairman.*] Those putrefying animal and vegetable matters must be deposited there?—They are carried up by the tide from the shipping, and carried down in the course of the river, and have accumulated there.

3270. There is no provision to prevent animal and vegetable matter being cast into the river?—Yes; that is under the care of the Ballast Board; they can punish persons for depositing them there.

3271. Are those regulations duly enforced?—I think they are, but the accumulation is occasioned very much by matters coming down the river.

3272. *Mr. Couper.*] Do you think the state of the river at low tides is prejudicial to the health of the city?—I think it is very much so.

3273. *Mr. Tufnell.*] Do you conceive the evils which arise from the want of drains affect only the lower classes, or the classes above them?—I think they affect the lower classes chiefly, but the evil is communicated to the upper classes also to a considerable extent; the fevers which arise with the lower classes constantly spread, when they become epidemic, to the middling and the upper classes, but the chief suffering is in the humbler classes certainly.

3274. That is chiefly where a great number of families inhabit one house?—Yes.

3275. With regard to artizans and those in the higher classes, are infectious disorders common among them?—Yes, they suffer considerably also.

3276. *Chairman.*] With reference to the supply of water, you state that some portions of the metropolis inhabited by the poorer classes are badly supplied?—Yes, there is a means of supplying them, though not to a considerable extent; those are made operative in the liberty by means of fountains; there is no supply of water within the houses, nor any means of effecting that; on the north side of the Liffey there is an insufficient supply of water; it is not regular or constant, it is periodical.

3277. Is it sometimes deficient for a day or two?—Yes; sometimes it is not turned on for a day or two, or a portion of the day.

3278. Is the water of good quality?—No; on the north side especially, it is derived from a very filthy basin.

3279. *Mr. Tufnell.*] Are the fountains you refer to perpetually flowing?—No; some are supplied during a portion of each day; some every other day. There is a latch to enable persons to draw water, but the water has access to the fountain during certain portions of the day only.

3280. *Chairman.*] They have access to water, but the supply is not constant or sufficient?—Yes; especially on the north side.

3281. Is the deficient supply of water you speak of the cause of the want of health and cleanliness on the part of the people?—Yes; the poor have not the means of keeping a supply, in consequence of its being accessible in that casual way; they have not tanks or vessels, and that operates particularly injuriously on the very poorer classes.

3282. With respect to lodging-houses; are there many lodging-houses for the poorer classes to which a migratory population come for a few days or a night, and pay so much for the night, a number being lodged together in one room?

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—There are a great many; we have had a mendicity institution, which is now nearly broken up, in consequence of the operation of the Poor Law. There were generally 2,000 or 3,000 individuals on the books of the institution; none of them were lodged there; they received 1*d.* a night, and latterly it was reduced to a halfpenny a night: that was for the purpose of providing themselves with lodgings; they got their food in the institution. The result was, that they lodged in the most wretched places; a number of them in a single room without bed-clothes; they have no means of providing bed-clothes, nor any means of keeping them if they had.

3283. Have you, in your visitation of the poor in Dublin, had occasion to visit any of those lodging-houses?—I have.

3284. Are those lodging-houses very numerous in the poorer neighbourhoods?—They are.

3285. Are they inhabited by a migratory population?—Yes; they are remarkably migratory.

3286. Are there any regulations with respect to cleansing and ventilation, or such regulations as would be necessary to preserve the health of the inmates?—None whatever.

3287. In consequence of the want of such regulations, do fevers frequently prevail in them?—They do, frequently.

3288. Are the fresh inmates who come in from time to time liable to take the fevers that have affected the old inmates?—Yes; they constantly do.

3289. Do they carry to other localities the fevers they have taken in those lodging-houses?—Yes; there are a number of remarkable facts showing that throughout the records of the hospitals.

3290. Have you any doubt whatever that the neglect of proper sanitary regulations, with regard to those houses, is the cause of great cost to the country?—I am quite certain it is; and that a small expense in carrying sanitary regulations into effect, would save a great deal of money to the country.

3291. Is there any regulation with respect to the cleansing or the white-washing of those lodging-houses?—There are none ordinarily.

3292. Are there any at the present period?—None now in operation; there are extraordinary means.

3293. Does your knowledge of that part of the subject extend to other towns in Ireland?—Yes, for the extraordinary means I speak of are not of a local nature.

3294. Do you know whether the lodging-houses in other large towns in Ireland are neglected in the same way?—Yes; they have means of paying attention to them, but only of an extraordinary character.

3295. Arising from the cholera, or other visitation?—Not from the cholera, that required a special Act; but under the 58 Geo. 3, c. 47, if any fever or contagious disorder prevails in a district, the magistrates can convene a meeting, and apply to the Lord Lieutenant, and he can commission 13 persons to act as a board of health for that locality; then they have extraordinary powers; but a fever or contagious disorder must exist in the locality to justify those steps; this Act is applicable, not merely to Dublin, but to the whole of Ireland.

3296. When the fever arises to such a height and intensity as to threaten the habitations of the richer classes, this Act is put into force?—Yes.

3297. But in ordinary times, when the fever is not of very great intensity, and is confined to the dwellings of the humbler classes, there is no such provision put into force?—No, but then there is another provision which may be put into force; this Act provides, that “whenever in any city, town, or district, any fever or contagious distemper shall prevail, or be known to exist, it shall and may be lawful for any one or more magistrates, upon the requisition of five respectable householders, to convene a meeting of the magistrates and householders of such city, town, or district, and of the medical practitioners within the same, in order to examine into the circumstances attending such fever or contagious distemper.” There is another Act of 59 Geo. 3, c. 41, which enables the parishes to appoint officers of health; that is a permanent power; those officers have very considerable authority; they can assess a rate.

3298. Are they appointed?—They are appointed, I think, in all the parishes of Dublin except two; but they are inoperative; they are unpaid, and it is a very disgusting duty; they can be made to serve, but there is no control as to the amount of service they perform; so that the provision is quite inoperative, unless an alarm exists.

3299. Do you not think the appointment of some such officers, properly appointed,

appointed, properly paid, and having reasonable power, for the purpose of suggesting and enforcing such measures as shall be beneficial, would be highly valuable?—I am sure it would, and it would save an amazing quantity of expenditure to the country.

3300. Do you not think, that whether appointed by the poor-law guardians or the rate-payers, the appointment of such an officer would soon pay its expenses by the saving it would occasion?—I think so, if he was under proper control.

3301. Do you not think the appointment of a board of health, consisting of a certain number of persons properly appointed, either by the poor-law guardians or the rate-payers, as a board to receive the report of the inspectors, and make suggestions, and communicate with the proper authorities, for the purpose of carrying out new regulations, would also be a valuable provision?—Yes, I am quite convinced of that.

3302. Such a board would have the power of reporting annually, either to the Government or some superintending authorities, the state of health within their district, and, in case of emergency, calling for extraordinary assistance; and also state what they had done for the improvement of the public health; do you think that that would be a practical and good method?—Yes; in fact that system does exist at present; it is shadowed out at present, but it is not operative.

3303. Does any mode suggest itself to you in which it might be rendered operative?—Yes; it could easily be made operative with a little management; the 58 Geo. 3, c. 41, sanctions the appointment of a board of health when disease is known to be in existence; it was extended by the Cholera Act to the apprehension of disease; that Act has expired; but by a sort of fiction they say that contagious and epidemic diseases always exist, and there is accordingly a sort of central board of health kept up in Dublin, which costs the public something; but we know nothing of the operation of it; it publishes no reports; it is not useful except as it is applied to by the Government; by a very few alterations in the constitution of that body it might be connected as a central and general board with local boards, capable of being put into operation under this Act; it might be made very useful without perhaps any additional burthen to the country.

3304. *Mr. Cowper.*] What are the alterations which appear to you to be desirable?—I would give the central authority a controlling power over all local boards so as to make them operative, and cause it to be composed of persons capable of exerting themselves with authority, and understanding how to exert themselves.

3305. *Chairman.*] Would you extend this power to the suggestion of measures for the prevention of contagion?—I would make it preventive and not remedial; not occasional, but permanent; I would alter its powers materially; I think the boards under those Acts have powers which are ineffectual from their very extent.

3306. *Mr. Cowper.*] Does the Board at present consist entirely of medical men?—It does not; there are three or four medical men upon it.

3307. *Mr. Tufnell.*] Is not the New Poor Law brought into operation in Dublin?—It is brought into operation in Dublin within the last month.

3308. How many unions are there in Dublin?—Two.

3309. How many medical men are there?—There is a physician, a surgeon, and an apothecary to each.

3310. They of course, from the nature of their duties, are more in the habit than any other medical gentlemen of knowing and ascertaining the state of the poorer classes?—There is no relief given under the Irish poor law, except in-door relief, so that they know nothing of what occurs but in the poor-house. There are others, who have been attending local dispensaries, who have more local knowledge. Besides, those gentlemen have scarcely come into office yet.

3311. Would they not be, from the nature of their duties, more in the habit of ascertaining whether there are any disorders prevailing among the lower orders than others?—I believe the gentlemen employed would be very likely to give a great deal of information, in consequence of their having been connected with dispensaries, but not as connected with the workhouse.

3312. Where any contagious disorders were prevailing, there would of course be a greater pressure for relief from the workhouse?—So far as that goes, very probably.

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3313. *Chairman.*] Their duties would of course lead them into communication with the humbler classes?—No doubt they would.

3314. Is there any other suggestion you have to make with respect to sanitary regulations applicable to the poorer classes of the inhabitants of Dublin?—They have very considerable powers in the Paving Board to prevent accumulations of filth, but which are inoperative, in consequence of the want of some authority with inquisitorial powers.

3315. *Mr. Tufnell.*] Supposing you consider any inspectors necessary to be appointed, it would be desirable to connect them with the board of health, would it not?—My opinion is that it might all be done by means of a board of health; that that should be rendered an inquisitorial body, mediating between persons creating nuisances and those who are to punish them. *I do not think the board of health ought to have the power of punishment, but of determining whether nuisances do exist, and then communicating with the proper authorities. If they had the power of obliging the Paving Board to do its duty, very little alteration would be required.

3316. *Chairman.*] Are there any nuisances of any kind injurious to health arising from particular manufactories in the vicinity of Dublin, to which your attention has been attracted?—Unfortunately we have scarcely any manufactories there from which nuisance can arise. There is a good deal of nuisance arising from accumulations of dung and manure, and also from slaughter-houses. There are 10 markets, or collections of shambles, in Dublin, besides separate butchers' shops, at almost all of which animals are killed.

3317. Is some improvement requisite with respect to the cleansing of those markets?—There is. I think there ought to be public abattoirs, removed from the town, and that a board of health should have the power to ascertain the amount of the nuisance, and to devise the means to remove it.

3318. There are many accumulations of filth and dirt in the neighbourhood of Dublin; and, among other things, the state of the slaughter-houses, in your opinion, is injurious to health?—Yes.

3319. With respect to cemeteries in the midst of populous districts, are there any in Dublin which you consider injurious to health?—I think they ought to be all removed; but there is no very great evil in that respect in Dublin. There was a burying-ground near the outside of the town, at which no fees were paid, and which was consequently so much used as to be a nuisance; that has been closed up since the cholera occurred, and there are no burials in it; there is nothing like what occurs in London. There are 23 churches with burial-grounds and vaults, and a few Roman-catholic chapels; but I can mention no fact showing that that is a very crying evil; it is curing itself. There are three or four burial-grounds established at the outside of the town by companies, and the Roman-catholic clergy have established two or three.

3320. Are there any baths in Dublin, calculated for the poorer classes, to which the price of admission is small?—No, there are no such things.

3321. Are you acquainted with the state of Belfast, Limerick, or Cork?—I think all those towns are pretty much in the same circumstances; some of them very remarkably so.

3322. From your knowledge as a medical man, it appears to you that they stand in need of legislative measures?—Yes; there are very strong facts showing that. Drogheda, I think, was exactly decimated by the cholera, which was a very extraordinary proportion.

3323. Have you a return of the number of persons affected with fevers in the district of Belfast or Limerick, or Cork?—No; there are no such returns. That is one of the things which ought to be remedied.

3324. Did you visit, when you were at Limerick, what is called the English town?—I did.

3325. Did you go to that part inhabited by the poorer classes there?—Yes; it is seven or eight years since I was in Limerick; but it struck me as in the most miserable state. The Irish part of the town, called Garryowen, was the most miserable I ever saw.

3326. Is there any return of the mortality of Dublin generally?—No; we have no bills of mortality.

3327. Would the Population Return show that?—No; there has not been a census since 1831; the population in Dublin, inside the circular road, was, in 1831, 232,262.

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3328. Are there any other suggestions of a preventive nature relative to the subject before the Committee that strike you?—I think we want very much a Building Act, with some provisions for the arrangement and the prevention of buildings that would be injurious, and also for the construction of sewers; we want alterations in the mode of doing that, and also in the supply of water. There is one matter concerning the supply of water in Dublin which is very defective; it is under two authorities: the Paving Commissioners have the control over the fountains, and they have the power of opening the streets; but the supply of water is under a committee of the corporation, who cannot, without leave of the Paving Board, open the streets to repair the works.

3329. Mr. Tufnell.] What is the difference between the city and the liberty?—They are supplied in the liberty from a different source; they are supplied by works constructed by the Government; they are much better supplied with water than the others; the liberty is not under the jurisdiction of the Lord Mayor and corporation, but under the jurisdiction of the seneschal.

3330. Do you think that the provisions of the Building Act should be general and applicable to large towns, in which there are a great number of the dwellings of the poorer classes?—Yes; I think the provisions should be such as to make as little interference with private rights as possible; and it appears to me essential there should be authorities, such as a board of health, capable of performing those inquisitorial and mediatorial duties which I have stated to be requisite.

3331. You state that you think the regulations ought to interfere as little as possible with private rights; do you think they should be adequate for the prevention of those forms of construction of buildings which are shown to be injurious to health?—Yes.

3332. So as not to interfere except in cases where it is absolutely necessary?—Just so.

3333. Do you not think it essential to prevent cellar dwellings being constructed which are without areas and without windows?—Certainly.

3334. Do you not think it would be necessary to prevent small houses being built back to back, so as to prevent their ventilation?—I do.

3335. Do you not think it would be necessary to prevent their being built in close courts through which the air cannot pass?—Yes.

3336. Do you not think there ought to be some proportion of width of street as regards the height of houses, so that the space in front should be either the whole height, or one half or one-third of the height of the house?—Yes, otherwise no regulation would be operative; a street would be of a sufficient width for houses not very high, which would be quite insufficient for the higher class of houses.

3337. Do you not think a regulation of the same kind of a space proportioned to the height should be also enforced with respect to the width of the opening at the back of the house as well as in the front?—Certainly.

3338. Those regulations, and the laying down rules to prevent the construction of houses without such rules, would, in your opinion, be highly beneficial to the poorer classes of the community in point of health?—Yes; and to all classes of the community.

3339. Do you not think the slight interference which would take place with regard to the construction of dwellings would upon the whole be highly advantageous to the community?—I do; the only difficulty is laying down general rules; and that is the reason why I think it essential there should be some mediating body, such as the French Conseil de Salubrité, in some degree to interpret the law, and to modify it.

3340. The Committee have had the evidence of builders of great experience, that houses are now divided into different classes, and that such regulations might be laid down as might be easily enforced with reference to the lower rates of houses, in which the poorer classes reside; are you aware whether there are any divisions as to the rates of houses amongst the builders in Dublin?—No; building is almost stopped now; it has not been at all active for some years in the lower houses; the poor now occupy houses formerly occupied by the rich.

3341. If such rules could be established and enforced in this country, would there be any difficulty in enforcing the same in Ireland?—I cannot conceive of any difficulty likely to arise; I am sure that all thinking persons would see the necessity of such regulations.

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3342. With regard to some of those close localities, consisting of old houses built in the forms you have spoken of, much neglected, and in which fevers prevail, do you contemplate any mode by which they might be opened, so that the air should pass through them?—I think it would be a very legitimate way of expending public money, either by assessment or from the general funds of the country; that in the end it would produce a saving.

3343. Do you think that, from the evils arising from the want of some such improvements, great cost falls upon the community?—I am quite sure of it.

3344. Do you think it would be just to make the community at large pay a part of the cost?—Yes; I think there are some places where the locality could not bear the expense.

3345. Suppose, from any public fund, the Government were to offer to pay one-fourth or one-fifth of the estimated expense for such an improvement, do you think the locality might bear the rest?—Yes, I think it could; but that must be again left to some controlling power, lest it should be converted into a system of jobbing.

3346. Do you think the principle of Government furnishing a certain quota, and the locality furnishing the rest, might properly apply to such a case?—Yes, and I think the evil is so general throughout the whole country, that the expense and the benefit would in the end be pretty equally divided.

3347. Is there any other mode you can suggest, by which those improvements might be carried out?—I am not aware of any other; it must be done either by local assessment or Government assistance, or probably by both combined.

3348. *Mr. Tufnell.*] Are you aware whether those powers of the Commissioners of Paving extend to any other large towns of Ireland?—Yes; almost all the large towns have local Acts; there are powers latterly, under the Act of the 9th of Geo. 4, c. 82, enabling localities and towns to combine for the purposes of cleansing and lighting and watering their precincts.

3349. Does that empower them to appoint salaried officers?—Yes, it gives them power, in order to carry those objects into effect, to levy a rate.

3350. Do you know whether those powers have been exercised in any other places?—Yes, I know they have been exercised in a small town near Dublin, Kingstown; the Act enables towns not having corporations to combine for the purposes of cleansing and lighting within their districts.

3351. You are not perhaps acquainted with any large town in Ireland which has been rapidly increasing in population?—I understand that Limerick is very rapidly increasing, and very much improving.

3352. You do not know whether the houses of the poorer classes there are better constructed than those in other towns?—No, I cannot speak from my own knowledge; I have not been there for six or seven years.

3353. *Chairman.*] Are there in Dublin many schools for the children of the poorer classes?—There are.

3354. Both day and dame schools?—Yes.

3355. Are there appendant to them any play-grounds in which the children of the poorer classes can take the exercise so necessary for their health?—No, not generally; I think there are such grounds in very few instances.

3356. Do you not think some such provision of play-grounds appendant to the schools of the younger children is almost necessary for their health?—I am sure it is absolutely necessary.

3357. Do you not think that, independently of their health, for the purpose of developing their powers of attention, it is a very great advantage to them to have exercise at the period of relaxation?—Yes, I am convinced of it; I am sure a great deal of evil is done physically and morally to children by their long confinement in schools; it is altogether beyond what they are able to bear.

3358. You think it would be advantageous to their health, and to the development of their faculties, to have places for exercise?—Yes.

3359. *Mr. Ingham.*] In the large school of the Education Board, is there not a place for exercise?—There is a large space round it; there are several detached buildings. There is also a space connected with the Kildare-place School, but I think the children are not allowed to play there; I think there is no interval for play.

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3360. *Chairman.*] Are those the only schools you are acquainted with which have large play-grounds?—I am not aware of any others.

3361. *Mr. Tufnell.*] Do you think where a family has inhabited a certain confined space for several generations, it will produce permanent effects upon the race itself?—Yes, I think that may be set down as proved to be so.

3362. You think that produces an injurious effect on the posterity of those living under those circumstances?—Yes; it produces scrofula; it produces deterioration in mind and body; I think that may be considered as proved by various observations on other animals as well as man.

3363. You think the neglected state of the lower alleys and courts has an effect on the moral habits of the people?—Yes; I am satisfied of it; I am sure that a person cannot be in a good moral state who is not in a good physical state.

3364. Do you think that if greater attention were paid to cleansing those courts and alleys, that would produce by degrees a good moral effect upon the population?—I should think so.

3365. *Chairman.*] Do you think that the neglect of cleanliness, and of the decencies of life in those neighbourhoods, has a great effect in degrading the characters and feelings both of those who are grown up, and of children who are constantly there?—It must greatly demoralize them.

3366. Supposing those children to attend schools during certain hours of the day, do you not think that the benefit they will receive from any instruction or good example there will be neutralized very much by the bad example and the evil they will see in those filthy spots when they return in the evening?—I do think so.

3367. Is it the custom of the poorer classes to inhabit cellars?—It is, very much. There are some rows of houses which have been commenced, the vaults of which were built in the first instance, but which were never finished: those vaults are squatted in by the poor, who do not pay rent for them.

3368. Are those cellar dwellings, where the houses are not finished, peculiarly liable to disorders?—I think not so much as the others, for there is a better access of air to them; they are open in front. The people themselves generally make a window where there was none originally intended, and they very commonly build a fire-place, and make an opening to give the smoke an exit. I have inquired from the officers of dispensaries as to those, and I find they have less objection to go into those than they have into the cellar of a house which is occupied above.

3369. *Chairman.*] In those neglected localities where the filth and dirt is so great, does dram-drinking prevail extensively?—Yes, dram-drinking prevails very extensively. It is now checked very considerably by the temperance movement; but it prevails generally throughout the lower classes.

3370. Do you think the neglect of decency and cleanliness has a tendency to produce that recklessness of character which leads to dram-drinking?—Yes, I think it is a great cause of it; in Ireland they have no comfort at home.

3371. *Mr. Mackinnon.*] Has not the damp of the climate a great tendency to it also?—No; I think it is the misery of the people.

3372. *Chairman.*] Do you think an attention to their comfort would have a tendency to improve their moral character?—I have no doubt of it, and that it would permanently decrease dram-drinking; it would lead to a desire for better clothes and more comforts, and they would be reclaimed from their habits of thoughtlessness.

3373. *Mr. Mackinnon.*] You say dram-drinking is the consequence, in many instances, of the misery of the people?—Yes.

3374. They fly to that as a resource?—Yes, in many instances.

3375. *Chairman.*] Will you favour the Committee with your views as to the constitution of the Board of Health?—I think the system should consist of a central and local boards, the latter being subject to the control of the former. All should be permanent, not occasional nor contingent, as they are at present in Ireland; their objects should be preventive, not remedial. With regard to the constitution of the board, the central board, I think, should consist both of persons of the medical profession and others, and a portion of them, I think, should certainly be paid. On the board, I think, there should be one member accustomed to chemical investigations; there should be a person acquainted with mechanics and physics, a sort of engineer, and there should be perhaps two medical men, one of whom should be selected as a practitioner, and one

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as a scientific physiologist and anatomist. I think those four would probably constitute a sufficient paid portion of the board, and there might be unpaid members, equal perhaps in number or perhaps greater, as it might be thought right, consisting in some degree of official persons; the chief police authority for example, (in the French system, the prefect of the police is the chief of the board,) the chief poor law commissioner, the chief commissioner of public works, the chief authority of the military medical department; those might be unpaid, as they are paid at present for other services; there might be added to them a certain number of non-official persons, citizens or persons not engaged in any public office.

3376. Would you contemplate those being chosen by the rate-payers?—I should say the central board ought to be appointed by the Government. I think there should be attached to the board a secretary, who should be a medical person, employed in the duties of the board, and not allowed to practise as a medical man. A difficulty arises as to the mode of paying these; but it is not insurmountable; there is at present a board which is paid something. I think there should be a fee for each attendance at the board perhaps once a week. I think the board would be required in the course of its operation to send commissions for the purpose of inspecting localities where nuisances were supposed to exist. They should be paid for those in the shape of fees, in the nature of costs. Suppose a manufactory was said to injure the water of a river, the person holding that manufactory, or the person prosecuting, whichever proved to be wrong, should be made liable to costs, of course regulated. One source from whence to obtain the necessary funds would thus be opened. With regard to the local boards, I think they might be established by the inhabitants of a district, and elected as the poor law guardians are; but that they also should have a paid secretary, who should be a medical man.

3377. Mr. Mackinnon.] Is it necessary to have machinery so expensive as that of the general board?—The object is a general one, and incapable of being pursued with any benefit, unless it is pursued on a general system. With regard to the funds, they might be got without any burthen, and rather with a saving. There are some funds provided for the present central board; the fees of commissions would furnish a fund, without drawing upon the public purse. For the local boards at present an assessment is permitted, which assessment, when any terror invades the inhabitants, becomes a very serious thing. In Dublin, on the occasion of the cholera, there was an assessment of about 30,000*l.*, one-third of which would, in my opinion, have effected the object much better if otherwise applied.

3378. Chairman.] If the measures had been preventive, you think a smaller assessment would have effected the object much more economically and beneficially to the inhabitants?—Yes; there is a costly job constructed the very instant that there is any emergency. I am convinced that if we could compare a regular preventive assessment, during the last 10 years, with the contingent and irregular assessments which have been actually made during that period, that we should find a very serious balance against the country, owing to the adoption of the latter mode. There is another way in which funds might be procured without increasing the public burthens. There is a good deal of money at present taken from the counties by assessment to pay medical men, who perform the duty of medical witnesses on coroners' inquests. I think that duty might be performed by the secretaries of the local boards; it might be part of the duties for which he was remunerated, and by that means there would be a saving. With respect to the duties of the central board, those, I conceive, should be the superintendence and instruction of local boards, the construction of sanitary reports from the materials to be regularly furnished by local boards; one part of the country is not compared with another, and the reports lead to nothing but confusion and error at present. Such boards should have the superintendence of epidemic and quarantine regulations; they should be confidential and responsible advisers of the Government on any measures necessary to prevent disease.

3379. Do you contemplate that they should make up returns of the comparative mortality of different towns or districts?—Yes; I think they should make up returns of the state of health in the districts.

3380. Have you any such returns at present in Ireland?—No, there are no returns at all, except private ones. I think a part of the board's duty should also be the formation of such commissions as I have mentioned, to report on nuisances dangerous to the public health, and also by what means the Building

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Act could be carried into effect without being rendered oppressive. For example, it would not answer to lay down any general rule as to the distance at which a house should be built from the bank of a river; what would be an evil in one set of circumstances might not in another; and there should be some mediatorial authority to determine in such a case, and to modify the law. Also in questions of nuisance, with which the time of the public courts are frequently occupied, say the smoke of a manufactory, if there are a dozen medical men examined, there may be six on one side, and six on the other, according to their prejudices and whims; now if there were such a board as this, capable of sending down a commission, the matter might be better determined on the report of such a commission, which should be made evidence, and the expense of the commission be charged as costs. Then this central board should be a court of appeal from the decisions of the local boards. With regard to local boards, they should have the duty of inspection, and of reporting to the central board, and the charge of investigating all matters likely to affect the general health within their district. With regard to the powers of the board, I think they should be rather mediatorial and inquisitorial than executive; they should have control over local boards so far as to enforce uniformity of operation and performance of duty on the part of the board and the officers of it; they should have power to form commissions, with right of entry and inspections, under suitable limitations, and power to oblige the executive to do their duty in all matters regarding the public health. The local boards should also have inquisitorial powers, a right of entry and of demanding returns of health from medical practitioners, some allowance of remuneration being made for the same.

3381. Such powers as would enable them to carry out the measures you have stated?—Yes; they should be available in carrying out the provisions contemplated, and perhaps a registration of births and deaths, if it was thought necessary. The districts for the local boards, I think, should be determined, perhaps, by the poor-law divisions.

3382. Mr. Mackinnon.] Your opinion is decidedly in favour of a central board; that would be an expensive sort of machinery, would it not?—I think it would not, with the views I have put forward.

3383. Would not a local board, appointed by the parishioners, or the authorities of certain districts, serving gratuitously, be able to answer all the purpose, without the expensive machinery of a central board?—No; we have in former years found that they are not so operative; there are local boards; it is possible to erect them under the 58th and 59th of Geo. 3, but they are not operative; there is no information derivable from them.

3384. How are they appointed?—The officers of health are appointed by the vestry, and the boards of health by the Lord Lieutenant.

3385. Do not those central boards very often end in jobs, from the persons who are appointed not having the power to exert themselves over the whole community?—The local boards are, I think, much more likely to job.

3386. How can they be more likely to job, assuming that they are formed by the parish authorities, consisting of two medical gentlemen and two other gentlemen, their duty being to point out what nuisances ought to be removed, they having no salary, and having only the object of benefiting their neighbourhood?—I think their having no salary is the very reason; you cannot expect persons to perform that sort of duty without payment.

3387. We have unpaid magistrates?—Yes; but that is different from the performance of a dangerous duty, which must be paid for in some way or another; most men shrink from the performance of such a duty, for which they are not responsible if they are not remunerated.

3388. Do you think that all the local boards ought also to be salaried boards?—No.

3389. Chairman.] In the local boards you do not contemplate any being paid except the secretary?—No.

3390. It was only the central board of which you thought a portion should be paid, because they would be persons of peculiar qualifications, a chemist, a mechanic, and so on?—Just so.

3391. Mr. Mackinnon.] It appears that the power you would vest in the central board, would be so great as to constitute it a very powerful engine?—No, I do not contemplate any very extensive powers.

3392. You propose that they should have great powers in case of nuisance?

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—That they should send a commission, and that their report should be received in evidence, but not that they should have further powers; the object is to attain good evidence.

3393. Is it not your opinion that that board being salaried, and having great powers of abating nuisances, would be extremely unpopular in the country?—No; it would not have the power of abating nuisances; I desire to prevent its being unpopular by an excess of power.

3394. You would have the central board exercise a superintending power over the local boards?—Yes, I am of opinion that they would never do their duty without that.

3395. Suppose that in a populous district a local board was appointed, consisting of two respectable medical gentlemen and two respectable individuals not in any profession, do you not think that the wish to benefit the neighbourhood would induce those gentlemen to visit any district and to point out what was desirable?—They must have knowledge as well as will, and that would not be gained without its being pointed out to them by some central authority; and in addition to that, the interference with one's neighbour is a very obnoxious duty, and one which a person will not perform without being called upon to do it.

3396. *Chairman.*] You think, though there might be some objections to the power given to such a board, that some board applying itself to the prevention of contagious disorders is necessary?—I do; but I am anxious to remove any misconception with regard to the board; their powers should be as little as possible executive; that, I think, would remove the great objections to such a board.

Mr. Thomas Cubitt, called in; and Examined.

Mr. T. Cubitt.

3397. *Chairman.*] YOU have been very largely engaged as a builder in the metropolis?—I have been.

3398. You are acquainted not only with the buildings calculated for the richer, but also with those calculated for the humbler classes of the inhabitants generally?—I am.

3399. Does your information extend beyond the metropolis, or chiefly to London?—I have seen very little of country places; I have spent the principal part of my lifetime in London.

3400. Are you well acquainted with the districts in which the poorer classes reside in the eastern parts of London?—No, but I know generally something about London, having been upwards of 30 years in business, which has led me occasionally into all parts.

3401. Are you aware that, in any districts in which the humbler classes reside, there are particular forms of houses which are objectionable, many being built in close courts, with the entrance under an archway, the houses being near together, and there being no opening at the end?—Yes, I am aware that there are many such, which I think is a matter certainly to be regretted.

3402. Do you not think such a construction of houses is injurious to health?—Decidedly; I think such a construction of houses is injurious to health, and I think it is exceedingly dangerous in cases of fire. I noticed particularly that there were many places of that kind in Birmingham, which appeared to be in a very bad state.

3403. Are you aware that where those houses are placed so close together, in many instances they are also built back to back, so that there can be no thorough draught of air through them?—Yes, there are many such.

3404. Is not that construction of houses very inimical to the health of the humbler classes?—Most certainly; it prevents ventilation and the free circulation of air.

3405. Are you aware that there are houses of this description, where there are under-ground dwellings, where the damp soil comes against the wall forming the side of the cellar, and in which there are no windows, and the only descent by steps?—That is exceedingly objectionable; but that, I think, is not very much the case in London.

3406. Where that exists you think it objectionable?—Very much so indeed.

3407. If this sort of building in those close courts and back to back prevails in many parts of this metropolis, and still more in many large manufacturing districts, do not you think that there is required some general Building Act for the

the purpose of regulating buildings of that nature, and preventing their construction in forms which were shown to be injurious to health?—I think it would be very advantageous to regulate them, but I think that would be a very difficult thing.

3408. Do you think the enforcement of regulations relating to those lower classes of houses would not be practicable?—I think that general rules might be laid down, but it would be a difficult subject, I think, to legislate upon, I think very many buildings were intended for other purposes, but are afterwards converted into the dwellings of poor people; afterwards they get into the hands of proprietors who try any mode of making a profit, and probably find that the most productive. The building may have been constructed for a different purpose, for which purpose it might have been fit, but may be altered so as to become exceedingly injurious to the people who live in it. Then, again, if you create too great difficulties as to poor people's houses, they will be obliged to incur other objections, perhaps by living too close together. Anything which tends to increase the rent is objectionable; poor people's houses seldom belong to any but those who are glad to get any money they can; they belong to a little shopkeeping class of persons, who have saved a little money in business; as they advance a little in life they possess themselves of that sort of house.

3409. Mr. Tufnell.] It is seldom that a person of large capital builds these sort of houses?—I think very few persons of great capital have anything to do with them at all.

3410. Chairman.] The observations you have made have reference to buildings constructed for other purposes, and then turned to this particular object; do you not think that some regulations should be made as to those provided for the habitation of the poor?—Yes, but even that is a difficult thing; I think it would be very difficult to say that a person shall not build a single house or two houses, because houses are built very commonly in fields, and where it is not known that any houses will be built at all; but where a second house is built there, there ought to be a decided plan exhibited, which would show that that house is intended to have at least two fronts open, and that no other house should come near either the back-front or the fore-front; that there should be an open space and a sufficient width in forming streets; and I think those parts that form the openings to them should be thoroughfares, and that they should not be less than a certain width. I should be inclined to go further than most persons as to streets: when land is first appropriated to building it is of very little value, and it might be so arranged, without hardship to anybody, that it should have a good width of street; some persons suppose that the lower classes of houses require only a small passage; it is true they do not require large openings for carriages, but there ought to be a large space for circulation of air, and more particularly because they are not so cleanly in their habits.

3411. The principle you have spoken of, of securing a certain portion for air, you think ought to be attended to in a well considered Building Act?—I think so.

3412. You have stated that the houses of the humbler classes are chiefly in the hands of, and built by persons who have tried to make the most they could of their property?—Yes, persons of small capital.

3413. Is it not therefore the more necessary that there should be some regulations to prevent their making the most of their property in such a way as to be injurious to the health of the community?—Yes, I think that is very desirable.

3414. There are certain regulations at present in the Building Act, for making party-walls of a certain thickness to prevent fire, and to prevent over-hanging buildings?—Yes.

3415. Those are interferences to a certain extent with property, for the good of the public?—Yes.

3416. Carrying out the principle you have spoken of, would only be carrying that further which is already commenced in respect of buildings by the present Building Act?—Yes, I think there ought to be an Act to prevent a mass of small houses being built close to each other, but the difficulty I feel is as to measures to prevent the converting houses and buildings intended for other purposes, I mean houses built, perhaps, for warehouses or manu-

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factories, which are frequently turned into dwellings for poor people; but I think with reference to taking care of poor people who cannot take care of themselves, and who must get into such places as they can obtain, the great point is to protect them against the nuisances of their wealthy neighbours, the great manufactories and gas-works, from which London is suffering very much at all times.

3417. Do you not think that some regulations, to enforce, in the vicinity of the localities inhabited by the poorer classes, a good system of sewerage and cleansing, so as to carry away the filth and dirt and offal occasioned by those crowded localities, are absolutely necessary?—Yes, it would be very desirable that that should be done. I think that the streets should be wide and airy, even for the very poor houses. Then I think there should be a positive law to ensure a hard surface being made for the road, and a good drainage along the line; then the nuisances in the courts might be easily cleared away. Then I think it would be good economy if there were a perfect system of scavenging established, beyond what those poor districts could afford to pay for. I think it would be good economy if London generally paid the expense of scavenging, so as to insure the habitations of the poor being kept clean; and if the water were allowed to run from the waterworks at certain times, which would be a further expense, that would tend to ensure the cleansing of the gutters and channels. But the places where they have a difficulty in collecting the rates are very little attended to. There is soft vegetable dirt left near the surface, which becomes a sort of soft sponge to receive all sorts of bad matter, generating new gases. Animal or vegetable matter is not thrown off and cleared away. I noticed that particularly last year in Manchester, I think, worse than in many parts of London, and in the neighbourhood of very wealthy manufacturers.

3418. Do you think, from your knowledge of the working classes inhabiting those neglected localities, that they feel the evils arising from these causes?—I am not quite sure whether they feel them, so as to be fully aware of them; they are conscious of them to a certain extent. Many of the lower orders are off, as soon as they get any money, to public-houses; they get, in a great measure, in a state of stupefaction to get rid of many of their uncomfortable feelings. Probably the best way to improve the morals of the people is to provide them good places to sleep in.

3419. You think that those places are highly injurious to the morals of the people?—I think so.

3420. Do you think they are injurious to the health of children?—There cannot be a doubt about that.

3421. Mr. Tufnell.] You think it would be difficult to draw up an Act to provide for all these matters?—Yes; I think so. Many years ago I thought that an Act to provide for making the streets of a certain width, and having in the courts a width of 40 feet between the houses, would be very easy; but I am convinced, from consideration, there are difficulties in the way.

3422. Chairman.] You think that the chief difficulty is to provide for the case of buildings which are altered in their construction, and become the residences of the lower orders?—Yes; if a better class were provided for the dwellings of the poor, that would have an effect upon the dwellings of those descriptions, for they would get a higher rent for those more convenient. I am only afraid of increasing the difficulty of those people getting houses, which would tend to put them close together.

3423. Do you not think it follows from the vast increase of population in the manufacturing towns, the neglected state of many of them, and the great extent of illness arising from those causes, that some provisions are absolutely necessary?—I think that some provisions of the nature adverted to are exceedingly desirable. I observed some years ago a measure brought forward for providing the poor with airy places for taking exercise. I think that would be very important; I think the want of such places drives people into public-houses, where they corrupt each other, because they have no place in which to take exercise. I think that would be a most important thing for London.

3424. Mr. Tufnell.] Can you indicate any spot in London which might be used for that purpose?—I can hardly put my finger upon any spot, but I think it would be highly useful; I think it would be economy for the richer classes to provide

provide them, for it would render their own habitations more healthy if they provided them.

3425. *Chairman.*] Did you see the Report of the Committee proposing six spots, which were all at that time available for the purpose?—I think I did, but I do not think that went far enough.

3426. You think that the same would be desirable in other towns?—Yes; I think in towns which are extending greatly, or likely to extend, such places should be provided.

3427. *Mr. Cowper.*] Do you think that in a Building Act it would be desirable to provide for the width which the street should bear in proportion to the height of the house?—I have thought so; but, on further consideration, I am afraid that a house would become like a slave ship, with the decks too close for the people to stand upright; they would put the floor and ceiling too near, and rather than occasion that I would say that no street should be under a certain width; I should say not less than 40 feet.

3428. *Mr. Tufnell.*] Suppose it were intended to build a row of houses, would you not suffer them to be built unless there was a sewer provided?—I would not allow a house to be built anywhere unless it could be shown that there was a good drainage, and a good way to get rid of water; I think that there should be some public officer responsible for that; that there should be surveys of every district, so that the officer should be aware whether the sewers were provided or not; I think there should be an officer paid at the public expense, who should be responsible for that; I think they should not be appointed by the district; there should be no favouritism of that kind; but public officers, changed from point to point, to take care of all public nuisances; with respect to manufactories, here are a great number driven by competition to work in the cheapest way they can. A man puts up a steam-engine, and sends out an immense quantity of smoke; perhaps he creates a great deal of foul and bad gas; that is all let loose; where his returns are 1,000 *l.* a month, if he would spend 5 *l.* a month more, he would make that completely harmless; but he says 'I am not bound to do that,' and therefore he works as cheaply as he can, and the public suffer to an extent beyond all calculation. I look upon it it has this effect: a gentleman comes to London, and lives in London; I will suppose he fits up his house in the best style he can; he has a taste for good pictures and upholstery, and so on; after a time the smoke has destroyed them, and he is disappointed and annoyed, and the effect is he is brought down in his feelings in a degree from the state in which he was accustomed to have things.

3429. *Mr. Tufnell.*] No regulations can prevent the smoke of the atmosphere?—If I were obliged to prevent my steam-engine sending out a quantity of offensive smoke, I should soon find a means to do it, and it would be no hardship upon me if my neighbours were obliged too.

3430. *Mr. Cowper.*] Are there means for effecting that?—Yes; look at those little steam-boats passing continually; imagine the quantity of sooty matter they are throwing into the town, and the great injury that is done to furniture. Some persons will say that is good for trade. I deny that; the only way to encourage the manufactures is to preserve them, and I think it would be a salutary act to prevent all those steam-boats showing any smoke at all; and if a law were passed to prevent any steam-boat showing any smoke out of the funnel, or to a very slight degree, we should not see fewer boats than we now see.

3431. *Mr. Ingham.*] Are you not aware that there are Acts in the large towns to compel the owners of steam-engines to consume their own smoke?—Yes; but there is no person compellable to put that into force. There was an action brought six or seven years ago against one of the great gas-works that happened to be in a neighbourhood where the evil was felt; there is no doubt those people proved that the neighbourhood was suffering very much by it, but the wealthy gentlemen, the gas proprietors, could bring evidence quite sufficient to upset that again, because there was wealth against poverty.

3432. *Chairman.*] You think the present law is not efficient, and that an efficient system of inspection by public officers should be provided, and that the expense might be very well paid by the public, in consideration of the benefit which would be derived?—Yes, I think that the cost would not be large; that the cost would be nothing compared with the good it would do.

3433. *Mr. Greene.*] You said there would be an increase of expense if very

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strict regulations were laid down with respect to the mode in which poor people's houses are built, and that that would drive them to congregate in great numbers together in each house?—That is my fear.

3434. Would greater evil result from a number of persons congregating together in one house in a broad street, than at present exists in a smaller number of persons in a house in the wretched condition in which those persons are now living?—I do not think that would be so bad; but that is one of the objections I have to the strict rules I should like to see established.

3435. The houses in which those persons mostly reside are generally owned by persons of small property?—They are frequently.

3436. Would there not be a considerable difficulty in laying down regulations with regard to 40 feet in width, where it would interfere with the disposal of small properties?—I speak of a case where new buildings are to be erected; I would not allow any new buildings to be erected unless there was a clear 40 feet.

3437. You would say that the man who built the first house should have a right of building his house as he pleased?—Yes, to a certain extent.

3438. The second man would fall under your building regulation?—The first man should be bound to have an open front at least.

3439. *Chairman.*] Those regulations have been proposed with reference to cities of above a certain population; in such situations there can be no doubt regulations are necessary?—Seeing how fast places do grow up, I think that there should be a very small population to begin with to constitute the necessity for a law.

3440. *Mr. Tufnell.*] From the experience you have had of London and other large towns in the country, are you of opinion that the habitations of the lower classes in London are better or worse than those in other places?—My experience hardly goes far enough to enable me to answer that; but I fancy that the working classes in London are better provided for and in a better state than in some towns. I think the working classes have improved in my time; I think they are more moral than they were; I think they are not so much addicted to drinking; that there are more sober workmen to be found; that there is less difficulty in finding a moral and sober body of workmen than formerly.

3441. Do you think it would answer, in a pecuniary point of view, supposing you had a certain piece of ground to lay out in building, that you should get a better description of tenant by its being well drained and well laid out, than on the plan now followed?—I am not sure; if I were building a class of houses which I never do build, but where a great number are wanted, I do not think it would pay to make them in the way I should like to do, for my neighbour would come alongside, taking advantage of my large opening; if I took a certain quantity of land, and built a street such as I should like, giving the houses good openings, the contiguity of that ground would be immediately wanted, for the people would have my piece to walk through, and a place of air for their children; it would be a general point, the same as a square is in the better parts of London.

3442. *Chairman.*] If the regulations were general, so that they were obliged to do that generally, that would take away that temptation?—Yes, it would, and therefore I think it would require the regulation.

3443. *Mr. Tufnell.*] Are you of opinion that the system of copyhold tenure has a tendency to deteriorate the class of houses built?—It has some effect, perhaps. Speaking of copyhold, I feel it would be a very good thing for this country at large, if any mechanic, or any one of the poorer classes who could save a little money, could make himself quite sure of buying a bit of freehold land; I feel that if a man having 100*l.* or 50*l.*, were he able to buy a piece of freehold land, on which he could put his house and garden, not only in London but in country places, and he could get his title cheap, it would give that man a sort of standing and firmness in the country, which would be a great protection against any plotting or mischief; the poor man, or some part of his family, would become a prudent man; he would be encouraged to make an effort which he sees no cause for now.

3444. With regard to a person building a number of houses; supposing the copyhold tenure did not exist, and the ground were freehold, would he not be likely to build a better description of house than now, when the fine must come into his calculation?—A man takes that into account in making his calculation.

I should

I should consider whether it would pay me at all building on a copyhold; most of London is built on long leasehold. An arrangement takes place between persons rather better off than the occupier; but I think it is rather a disadvantage to the working population of London that everything is leasehold. I think it would be a good thing if in every parish throughout England there were certain lands appropriated for that purpose, where a man might buy, but not exceeding a certain quantity.

3445. *Chairman.*] One of the difficulties of the humbler classes now arises from the great expense of law conveyance, the stamps, and so forth, which are more in proportion to a small purchase than to a large one?—Yes; what is desirable, particularly with reference to that point, is, that there should be a title ascertained, and a man should have the liberty of taking a part from it at a small expense, a small piece of land sufficient to build a house and make a garden, in those districts not worth perhaps 30*l.* an acre.

3446. *Mr. Cowper.*] Have you, in the course of your experience, found any deficiencies in the practical working of the Commission of Sewers?—Yes, I have found very great difficulty.

3447. Do you think they want any additional power?—I think that a great part is wrong; the plan of our sewers is not right, good as they are in some respects. I think that the officers of the sewers ought to be all responsible officers, and that it is wrong to drain direct into the Thames. I think none of the drainage in London should be carried direct to the river, but pass to the east of London; that none of the sewers should empty themselves into the river in front of the buildings. I would keep the water clean.

3448. *Chairman.*] Have you seen Mr. Martin's plan?—Yes; I do not consider that that goes far enough.

3449. His plan is to remedy the evil, and not to prevent the evil?—I think there ought to be some great lines now cut from the west to the east, in which the water, by travelling about eight miles, would go as far from London as it does now by its circuit round the river; perhaps it would require 15 miles to meet that point; it scarcely ever meets it; the noxious matter is carried all along in front of the town; it does not go the shortest way; it cannot get away, and it has so far to go, that the tide meets it and drives it back again. I think it ought to be let out beyond the River Lea. I will give an instance of the bad effects of this: there are a great many buildings going on beyond Paddington, the water from which is drained by the natural drainage, the brooks of the country; they happen to run westward, and the dirty water from Paddington is carried out to Chelsea. It is a long way before it gets to the river, winding about among the thickly inhabited parts; then after running through Chelsea, it has a long way to travel before it can get its discharge; it is blocked up, so that the tide meets it, and the water that leaves is comparatively clear, having deposited the foul matter.

3450. *Mr. Cowper.*] Do you think there would be any inconvenience in giving the Commissioners of Sewers a power of enforcing communications from private dwelling-houses to main sewers?—No man is obliged to make a drain to his house; so far they want power; but if a person does make a drain, they have the power of seeing that that is properly done; but a man may make a dépôt for filth, if he likes; he may build in a hollow place, where no sewer can reach him.

3451. *Chairman.*] There is no power of preventing the digging down below the level of the common sewer?—No.

3452. *Mr. Cowper.*] Do you think it would be desirable to give the power of enforcing communication in all cases?—Yes; I should go the length of providing a sewer that would carry off everything, and I would prevent a person making cesspools above the common size; 50 years ago nearly all London had every house cleansed into a large cesspool; all the filth was stopped in that cesspool, which had to be carried away afterwards; the water was allowed to drain itself from that. Then the river did not receive so much damage; a person did not injure his distant neighbour as he does now; but then the town became one mass of corrupt matter; a vast deal of it always escapes, wherever it can escape. Now sewers having been very much improved, scarcely any person thinks of making a cesspool, but it is carried off at once into the river. It would be a great improvement if that could be carried off independently of the town, but the Thames is now made a great cesspool instead of each person having one of his

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own. Mr. Martin has proposed a plan for saving the manure, but I have not seen it noticed anywhere. The great difference is that this manure used to be saved, and it is only latterly that it is thrown away. Formerly there were places round the town called laystalls, such places as scarcely exist at all now; there were a great many where the soil was deposited, of course making the whole neighbourhood very unwholesome. I believe there are many such places now in the neighbourhood of large towns, in the country.

3453. Do you think that the officers of the Commissioners of Sewers do not perform their duty at present?—I think the officers are generally very able and efficient and diligent persons; there are always some men on the commission that are very attentive, and work it out very carefully; but if there is a particular scheme to be carried on, the Board of Sewers being composed of a great number of persons, many of whom have their own business and cannot attend to that of the board, the room is filled on a particular occasion so that the persons who have a real interest in working the thing have very little control; if there is anything to be done, they may be beaten by numbers who come and object to works intended for the improvement of certain places, and the prevention of injury to the public; persons having no information may go and vote against those who have. I think the sewers should be under the control of impartial persons.

3454. You think, probably, the commission should consist of a smaller number?—Yes; I think that the largeness of the number increases the evil.

3455. *Chairman.*] Do you not think, with reference to some of the large manufacturing towns, that it is necessary to give some facility to the establishment of a good system of sewerage by a general Act, which should enable them, under general regulations, to appoint commissioners, so that a good system might be laid down and carried into effect?—I think so.

3456. At present some of the large towns have no efficient system at all which can be carried into effect in the towns or their suburbs, and it is necessary to have a specific Act of Parliament for every particular case, which is the cause of great expense and delay?—I think as the population increases those provisions are much more necessary. It is a subject of very great difficulty; but I think that all those difficulties are to be got over.

3457. *Mr. Tufnell.*] Do you think it desirable to have a central board in London, laying down plans, and who might control the district commissioners?—I hardly know how that could be done; but I think there should be responsible officers, and that there are certain powers wanted. Suppose a person having land, say two miles from any part of London, wanted to make that into a suburb, to appropriate it for building-land, probably there would be no means for his making a sewer through his neighbour's land; his neighbour might interfere with that, or the public road might be so situate that it might prevent it; there is no fund from which the means of making a sewer could be supplied.

3458. At present there are seven districts of sewers round London, are there not?—I do not know; I have not had to do with many of them.

3459. *Chairman.*] Your opinion seems to be strongly, that however difficult the regulations in a well considered Building Act, and a Sewerage Act may be, from the vast increase of population, the necessity of some regulations is pressed upon the public attention, and you think it proper that Government should enforce them?—I do; I think that men who have leisure to attend to it could not possibly devote their time for the benefit of the public in a way which would be more useful than that.

Jovis, 4^o die Junii, 1840.

MEMBERS PRESENT.

Mr. Brotherton.
Mr. Greene.
Mr. Ingham.
Mr. Mackinnon.

Mr. Slaney.
Mr. Vigors.
Mr. Walker.

R. A. SLANEY, Esq. IN THE CHAIR.

George Alfred Walker, Esq. called in; and further Examined.

3460. Mr. Mackinnon.] YOU are a medical man?—I am.

3461. You have written a book on the subject of the burial of the dead in large towns, have you not?—I have.

3462. You have turned your attention a good deal to that subject?—I have.

3463. In the book you have published, you have mentioned the evils arising from the want of ventilation in places such as cul-de-sacs?—I have.

3464. Have the goodness to state to the Committee generally your observations upon that subject?—I have little to add in addition to what I have previously stated. There is a cul-de-sac in the neighbourhood of Drury-lane, to which I have previously referred. In that court I was called upon to visit four children who had measles; I found them recovering from the eruption, but suffering with symptoms of typhus, complicated with sub-acute inflammation of the mucous coat of the intestines. The place in which they lived is one of the worst in the neighbourhood, being a cul-de-sac called Wellington-court, leading out of Drury-lane on the north-eastern side, approached by a long and narrow passage, most disgustingly dirty, without drainage, and inhabited by characters of the poorest description; the houses appear as though they were never cleaned or whitewashed, and the abominations called filthy are here in abundance. One cause of the gradual though sure deterioration of health had been long in operation, and this, I think, upon inquiry, will be found amongst the poor to be present very generally, viz. the filthy condition of the privies. In this court there is no sub-surface drainage; the substitute resorted to here is one extremely likely to be the least efficient. Instead of the excrementitious matter being carried off, it is suffered to collect in the hole immediately under the seat until it reaches a certain height, when it is conveyed by a pipe into a reservoir, which when full, is in the same manner prevented from overflowing by another pipe communicating with a larger reservoir, in the middle of which is a tub pierced with gimlet holes, so as to allow the fluid to separate from the solid portion; into this inner tub the pipe, connected with a pump, enters, and the fluid has been pumped up by the nightman. One person who lived here used to mix up the excrementitious matters deposited during the day to a consistence with water, and then pour it out on the surface-gutter in the court. No provision being made for the passage of the solid portion, as might be anticipated, all the reservoirs have long since been full; and the two pot de chambres being covered over by boards, the one immediately under the seat of the privy is constantly overflowing; indeed, frequently the soil has forced itself between and through the boards, and has repeatedly been a foot deep on the floor and in the yard. Two children recovered; the other two were in succession attacked; one affected with gangrene of the mouth successively lost the whole of the upper lip; the lower jaw was laid bare inside and out, and the roof of the mouth destroyed; petechiæ now appeared, and the child, a most loathsome object, died. The mother now removed into another house in the same court, with the idea of benefiting the other child, a girl, who was in a similar state. This infant, about 12 months old, had, when the boy died, ulceration of the hard palate, denuding the bone and laying bare the alveolar processes all round. It was similarly intractable with the boy's, and successively destroyed the whole roof of the mouth, perforating the palate bones, and eventually opening a communication between the mouth and nose by the mortification of all the intervening parts. The nose was next attacked and removed; the upper lip, detached from its adhesion to the jaw, fell down, and was only prevented from separating itself from it by a small portion of yet sound skin at the angles of the mouth. The lower lip was next affected, and in an incredibly short space of

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time was nearly destroyed, when death relieved the poor little creature from its sufferings. It is impossible for language to express in too strong terms the horrible spectacle presented to the eye by the poor child, its face hardly recognizable, scarcely human, smelling most insufferably; its hands were almost constantly employed in picking piece by piece away of the remaining portions of the face; yet in this condition was it applied to the breast of the mother.

3465. To what do you attribute that dreadful disease in the child?—However the disease might be produced, unquestionably it would be much increased by the bad air and want of ventilation; it was almost impossible to enter the house.

3466. Do you attribute it in part to want of drainage?—Yes, to the combined influence of both; there has been a great mortality in that court.

3467. Have you any other particulars to state on this subject of ventilation?—I have nothing to add, I think, to what I have stated previously. An efficient Building Act is much required.

3468. Will you favour the Committee with your opinion respecting drainage?—I may state in general terms, that our neighbourhood is excessively ill-drained. Crown-court, in Little Russell-street, Covent-garden, is the property of the Duke of Bedford; and there, I am sorry to say, the excrementitious matter is pumped up, and flows down the centre of the court. There are many other places. I would mention a second-class house in Stanhope-street; a man named Fairbank, who has resided here two years, has, during that period, been affected with sickness; he is in general good health, but he cannot keep his food on his stomach: "as for myself, (says the wife) I am much affected in my head with giddiness and violent pain; my child is a year and a half old, and is troubled with sickness. I feel convinced it is from the drain, he is so much better when he is out of it."

3469. *Chairman.*] Do you feel convinced they were right in their opinion?—Yes; they are all affected in the court. Sarah Jackson, another lodger, states this: "During the time we lived in Stanhope-street my family was much affected with sickness and loss of appetite, particularly my husband; my son Charles was so much affected that he could not take any animal food for a long time previous to our leaving the house; now his stomach rejects nothing received into it. I was very much troubled with the head-ache; it has, since I changed my residence, entirely left me; July 30, 1839." Then again, in the same house, case 3, Miss Graham writes thus: "I have resided three years in this house; I was in perfect health when I entered it; within the last two years I have been much oppressed at the chest, attended with sickness, ejecting as it were copperas water; I endure a weakness that I cannot describe; I am relieved whilst out of doors; when I return my old feelings return with me. My sister is never free from the head-ache more or less; she has sickness at times."

3470. Do you, as the medical man attending them, and knowing the situation in which they were, attribute the symptoms of which they complain to the want of drainage in the district?—I do; I am convinced that is the cause. I have taken this evidence at distinct times, without one communicating with the other; it is impossible not to attribute it to that. I will mention another instance. I have been to a house this morning in Angel-court; a family of the name of Swift lived there some time ago; not one of that family was healthy; the children had flaccidity of fibre; it will be invariably found when a child comes from the country, and enters a place where the drainage is defective, it will soon succumb; this will vary according to circumstances.

3471. Is this court you mention a cul-de-sac?—No. There is another case I will take from a very respectable street, Little Russell-street, Covent-garden: "Ann Salt entered the service of a lady in Little Russell-street, Covent-garden; the drain in this house had long been in a most offensive state. This young woman, aged 20 years at the period of her entering this house, was in a firm state of health, had compact muscles, a red lip, a cheerful mind; during many months she was exposed to the action of a poison passing off from the water-closet. As she lived in the kitchen, and indeed slept there, she would of course be exposed during the greater portion of the time to its influence; her health gradually diminished, until at length her strength became so reduced that her sisters removed her in a coach to their lodging in Bear-yard, Lincoln's Inn Fields (this place is in a most offensive condition); I was called to see her, and for some weeks the issue was doubtful; she had a most peculiar appearance of the entire skin of the body. It is my decided opinion that the drains are an immense source of disease.

3472. Mr.

3472. Mr. *Mackinnon*.] Are there any other particular cases you would mention? *G. A. Walker, Esq.*
—Every addition to the atmosphere is decidedly injurious.

3473. Your opinion as a medical man is, that the state of the sewerage in parts of London is most defective, and that it generates the state of disease to which you have referred?—Yes, and many other diseases, by whatever name they may be called.

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3474. And that having houses built in the shape of cul-de sacs is most injurious, by preventing the circulation of air?—Unquestionably.

3475. Your opinion is, that there ought to be further legislative provisions?—Decidedly; I think it a very hard case that a poor man, without knowledge or judgment on his own part, should come into a locality, not knowing that there are causes constantly operating to depreciate his health; he may get out of it as he can; but frequently a saving of sixpence a week will induce a man to remain; his means may not enable him to remove; he is thus perhaps the creature of circumstances, over which he has no control.

3476. You have no doubt of the loss of life, and disease generated, by the want of drainage in this town?—I have no doubt of it; it is cause and effect; and it is not merely the loss of life, but it is a serious matter to many in the vicinity who feel the effects.

3477. Is it your opinion that it ought to be prevented, on account not only of the physical but the moral effect it has upon the community?—Unquestionably. If you expose children or adults to degrading influences, you must inevitably deteriorate their moral character; there will be constantly a struggle between moral propriety and physical necessity.

3478. Does not the putrefaction, arising from want of sewerage, generate a desire to drink, or to have recourse to spirituous liquors, from the low feeling it creates?—That is certainly the case.

3479. Are there any circumstances you can call to mind confirming that opinion?—I think that the grave-diggers as a body would confirm that. They generally drink.

3480. Mr. *Greene*.] How is the excrementitious matter removed from privies, such as you have described in those courts?—That is generally taken away by nightmen, frequently in the night; sometimes the excrementitious matter is mixed with water and poured out on the surface gutter of the court. Such things are calculated to demoralize any one, or any set of men. From the end of Queen-street, opposite Long-acre, to the first sewer in Drury-lane, the excrementitious matter which is frequently pumped up from two houses there runs on the surface; when I have passed that way, I have smelt a filthy smell from the water-closets of these two houses.

3481. How is the solid matter removed?—In carts, or in some instances it passes on the surface of the gutters into the drains.

3482. Is there not a certain degree of generation of foul air produced by the removal of those filthy deposits through the streets?—No doubt, and it must produce the most injurious effects.

3483. Even the carts passing through adjoining streets must have an injurious effect?—Unquestionably; we have to bear it in the night as well as the day; according to the law they are not to do this until it has struck twelve o'clock, but many persons are obliged to be about after that; and whether they be in-doors or out, it can matter little whether these agencies be put in operation before or after the hour of twelve.

3484. There is a liability to this being thrown over into the street, and a great deal of foul air generated?—Yes. I may mention a case of a family in Crown-court: one woman had seven children at one time affected with typhus, and she attributed it to the abominable stench she was obliged to live in.

3485. Mr. *Mackinnon*.] You are the author of "Gatherings from Grave-yards"?—I am.

3486. You have therefore personally examined the principal burying-grounds of the metropolis?—I have.

3487. Have the goodness to describe to the Committee their state?—The majority of the burying-places in London, whether they be called vaults, cellars, or grave-yards, are in a very dangerous and disgusting condition.

3488. Will you state what, in your opinion, is their physical and moral effect?—I have collected irrefragable proofs of both positions; I have given abundant

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proofs of their dangerous and immoral influence; I have, since I published my work, become acquainted with many instances, demonstrating the injurious effect of masses of bodies in putrefaction; I calculate, according to the present returns of mortality, we should have at least 5,000,000 of bodies amongst us in a hundred years, taking it at 52,000 per annum. I have no question that the extent of mortality has never been fairly entered until the late excellent Act; it was matter of speculation. I have demonstrated that bodies have been placed in spaces that could not properly contain them; hence has resulted a shocking state of things; the mutilation of bodies, the destruction of their envelopes, with a host of immoral consequences and injurious results.

3489. *Chairman.*] Have you any doubt of the injurious effects of this practice?—None. Here is one instance: I speak now of the nursing of bodies in lead, in what are called vaults, in the very midst of human dwellings; it is a most injurious practice, and one that ought to be annihilated. The lead cannot confine the gas, therefore the only way to get rid of the nuisance, is to take the bodies away at once, where a sufficient quantity of good air can be found circulating without interruption. “During the demolition of the old church of St. Dunstan’s, the dead in the vaults were removed. This was found to be a matter of some difficulty and much danger. Several of the labourers employed refused to continue the work. They were well supplied with brandy, and under the influence of a half-drunken excitement, they effected their removal. William Mutton, a labourer employed, within a few hours after his exposure, complained of a nauseous taste in the mouth and throat, severe pain in the chest, accompanied with a cough; his skin subsequently became of a deep yellow tinge, and extremely harsh and dry. This man was at times so affected with the effluvia, that he was compelled to support himself against the wall of the vault. In removing the body of a man who had committed suicide, the gaseous exhalation was so powerful that he was rendered unconscious for a considerable period. He invariably declared that this was the cause of his death.”

3490. Do you think it was?—I should think it more than likely; I have produced a number of results in my work. I give a recent case:—“Thomas Beal, 2, Cromwell-place, Little Shire-lane, a strong compactly-made man, aged 26, has been employed as grave-digger about four years; he was engaged in the month of January 1840, in assisting William West, the beadle of St. Mary-le-Strand, to clean up the rector’s vault previous to the reception of the body of a deceased parishioner, who died 27th January 1840; the vault, a detached building, is entered by steps from the church-yard; two of the men employed were sensible of a disgusting odour, which left a coppery taste in the throat. On the evening of the same day Beale had vomiting, cough, and considerable expectoration, and extreme lassitude during five or six days. Six days after this exposure he consulted me, in consequence of a peculiar eruption, which first attacked the breast, and subsequently (within two days) spread over the entire surface of the body. On the fourteenth day from the appearance of this eruption a very painful enlargement of the glands in the left axilla and the groin of the same side occurred, both of which suppurated extensively during six weeks; he has now, May 5th, 1840, the remains of the eruption over large portions of both arms.” I produce this case to show an example of the same poison producing the same results, for William West, who died of typhoid fever, was affected in precisely the same manner, excepting that he had no glandular enlargement; he imprudently entered the vault soon after it was opened for the purposes of ventilation. After his return home he complained to his wife that he had a peculiar,—a coppery taste in his mouth; within a few hours afterwards he complained of pain in the head, nausea, loss of appetite, and debility; in a few days he was attacked by an eruption, which first appeared over the chest, and in a few days had covered the entire body; he remained a considerable time in a very debilitated state, and it was the opinion of his widow that it was in consequence of his imprudent exposure to the exhalations passing off from the bodies in this vault.

3491. *Mr. Mackimmon.*] Do you find, as a medical man, that this putrid effluvia, arising from dead bodies, affects all individuals in the same manner, or does it affect different individuals in a different manner?—Unquestionably the man who is accustomed to an office executes it best; grave-diggers in many localities would not be able to do their work but under the influence of strong stimulants. We may take the evidence of medical men. Every man almost engaged in dissection is affected with diarrhoea; let him leave off his dissection for a time,

a time, and he will get rid of it; if you place a man accustomed to the exhalations in the dissecting room he will be affected with diarrhœa. I was myself for three months, in Paris.

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3492. Is there anything further you have to state upon this subject?—I can state other instances, but it appears quite unnecessary.

3493. You state in your work that graves are sometimes left open in this city; will you state any instance?—I think it is a most abominable practice; it is done in many instances to save time and to get space. I have one in my own neighbourhood; I examined that grave the other day; that is a representation (*producing it*.) That grave was dug 22 feet deep; it is within a few feet of the windows of the house; there were ten or a dozen coffins projecting into the grave; I have no doubt some of them had been cut through. My opinion is, that the lighter gases pass off; the heavy gases, the carbonic oxide and carbonated hydrogen, will fall down to the bottom of the grave. It is generally supposed a candle will not burn in a place of that kind, but I think a candle may be extinguished and yet life retained; I tried a candle; it was extinguished at a depth of 12 feet from the surface; I requested the grave-digger to cover over the top of the grave, and to throw the depth of a foot of earth upon it. I tried another experiment, and the candle was extinguished at eight feet. I think we ought not to have those places amongst us.

3494. What place was this?—St. Martin's-in-the-Fields, in Drury-lane; the yard is raised there even with the first floor windows surrounding the place. It is close to the large theatres.

3495. You state in your book a case in which the same poison, arising from putrefaction, has had a different effect on two individuals; will you explain that?—One was a young gentleman 19 or 20 years of age; the other, an undertaker, a very respectable man, whose name I have given as being poisoned at Enon Chapel, in Clement's-lane. The man went to a church at the west end of the town to prepare for the burial of the mother of the young gentleman; the man not being acquainted with the grave-digger, contrived to lift up the stone covering the entrance of the vault called the rector's vault; they were both prostrated on the floor by the gas; the undertaker being a powerful man lifted up and carried out the other. The two men were differently affected; one was attended by Dr. James Johnson professionally for two years, and could not retain his food; that was the elder man; he said it had been nearly the death of the young man. I do not think that the town ought to be poisoned by the dead. The other had an ulcerated sore throat, and had the best advice and many journeys and changes of air, and it was two years before he recovered.

3496. You mention gases arising out of coffins; you consider them as generated in a leaden coffin?—Yes; it is impossible to prevent it; as an atmospheric pressure under 30lbs. cannot keep it down, I do not know what can.

3497. Therefore it is impossible burying in a large town to prevent the generation of gases mixing with the air?—I think it impossible. I have seen coffins quite convex and the screws driven out.

3498. The only effectual remedy would be the removal of those burial-places to country districts, or districts where there was not a thick population?—Certainly; I do not think any consideration of money should be allowed to interfere.

3499. In proportion as the mass of dead is laid in the church-yard the gas must be increased?—Certainly.

3500. And in that proportion that must be unhealthy to the neighbourhood?—Yes; I could mention a grave-yard in my neighbourhood where a shower of rain would lay bare the tops of the coffins.

3501. Mr. Greene.] Are there any vaults where the gratings adjoining those vaults, and places for ventilating them, open into the public streets?—Yes; they must be ventilated or they dare not descend; they have been obliged to leave even the doors of St. Clement's Church, in the Strand, open. On Saturday the 19th of August 1839, it was necessary to open the doors of the church of St. Clement's, from the intolerable stench, proceeding, in my opinion, from the dead bodies.

3502. Mr. Mackinnon.] Then of course that must be very injurious to the health of the congregation attending there?—I have no doubt of that; it produces frequent faintings.

3503. Mr. Greene.] Are you aware that in the vaults of the church of St.

G. A. Walker, Esq. George's, Hanover-square, and Hanover Chapel in Regent-street, the gratings open to the street?—Yes; that is a very frequent circumstance; the ventilation is indifferently performed. At Enon Chapel in Clement's-lane, there is the greatest facility for the escape of the gas into the place.

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3504. *Mr. Mackinnon.*] Your opinion is that if the practice of burying in this large town is continued, in the course of a hundred years we should have four millions of dead exhaling their gases to the injury of the living?—I should think at least that, if the mortality be 52,000 annually.

3505. How long will the gas, in your opinion, remain in the coffin before it is entirely evaporated?—That would be a very difficult question to answer; I should think it might be kept there for ever under peculiar circumstances. There was an instance occurred in the church-yard at Hampstead, of a grave-digger striking by accident, not purposely, into a coffin; the body had been buried in lead a hundred years before, and the man was struck down with it; it is impossible to form any conception of the most abominable stench proceeding from the dead.

3506. You have spoken of the injury arising from the gases and putrefaction of animal matter creating those unwholesome exhalations to which you have alluded; will the putrefaction arising from the small quantity of animal matter from one human being buried do material injury?—Unquestionably, a very serious injury. There is one point which is material, the keeping of bodies in low neighbourhoods before interment; I have seen frequent proofs of the injurious consequences resulting from dead bodies being kept too long previous to interment; this ought to be remedied; the periods of burying should be diffused over the entire week. At present the poor bury almost entirely on the Sunday, and frequently if a person dies on the Wednesday, if they have not time to make arrangements previous to the Sunday following, they keep that body perhaps till the Sunday next succeeding. I have frequently known a body kept on the table or the bed in a poor man's room; perhaps he is living in that room, sleeping there, and performing all the usual and necessary offices of the family with his wife and five or six children. I have often wished for an absolute power to compel the burying of those bodies under circumstances of this nature; a child, for instance, dies of the confluent small-pox.

3507. *Chairman.*] Is there any power to order the burial of a body in such a state?—Not the slightest.

3508. Has the Coroner's Court any power?—I think not. There are other consequences which sometimes follow with respect to the dead.

3509. *Mr. Mackinnon.*] What is the longest time you have known those bodies kept?—Twelve and fourteen days. In this cul-de-sac, Wellington-court, there were two bodies in the house when the other children were attacked; there the stench was so horrible, the neighbours, Irish as they were, were obliged to complain; they could bear a great deal, but they went, to the parochial authorities about it.

3510. *Chairman.*] There is no inspector who can be appealed to?—No; there are no sanitary regulations to meet the case.

3511. *Mr. Mackinnon.*] What would you suggest?—I may state in general terms, my intimate knowledge of, and acquaintance with, the scandalous and abominable practice followed in very many places of interment, compels me, however unwillingly, to say it matters little whether the body rests in a poor man's room, or putrefies on the surface of a grave-yard which is incapable of receiving it.

3512. *Chairman.*] From your acquaintance with the bad state of the burial-grounds in London, and with the negligence as to burying at the proper time among the poorer classes, do you not think that it is absolutely necessary there should be a legislative provision for the purpose of preventing burial-grounds continuing in populous cities, and for some mode of compelling burials to take place at the proper period?—I think that absolutely necessary; the mode of burying, and the tasks imposed upon the men, would make the matter highly injurious in many points of view. In the case of the poor, I am convinced that the indecent disposal of the dead, practised in many grounds, has begotten in their minds feelings of bitter animosity, and consequent estrangement towards the parochial authorities; that I consider as an important matter. I will give a proof of that. There are burial societies established in all the neighbourhoods; I have a book from which I will read rule the eighth; that is this: "This society

society is established for the decent interment of its members; if the friends of any member behave so disrespectfully to the member as to bury him or her at the parish expense, he shall be entitled to no assistance." I have seen the most unseemly disputes about these things.

3513. There are great evils arising from the want of sufficient space, and the mode in which the burials take place?—Not merely physical evils, but moral ones.

3514. Mr. *Mackinnon*.] Is it your impression that the evils arising from those gases produced by putrefaction, are not merely physically injurious, but also demoralize the people by driving them to spirituous liquors?—I would not perhaps go so far as that; it would be difficult to say that; but if we take the instance of the grave-diggers, I would say that the system has educated a race of men, and compelled them to execute offices that they ought to shudder at; it is a very frequent circumstance for a grave-digger to cut a body in half.

3515. In consequence of the closeness with which they are packed?—Yes.

3516. He cannot get down to the grave without?—No, he cannot in many instances; and it is not only the making room, but the putrescent earth is thrown up; it is open longer than ought to be permitted.

3517. Is there any benefit or profit arising to the grave-digger from making use of the wood of the coffins?—That I have stated in my book. I took the police to see a sack full of that wood in a court in Carey-street; it is extensively burnt all over London; that (*producing it*) is a portion of a coffin I have brought; that poor creature died in Charing-cross Hospital; she had frequently burnt large quantities of it herself; this wood was drying with a large quantity which the police seized, and the fire was made of this wood when we entered the room. There was a large quantity I brought away, and sent it to the head police-office in Scotland-yard, with my compliments, that they had better look into the matter; they sent it to the parish, and they said, "Oh, it must be got rid of; the poor are quite welcome to it." This I produce was part of a pauper's coffin. I know a parish in which the grave-digger burns it as common fuel. I asked him whether he felt any stench from it; he said, "Oh, the people say it smells now and then;" but he was a drinking man. This state of things has in fact educated a race of men too frequently the most degraded and abandoned; with but few exceptions, they drink to excess, and indeed too frequently they are compelled to stimulate.

3518. The grave-diggers in those close neighbourhoods?—Yes, in the old burying-grounds: thus the sources of physical and moral evil are in an intimate degree identical; the condition by far of the majority of grave-yards and burying places in London has been such for many years, that they have not been capable of receiving the annual mortality. There are men who have unblushingly made the disposal of the dead a source of income to an extent that few would believe; some private speculators have long known that a freehold grave-yard is infinitely preferable as a source of profit to any other. The want of space has produced, among other inevitable results, a necessity for the disposing of bodies deposited in places utterly inadequate to contain them; they have been removed by various means, the spade or pickaxe of the grave-digger, or the application of lime. The wood of the coffins has been given away or sold in large quantities.

3519. Mr. *Mackinnon*.] Must not the deposit of a sack full of that wood in a house produce very injurious effects?—No doubt it must; but the people cannot see those active poisons evolved in their houses.

3520. You say that the poor are not in general aware of those gases impregnating the air, and that no precautions are taken by them to prevent it?—I cannot see what precautions can do if they live constantly in this atmosphere, and their children. I have invariably found that when a child or children have come from the country and gone to a badly drained house, in a few weeks they will succumb to the influence. There is a chapel in Clement's-lane, called Enon Chapel, to which I have before referred; there is a cellar underneath it, not covered with a lath and plaster defence, and there is nothing to prevent the exhalations passing up. In this there have been deposited about 12,000 bodies in about 15 years; on an average 30 bodies a week were buried there for a considerable time; it is used as a place of worship every Sunday, and is now occupied by a society who hold public meetings. I am quite amazed that such a place should have been permitted to exist. Sixty-four loads of bodies and earth, mixed together, were

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removed. Such was the intolerable stench that numbers left the place, and very commonly, during the services held here, four and five women have been carried out in a fainting condition.

3521. In your opinion did that arise from the stench of those bodies?—I think so, decidedly. Many have suffered seriously in their health. One man, whom I have recently examined, attributes a malignant typhus, which held him to his bed during seven months, to the exhalations from the bodies beneath, and I believe he was correct in that opinion.

3522. *Chairman.*] This evidence you have given of a particular spot, is strongly confirmatory of your general opinion of the necessity of burial-grounds being removed from large towns?—Certainly.

A P P E N D I X.

Appendix, No. 1.

PAPER delivered in by *T. Southwood Smith, M.D.*; 30 March 1840.

ABSTRACT of a REPORT on the Prevalence of FEVER in Twenty Metropolitan Unions, during the Year ended the 25th of March 1838.

ATTENTION having been directed to the general prevalence of fever in London, and more especially in certain of the Metropolitan Unions, it was deemed desirable to ascertain the actual number of fever cases that had occurred during one year among the whole of the persons who had received parochial relief during that year in London, inasmuch as the knowledge of this appeared likely to afford better means than had hitherto been obtained of forming an opinion as to the extent to which fever had been prevalent among the whole population of the metropolis. In order to obtain this information, a circular was addressed from the Poor-law Commissioners to the medical officers of the Metropolitan Unions, requesting them to make a return of the number of paupers attacked with fever in their several districts, during the year ended the 25th of March 1838. A formula was furnished to each medical officer, according to which he was requested to make his return; in which formula the cases of fever were arranged under certain classes, known from experience to be sure indications of the prevalence of the febrile poison, in greater or less degrees of intensity. The classes fixed upon were four; namely, intermittent fever, synochus, typhus, and scarlatina; scarlatina being included from a conviction that it does not differ in any essential character from the other forms of fever, while it is just as certain a test as they are of the prevalence or absence of malaria. Intermittent fever, commonly known under the name of ague, is characterized by the periodical return and disappearance of the febrile paroxysms, as remittent fever is by the remission, instead of the intermission of those paroxysms. Intermittent fever is the mildest form of fever. Synochus, commonly called continued fever, in contradistinction to intermittent and remittent, because the febrile symptoms neither intermit nor remit, but continue without ceasing from the beginning to the end of their course, and often also denominated common continued fever, because it is the ordinary fever of the country, is much more prevalent than intermittent, and very much more formidable and dangerous; yet it is less dangerous than typhus; from which indeed it is distinguished chiefly by the milder character of the symptoms, and by the severer, or, as they are often called, the typhoid symptoms, occurring, if they occur at all, which they often do in bad cases, only in the later stage of the disease. In general, also, in synochus, the internal organs, namely, the brain, the lungs, and the intestines, the organs which chiefly suffer in fever, are much less diseased than they are in typhus. This last form of fever (typhus) is characterized by the early and great depression both of the physical and mental powers, dependent, as is now ascertained, on the more early and much more intense disease of the brain, the lungs, and the intestines. Scarlet fever, characterized by the scarlet rash, which in the early stage of the disease generally covers the whole body, is far less constant both in its comparative prevalence and in its severity, than the two last species, being sometimes so mild as scarcely to require any attention, but at other times being more severe and fatal even than typhus, and approaching nearer to the nature of plague than any other disease with which we are acquainted.

Now it is a matter of experience, that in seasons when an epidemic is mild, in consequence it is inferred of the generation of a less quantity of the febrile poison, many cases assume an intermittent form; at other times, when the epidemic is more severe, the great majority of the cases consist of synochus; and in other seasons, again, when the epidemic is of a malignant character, there will be scarcely a case of intermittent fever or of synochus, but nearly all the cases will consist of typhus, or of a malignant form of scarlatina, in which the powers of life are overwhelmed at once, and the patient is dead in 30 or 40 hours from the first attack. What is true of seasons is true of localities. There are places well known in which intermittent fever never prevails, synochus rarely; almost all the cases are typhus, and whenever scarlet fever breaks out, it invariably assumes a most severe character; these are precisely the places in which fever is most prevalent; in which, indeed, it is so constant, that when the medical officers are questioned about it, they say, "From such and such a place fever is never absent." The evidence being indubitable that these several forms of fever are produced by one and the same cause, namely, organic matter, vegetable or animal, in a certain state of decomposition, the prevalence of these species of fever was taken as the means of testing both the intensity of the febrile poison and the extent and constancy of its presence. In the formula given in the circulars transmitted to the medical officers, the males of those that were attacked with fever were distinguished from the

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females, also the ages were recorded, from the age of 5 to that of 90, and the event in each case was specified, whether recovery or death. When the formulas were sent back from the medical officers, filled up, the proportion of the number attacked, both to the general population and to the pauper population, and the proportion that recovered or died in each locality, at the several ages specified, whether male or female, were made out from the Returns, in the same manner, and with the same care as the mathematician ascertains the state of the population and the value of life, from the registers of the births, marriages, and deaths. The comparison of the facts thus ascertained affords very remarkable results, among the most striking and instructive of which are the following :

From these Returns it appears, that the total number of persons in the Metropolitan districts, who received parochial relief during the year ended the 25th of March 1838, was 77,186, and that out of this number, 13,972 were the subjects of fever.

Of these there were :—

Attacked with intermittent fever	-	-	-	-	402
— synochus	-	-	-	-	7,017
— typhus	-	-	-	-	5,692
— scarlatina	-	-	-	-	861
TOTAL					13,972

On comparing the pauper population of a district with the general population, it appears from these Returns, that there is no uniform relation between them ; but on comparing the number of paupers attacked with fever in any district, with the actual number of paupers in that district, it is seen that there is still less relation between the one and the other ; clearly indicating, that the prevalence of fever in a particular district depends upon causes which operate specially within that district. Thus, in Bermondsey, the number of paupers was 3,000, the number of fever cases was 593 ; while in Bethnal-green, the number of paupers being 3,632, the number of fever cases was 1,209 ; more than twice as many. In St. George-in-the-East, the number of paupers being 6,869, nearly double that of Bethnal-green, the number of fever cases, 627, scarcely exceeds one-half. Greenwich, compared with Bethnal-green, afforded nearly double the number of paupers, 6,607, but considerably less than one-half the fever cases, 522. In Lambeth, the number of paupers is more than double the number in Bethnal-green, but the fever cases in Lambeth exceed those in Bethnal-green only by 409. In St. Martin's-in-the-Fields, the number of paupers being only one-third less than those of Bethnal-green, the fever cases in the latter are nearly eight times more than those in the former. In Whitechapel, out of a pauper population of 5,856, 2,404 were the subjects of fever, nearly one-half ; but in St. George-the-Martyr, the number of paupers being 1,467, the fever cases were 1,276, that is, the whole of the persons in this Union who received parochial relief, with the exception of 191, were the subjects of fever ; a fact which places in a most striking point of view the pauperizing influence of this disease.

These Returns afford irresistible evidence of the fact, that the main sources of fever in London are certain districts. Thus, taking altogether the 20 Metropolitan Unions, they yield a total of 13,927 cases of fever ; but out of this number, 9,228 were afforded by seven of the Unions only ; namely, Whitechapel, Lambeth, Stepney, St. George-the-Martyr, Bethnal-green, Holborn, and St. George-in-the-East. These are among at once the most populous and the poorest districts ; and it is here that fever is constantly committing its ravages. It is utterly impossible for any description to convey to the mind an adequate conception of the filthy and poisonous condition in which large portions of all these districts constantly remain ; an adequate conception of this can be obtained only by an actual inspection of them.

From these Returns it appears further, that of the four primary forms of fever, there were of synochus, 7,017, that is, more than one-half of the whole ; of typhus, there were 5,692 ; of agues 402 ; and of scarlet fever 861, about double the number of agues. Taking together these several forms of fever, out of the total number attacked (13,972), there were 1,281 deaths ; consequently, the average mortality of the disease, for the whole of London, was somewhat more than one in eleven ; but on comparing the mortality in the different species of fever, it is seen to be widely different ; thus, in intermittent fever, out of 402 attacks, there were 25 deaths, that is, one in sixteen ; in synochus, out of 7,017 attacks, there were 344 deaths, less than one in twenty ; but in typhus, out of 5,692 attacks, there were 836 deaths ; consequently, this species of fever was threefold more mortal than synochus ; while in scarlatina, out of 861 attacks, there were 76 deaths, or one in eleven ; a very high rate of mortality for this form of fever.

These Returns place in a striking point of view the fact, on which the attention cannot be too steadily fixed, that all the districts which are signalized as those in which fever is most constantly and extensively prevalent, are invariably those in which the worst species predominates ; in which the severest cases occur, and in which, whatever be the species, the mortality is the greatest. Thus, out of the 5,692 cases of typhus, the total number that occurred in all the Unions, 4,002 of the cases were yielded by the seven Unions which have been already specified as pre-eminently the malarial districts ; viz.

There

There occurred of typhus,

In Whitechapel	-	-	-	-	-	1,505	} 4,002 cases.
Lambeth	-	-	-	-	-	503	
Stepney	-	-	-	-	-	469	
St. George-the-Martyr	-	-	-	-	-	463	
Bethnal-green	-	-	-	-	-	303	
Holborn	-	-	-	-	-	224	
St. George-in-the-East	-	-	-	-	-	535	

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On the other hand, in the following eight Unions, viz. Camberwell, Hackney, St. Martin's-in-the-Fields, St. Olave's, Rotherhithe, Strand, Wandsworth and Clapham, and West Ham, there occurred, of typhus fever, in all, only 648 cases; these eight Unions yielding only 648 cases, while the seven malarian Unions yielded 4,002. In like manner, out of the total number of cases of scarlatina (861), there occurred in three of these malarian Unions, viz. Lambeth, Stepney, and Whitechapel, upwards of one-half (477); and out of the total number of deaths produced by this disease (76), 45 took place in these same three places.

From the whole it appears, that out of 77,000 persons who have received parochial relief, 14,000 have been attacked with fever, one-fifth part of the whole; and that out of the 14,000 attacked, nearly 1,300 have died. It should be borne in mind that there is no disease which brings so much affliction into a poor man's family as fever; it commonly attacks the heads of the family; those upon whose daily labour the subsistence of the family depends. The present returns afford melancholy evidence of the pauperizing influence of this wide-spreading and mortal disease. They show that while one-fifth of the whole pauper population during the year in question, has been attacked with fever, in Bethnal-green the proportion was one-third; in Whitechapel it was nearly one-half; and in St. George-the-Martyr it was 1,276 out of 1,467. Placing out of consideration the suffering of the individual attacked with fever, which, however, is one of the most painful maladies to which the human being is subject; placing out of view also the distress brought upon all the members of the family of the sick, it is plain that this disease is one of the main causes of pressure upon the poor-rates. That pressure must continue, and the same large sums of money must be expended year after year for the support of families afflicted with fever, as long as those dreadful sources of fever which encompass the habitations of the poor are allowed to remain. They would not, they could not be allowed to remain if their nature were really understood, and if the ease with which the most urgent of them might be removed were known. But there do not appear to be any practicable means of removing them without legislative interference; and if the care of the public health be a part of the duty of the Legislature; if in the Metropolitan Unions, which alone include a population of 851,000 souls, it be certain that conditions exist which are absolutely incompatible with the public health, and which conditions are to a very considerable extent removable; and if it shall be found that similar conditions exist in all the large towns in Great Britain, here would seem to be a proper and legitimate field for the exercise of legislative wisdom and power.

(signed) Southwood Smith.

To the Chairman of the Select Committee on the Health of Towns.

Appendix, No. 2.

LETTER delivered in on the 8th of April 1840.

LETTER from John Robertson, Esq. Surgeon at Manchester, to the Chairman.

Sir,

Manchester, 2 April 1840.

Appendix, No. 2.

In legislating with reference to the health of towns you will find difficulties (I speak of Lancashire) owing to the existence of local police Acts. For not only does each manufacturing town possess an Act, but Manchester has one for, I believe, each of the eight townships which compose it; at all events, each of the larger townships has its own police Act. The conjoined towns of Manchester and Salford, commonly known by the inclusive name Manchester (consisting of eight townships, namely, Pendleton, Salford, Broughton, Cheetham, Manchester, Ardwick, Chorlton-upon-Medlock, and Hulme, with a population of probably 260,000 souls) is a huge overgrown village, built according to no definite plan. The factories have necessarily sprung up along the watercourses, which are the rivers Irk, Irwell, and Medlock, and the Rochdale Canal, and the dwellings of the work-people have kept increasing on the confines of the factory districts. The interest and convenience of individual manufacturers and owners of property has determined the growth of the town and the manner of that growth, while the comfort, health, and happiness of the inhabitants have not been considered till subsequently, if indeed (which is doubtful) they are much regarded even now.

Until twelve years ago there was no paving and sewerage Act in any of the townships; even in the township of Manchester, containing in the year 1831 upwards of 142,000 inhabitants, this was the case; and the disgraceful condition of the streets and sewers on the

Appendix, No. 2.

Letter from
J. Robertson, Esq.
to the Chairman.

invasion of the cholera you have no doubt learned from Dr. Kay's able and valuable pamphlet. At this present time the paving of the streets proceeds rapidly in every direction, and great attention is given to the drains. Upon the whole, it is gratifying to bear testimony to the zeal of the authorities in carrying on these salutary improvements, especially when it is known that no street can be paved and sewered without the consent of the owners of property, unless a certain large proportion of the land on either side is built upon. Owing to this cause several important streets remain to this hour disgraceful nuisances.

Manchester has no Building Act, and hence, with the exception of certain central streets, over which the Police Act gives the Commissioners power, each proprietor builds as he pleases. New cottages, with or without cellars, huddled together row behind row, may be seen springing up in many parts, but especially in the township of Manchester, where the land is higher in price than land for cottage sites in other townships is. With such proceedings as these the authorities cannot interfere. A cottage row may be badly drained, the streets may be full of pits, brimful of stagnant water, the receptacles of dead cats and dogs, yet no one may find fault. The number of cellar residences you have probably learned from the papers published by the Manchester Statistical Society, is very great in all quarters of the town; and even in Hulme, a large portion of which consists of cottages recently erected, the same practice is continued. That it is an evil must be obvious on the slightest consideration, for how can a hole underground of from 12 to 15 feet square admit of ventilation so as to fit it for a human habitation?

We have no authorized inspector of dwellings and streets. If an epidemic disease were to invade, as happened in 1832, the authorities would probably order inspection, as they did on that occasion, but it would be merely by general permission, not of right.

So long as this and other great manufacturing towns were multiplying and extending their branches of manufacture and were prosperous, every fresh addition of operatives found employment, good wages, and plenty of food; and so long as the families of working people are well fed, it is certain they maintain their health in a surprising manner, even in cellars and other close dwellings. Now, however, the case is different. Food is dear, labour scarce, and wages in many branches very low; consequently, as might be expected, disease and death are making unusual havoc. In the years 1833, 1834, 1835, and 1836 (years of prosperity), the number of fever cases admitted into the Manchester House of Recovery amounted to only 1,685, or 421 per annum; while in the two pinching years, 1838 and 1839, the number admitted was 2,414, or 1,207 per annum. It is in such a depressed state of the manufacturing districts as at present exists that unpaved and badly sewered streets, narrow alleys, close unventilated courts and cellars, exhibit their malign influence in augmenting the sufferings which that greatest of all physical evils, want of sufficient food, inflicts on young and old in large towns, but especially on the young.

Manchester has no public park or other grounds where the population can walk and breathe the fresh air. New streets are rapidly extending in every direction, and so great already is the expanse of the town, that those who live in the more populous quarters can seldom hope to see the green face of nature. It is true, nothing contributes more to the salubrity of a town than liberty to extend its limits in every direction; in that case, the streets, it may be expected, will be spacious, and the buildings of moderate height, whereby a free circulation of air will be secured even in the most central parts; but this liberty admits of abuse, which certainly happens when no public walks or grounds are reserved for the inhabitants. In this respect Manchester is disgracefully defective, more so, perhaps, than any other town in the empire. Every advantage of this nature has been sacrificed to the getting of money in the shape of ground-rents. The evil is perpetrated, and cannot now be remedied, at least without an expense too great to be thought of.

Forty years ago this island supported a population of less than 11,000,000, and its arable surface was divided amongst perhaps as large a number of proprietors as it is at present. But how great the change in that brief period! About 7,000,000 of inhabitants have been added to the then existing stock, a large proportion of whom are congregated in towns and villages, and depend for bread on the wages of labour. Unquestionably, therefore, new laws and regulations are become necessary for sanatory purposes in the civic government of towns. Every year shows, that upon the rich and the intelligent, especially upon the Christian, and, above all, upon the Christian Legislature, new and heavier duties are devolving. But the evils which exist are so numerous, and the subject under inquiry is one of so complex a nature, so vast and so overwhelming, that I feel myself compelled to be silent with respect to the remedial measures, and to subscribe myself, with the greatest respect,

Yours, &c.

(signed) John Robertson.

To R. A. Slaney, Esq. M.P.

I N D E X.

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Brighton.—A great number of the population, chiefly fishermen, inhabit courts, some under arches, others open at the end, *Jenks* 2756.

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Leeds.—Bad state of the dwellings of the poor; improvements requisite, *Williamson* 1677-1696.

Liverpool.—Evidence as to their wretched condition, *Cobden*, 1823—Several of the courts have sixteen houses; in one, with sixteen houses, forty families resided, *Wood* 2143—2,271 close courts in Liverpool, *Duncan* 2380—Evils of courts from want of ventilation, *Duncan* 2382-2391—On an average, six and seven families in each house; perhaps 86,400 inhabitants in Liverpool living in courts, *Duncan* 2392—Courts generally extremely filthy; scavengers remove filth only once a week, *Duncan* 2397 A great many now building in Toxteth Park, *Duncan* 2436.

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Westminster.—Are very dirty; uncleanly habits of the poor; the scavengers never enter them, *Weld* 1196-1198. 1217-1219. 1220-1226.

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Dublin.—Prevalence of disease in those parts inhabited by the lower orders, as instanced by the number of patients from Cole-alley and Gill's-square, *Maunsell* 3209.

London.—Spread of disease to healthier places from want of regulation as to buildings, sewers, &c., *Smith* 90, 91—Other diseases besides fever prevail, such as small-pox, measles, and cholera, *Smith* 109-113.

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Drogheda. That town was decimated by the cholera, *Maunsell* 3322.

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Irrigation, Edinburgh. Nuisance near Edinburgh of the water from the common sewers used for the purpose of irrigation, *Stodhart* 1992—Practice prejudicial to health, *Stodhart* 1993—A very general opinion that the salubrity of the air is affected by the exhalations, *Stodhart* 2006—Use of water from the common sewers for the purpose of irrigation a great nuisance, *Simpson* 1957—Majority of medical men of opinion that the practice is unwholesome, *Simpson* 1958—Authorities in Edinburgh have reported against the system, *Simpson* 1968—Manner in which the meadows on the east side of Edinburgh are irrigated, *Miller* 3026—Alleged increase of disease in Edinburgh, arising from recent increase of irrigation, *Miller* 3034—No inconvenience, *Miller* 3040—Unpleasant smell arising from the admission of gas-water into the stream that irrigates the meadows, *Miller* 3032—Degree of opposition shown at various times to the plan of irrigation adopted, *Miller* 3047—Provision in the Edinburgh Police Bill relative to the stream that irrigates the meadows, *Miller* 3054—Unfounded allegation of the increase of fever in Edinburgh, owing to the system of irrigation adopted in the neighbouring meadows, *Miller* 3047.

See also *Holyrood House*.

Islington. Number of courts; they are as bad as in London, but have a more free circulation of air, *Moseley* 909-914.

J.

Jacob's Island, Rotherhithe. Is surrounded by open ditches, and is very unhealthy, *Moseley* 1009-1012.

Jenks, G. S. M.D. (Analysis of his Evidence.)—Resident at Brighton, 2747—Has been employed in drawing up a sanatory report for the Poor Law Commissioners, 2748—Considerable number of the poorer and working classes in Brighton, 2752—A great number of the population, chiefly fishermen, inhabit courts, some under arches, others open, 2754-2756—Unhealthiness of houses run up back to back, 2758, 2759—Too many cesspools, and a decided want of underground drainage, 2762, 2763-2768—No inspection; witness informed by clerk to commissioners that there was no authority to interfere, unless a memorial was placed before the commissioners, complaining of a public nuisance, 2771—Commissioners have power to make under-ground drains 2772—Of great use, if commissioners had power to prevent the formation of cesspools, 2773—General wants of the poor as to sanatory regulations, ventilation, good water, sufficient drainage, width of streets, paving, and prevention of houses being built back to back, and no under-ground dwellings, 2777.

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John's, St., Court, West London Union. Filthy and unwholesome state of this court; raging of typhus fever and small-pox, *Jordan* 145, 146.

John's, St., Street, Bethnal-green. Prevalence of malignant fever in this street; crowded state of the houses, *Smith* 50.

Johnson's Change, Whitechapel. Filthy and unwholesome state of it; prevalence of fever, *Smith* 67.

K.

Kennington Common. Might be improved as an exercising ground, *Wagstaffe* 753-759.

Kensington, Lord. Dilapidated state of property in St. Bartholomew's; it ought to be pulled down, *Miller* 806-810.

Kent-street, Southwark. There is an open ditch; almost every inhabitant had the typhus fever, *Evans* 641-643—It could easily be drained into the common sewer, *Evans* 675-678.

King's-street, St. George's-in-the-East. The temporary abode of sailors; densely populated and very filthy, *Moseley* 968-975.

L.

Lamb's Fields, Bethnal-green. Described; quantity of stagnant water, and putrid animal and vegetable matter; whole families are swept away by fever, *Smith* 44, 45—State of *Lamb's Fields*; improvements owing to eastern railways, *Peeke* 2019.

Landlords. Power should be lodged somewhere to prevent landlords from building in swampy places, and to compel them to keep their houses in a state of wholesome cleanliness, *Smith* 35—Class of landlords to whom the houses in the Whitechapel district belong described, *Smith* 78—Neglect of landlords to cleanse their houses; cases in which persons have died of fever from entering an unclean house, *Byles* 244—They get high rents for wretched houses in St. Bartholomew's; they compound for the rates, *Miller* 820-827.

Lea River. Proposed plan for remedying the evil arising from improper sewerage and drainage; the noxious matter should be let out beyond the river *Lea*, *Cubitt* 3449.

Leeds. Notice of the state of *Leeds*; remedial measures necessary, *Rep.* p. xi.

Liffey River, Dublin. Inconvenience experienced by the inhabitants of Dublin from the *Liffey* flooding the houses having sewers communicating with it, *Maunsell* 3266, 3267.

Lincolne District (Stepney Union). Class of population described, *Heelis* 266—Sewerage has been much improved, *Baker* 1558.

Limerick. Miserable state of that portion of the city known as Garryowen, *Maunsell* 3325—Increasing population of that city, *Maunsell* 3351.

Liverpool. Evidence as to the state of the poor population, *Cobden* 1820—In *Liverpool* many instances in which old houses have been let out to many families; one, in which were five families, was blown down; loss of life in consequence, *Wood* 2241—State of *Liverpool*; summary of the number of courts in the borough was 2271; number of inhabited cellars, *Wood* 2137, 2138—Accumulation of filth in the streets; decayed vegetables, offal of fish, &c., *Wood* 2165, 2166.

Local Taxation. The courts in *Liverpool* and narrow streets exempt from local taxation, *Duncan* 2446—Only 900 cottages contribute; their rates paid by the Conservative and Reform associations, *Duncan* 2446.—See also *Rates*.

LODGING-HOUSES:

1. Generally.

2. In particular Places.

1. Generally:

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2. In particular Places:

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Birmingham.—Wretched state of the beggars' lodging-houses in *Birmingham*, *Hodgson* 2991—All houses of this description should be placed under a system of inspection, *Hodgson* 2993—Should be placed under the supervision of the police, *Hodgson* 2997.

Dublin.—Character of the lodging-houses of the lower orders in *Dublin* and vicinity, *Maunsell* 3282-3289.

Edinburgh.—Filthy state of houses where many strangers lodge; case cited; fevers raging occasioned by the stench from deposits, *Simpson* 1974.

Hull.—State of lodging-houses; general bad character of these places, *Wood* 2350—No sanitary regulations as to lodging-houses; inspection ought to be made, *Wood* 2356-2358.

Leeds.—Great number of lodging-houses; their condition dirty, crowded, neglected, and ill-ventilated, *Williamson* 1790-1793—Many proofs of the diffusion of malignant disorders from the lodging-houses, *Williamson* 1797—Number has much increased; regulations proposed, *Williamson* 1916-1925.

Liverpool.—Wretched state of lodging-houses; worse than courts; thirty or forty persons often collected in one house, *Duncan* 2460—State of lodging-houses, *Duncan* 2480—Lodging-houses should be subject to sanitary regulations; should be inspected periodically, *Duncan* 2487.

Southwark.—Their neglected and filthy state, *Evans* 626, 627.

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street; fevers generated in consequence of want of drainage, 2511, 2512—Dreadful state of Spencer-court, North-street, 2513—State of cellars in courts from the oozing through of cesspool water; frequently holes dug to hold the water, 2515—Neglect of sewerage and drainage in Liverpool, 2518–2521—Amount of population in cellars and courts, 2522—Great advantages would arise from opening new streets and carrying them through densely populated districts, 2538—Number of fever cases from the different populous streets in Liverpool, 2539.

Duncan, Mr., of Restalrig. Occasion of an action being brought by him against the tenants of the proprietors of the stream, to restrain them from irrigating their lands, *Miller* 3028.

Dust-holes, Dublin. No receptacle whatever for dust and ashes in the houses of the poorer classes, *Maunsell* 3204.—See also *Courts*.

E.

East-street, Lambeth. Necessity of forming a sewer there, *Wagstaffe* 685–687.

East Ward, Leeds. Bad state of the East Ward, *Williamson* 1688.

Edinburgh. See *Holyrood House. Irrigation.*

Education. Any benefits arising from education would be very much neutralized by neglect of the cleanliness and decency of the habitations of the poor in large cities, *Williamson* 1730–1734.

See also *Dames' Schools. Day Schools. Pauper Children. Schools.*

Elgar-court, Whitechapel. There is no sewerage in this court, *Peeke* 2014.

Elliott's-court, West London Union. Together with Dean's-court and Phoenix-court, are very narrow, and a family occupies every room; some of the courts have no thoroughfare, *Jordan* 148, 149.

Ellison, Joseph. (Analysis of his Evidence.)—Resides near Bradford, 1582—Population, 1583—There is no public drainage or sewerage at all; sewerage extremely defective, 1589—Sewerage and drainage very much neglected, 1591—Typhus fever now prevailing in Bradford; opinion of medical men that it is mainly owing to the defective state of the drainage and sewerage, 1593–1597—Paving attended to in Bradford, but not in the suburbs, which are the largest portions of the town, 1598—There is no regulation whatever as to buildings, for ventilation or for preventing houses being built back to back, 1601—Some general power to enforce drainage and cleanliness and sanitary regulations, absolutely necessary, 1604—Sanitary regulations would be a great saving to the rates of a parish, 1610—Limited powers of the local Act of Bradford, 1618—Enclosure of Fairweather-green, the only spot near Bradford for the poor to resort to; a Bill now before Parliament for its enclosure, 1628—The employment of the poor at Bradford is combing wool, 1633—The town is not well supplied with water, 1638—Small-pox at present very prevalent at Bradford, 1641.

English Labourers. The English labourers are much more cleanly in their habits than the Irish; they are more free from fever, *Wilkes* 436–438.

Enon Chapel, Clement's-lane, Strand. Injury done to the health of the inhabitants from the effluvia of the burying ground, *Walker* 3139.

Essex-street, St. Giles. Miserable state of this district, *Pennethorne* 2797.

Essex-street and Court, Whitechapel. No sewerage in this street and court, *Peeke* 2014.

Euston-square. Disappearance of fever in a school at the back thereof, on the filling up of a lake of filth, *Dr. Arnott* 530.

Evans, Edward. (Analysis of his Evidence.)—Relieving officer of St. George's, Southwark, and a surgeon, 618–620—The Mint is crowded with dilapidated houses, which are choked up for want of ventilation, 623–626—Number of cheap lodging-houses; their neglected and filthy state, 626, 627—The yards are filthy; the cesspools overflowing with water and filth, 628, 629—The neglected open drains and cesspools are very prejudicial to the health, especially in the times of the cholera and influenza, 630–635—The district is well supplied with water, 636–638—Open ditch in Kent-street, Southwark; almost every inhabitant had the typhus fever, 641–643—The communications between the houses and the drains are neglected, 644–648.

Neglected and dangerous state of the privies, 649, 650—Commissioners under local Acts see to the cleansing and scavenging of the parish, but not to a sufficient extent, 651, 652—A system of inspecting houses, to enforce cleanliness, is much needed, 653, 654—Open gutters are very injurious, 655–659—Neglect of cleanliness predisposes

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to epidemic diseases, 661—School accommodation in the parish; the children who attend school are the healthiest and most cleanly, 662-671—The people get their water at cocks common to several houses, 672-674—The ditch in Kent-street could easily be drained into the common sewer, 675-678—Necessity of care with respect to the gratings of sewers, 679, 680.

F.

Factory System. The bad appearance of the working classes in large towns arises more from disorderly habits, and the circumstances of towns, than the factory system, *Fletcher* 1298.—See also *Ashforth. Ashton. Ashworth. Gregg.*

Fairweather-green, Bradford. Enclosure of Fairweather-green, the only spot near Bradford for the poor to resort to; a Bill now before Parliament for its enclosure, *Ellison* 1628.

Farringdon-street. Miserable state of the courts which are situated in that district, *Pen-nethorne* 2797.

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1. Generally.
2. In particular Places.

1. Generally:

Typhoid fevers would disappear under proper sanitary regulations, and at a less expense than is incurred in maintaining orphans and widows, *Dr. Arnott* 521-523—Prevalence of fever in the densely populated districts, arising from the filthy state of the streets, and wretched description of habitations, *Maunsell* 3209-3230.

2. In particular Places.

Birmingham.—Dr. Corrie's account of the extent of fever in the closely populated districts of Birmingham, *Wood* 2285.

Drury-lane.—Prevalence of fevers in the confined courts of Drury-lane, *Walker* 314.

Dublin.—How fevers and contagious disorders are promoted by the neglected state of the district occupied by the lower orders, *Maunsell* 3213.

Holborn Union.—The number of cases of fever has fallen off of late, *White* 403-407.

Liverpool.—District in which fevers principally prevail is that in which cellars abound, *Wood* 2152—Extent of fever among the cellar population, *Duncan* 2415, 2471—Number of fever cases from the different populous streets in Liverpool, *Duncan* 2539.

Manchester and Liverpool.—Fevers are often generated in Manchester and Liverpool by want of provisions, *Wood* 2257.

St. Olave's.—Number of cases attended; number of fever patients, *Clarke* 479-482—The great quantity of rain last season cleansed the ditches, and there were fewer cases of fever, *Clarke* 496-499.

Saffron Hill, Holborn Union.—The district is unhealthy, and there have been many fever cases, *Wilkes* 419-423—Great expense is thrown upon the parish by them; a guinea is paid for each patient, *Wilkes* 424-425.

Whitechapel.—General causes of fever in Bethnal-green and Whitechapel; greater prevalence of fever where drainage is bad, *Smith* 6-9—Peculiar prevalence and malignity of the fever, *Smith* 14-16.

See also *Bartholomew, St. Bethnal-green. Campden Gardens. Cartwright-street. Cholera. Contagious Diseases. Diseases. Cork-street Fever Hospital. Corrie, Dr. Fever Board. Fever Hospital. Infectious Disorders. Infected Houses. Inspection. Irrigation. Landlords. London. Measles. Mortality. Sewers.*

Fever Board, Edinburgh. They clean out and whitewash; in many instances, inhabitants refuse permission, *Simpson* 1969, 1970.

Fever Hospital, Liverpool. Expense of the fever hospital, *Dunn* 2470.

Field-lane, St. Andrew's. Typhus fever is never away from Field-lane; the Fleet Ditch runs through it; description of inhabitants, *Smith* 175.

Fines. Commissioners of sewers have power of inflicting fines on persons communicating with sewers without consent, *Drew* 1527—Power of the commissioners of streets in Birmingham to fine persons for not emptying their dust-holes, *Hodgson*, 3005, 3006.

Fish. Much coarse bad fish is used in the Spitalfields district, which disposes the people to disorder, *Byles* 222-225.

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Fleet-street, Bethnal-green. Closely and densely populated; prevalence of malignant fever, *Smith* 51.

Fleet Ditch, The. Is open nearly a mile, from Snow-hill to Clerkenwell-green; the back windows of the houses occupied by the working classes open directly upon it; all the sewers are emptied into it, *Jordan* 153, 154—There is a good supply of water twice a week, which carries away the refuse, *Jordan* 155-158—Is in a filthy state, and very productive of fevers, *Moseley* 877-879.

Fletcher, Joseph. (Analysis of his Evidence.)—Assistant hand-loom weaver commissioner, 1232—Habits of people in Coventry remarkably superior to those of the people in Macclesfield and Manchester, 1234—Condition of weavers at Foleshill, 1235—State of Bulkington and Hartshill, 1235—Evidence of Mr. Herbert, mayor of Coventry, as to comparative habits of working classes formerly and at present, 1237—Old royal manor formerly an open space; now enclosed; property of Marquess of Hertford, 1238—Working classes stand in great need of some places on which they could get out to take exercise, and promote health, 1240—Want of open spaces applies to all large towns, 1241—Birmingham entirely devoid of open ground; Manchester and Macclesfield without any such convenience, 1242—Among the manufacturing population there is a great want of active amusement, 1245—State of Bidworth, where there is an improving trade and a well-fed population, 1246—On the Ancoats side of Manchester the town is much improved by the commissioners of police, 1262—State of Irish Town by the Medlock; absence of paving, 1262—In many parts houses stand back to back, a mode of building very injurious to the health of the inhabitants, 1264, 1265.

Good state of the workmen belonging to the mills of Mr. S. Ashton, Mr. Ashworth, Mr. Henry Ashworth, and Messrs. Gregg, 1272—Close courts less common in Manchester than Birmingham, where they prevail universally, 1273—Close courts a most injurious mode of construction, 1274—The plan should be carried into effect by Act of Parliament, regulating width of courts, &c., 1276—Cellars, no doubt, miserable habitations, but not so bad as the word cellar would indicate; generally areas, 1280—Houses should not be allowed to be built back to back, 1288—A considerable saving would arise from better sanitary regulations as to poor-rates, fever hospitals, and charitable institutions, 1290, 1291—The bad appearance of the working classes in large towns arises more from disorderly habits, and the circumstances of towns, than the factory system, 1298.

Great advantage of bathing-places for the working classes, 1305—Disadvantageous manner in which the population has been brought together in large towns, from their not having, till lately, anything but institutions calculated for a rural people, 1313—Comparative state of wages at Birmingham and Manchester, 1320—Benefit societies by no means so general as might be desirable, 1331—Generally speaking, they have what are called Birmingham clubs, which are a mutual insurance for a year, 1331-1333—There are no regulations as to officers, 1335—The losses they sustain through defalcation, and the insufficient custody of their funds, is proverbial, 1336—Very few trade clubs get an allowance when out of work, 1341.

[Second Examination.]—Was in connexion with the hand-loom inquiry commission, 1649—Assistant secretary to municipal boundary commission, 1649—A deficiency of powers and of authorities to exercise them for sanitary regulations, 1650—Sewers regulations of London, 1651—Sanitary regulations absolutely necessary for the large towns; scarcely any of the great towns which do not exhibit it, 1658—A complete system to secure draining, cleansing, paving the streets, and the proper construction of dwelling-houses, most desirable, 1660—System of inspection very much wanted, and very desirable, 1664.

Foleshill. Evidence as to the condition of weavers at Foleshill, *Fletcher* 1235.

Food and Clothing. Food and clothing of the working classes better now than formerly, *Williamson* 1930.—See also *Diet*.

Fountains. Supply of water to the inhabitants of Dublin by means of fountains, *Maunsell* 3276.

Fuel. Much sickness is caused by want of fuel; the poor think that spirits will supply the place of fire, *Dr. Arnott* 598, 599—Uneconomical use of fuel by the poor; Count Romford's plan; witness's invention for cooking, &c., *Dr. Arnott* 600-615—The expense of fuel in the metropolis affects the general health of the younger classes, *Heelis* 339-341—There is no want of fuel in Holborn Union; much charitable relief is given; they generally have good fires, *Wilkes* 440.—See also *Coal*.

G.

Gas Works. The poor should be protected against nuisances arising from gas-works, *Cubitt* 3417—Case of an action brought against a large gas-works for nuisance; decision in favour of the gas company, *Cubitt* 3431.

George Yard, Whitechapel. No sewerage in this yard, *Peeke* 2014.

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- Gibraltar Walk*, Hackney-road Division. Accumulation of putrefying matter therein; prevalence of fever, *Smith* 52.
- George's, St.*, in the East. Neglected state of the parts inhabited by sailors, *Moseley* 957-967. 982-997.
- Giles, St.* Populous and filthy district; more than one family occupy a room, *Moseley* 864-870—Miserable courts of which this district is composed, *Pennethorne* 2797.
- Gill's-square*, Dublin. Description of the habitations of the poor therein, *Maunsell* 3209.
- Glasgow*. State of Glasgow; want of ventilation, sewerage, cleansing, &c., *Rep.* p. xiii.
 —Exceeding bad state of the poorer classes; filth and misery of the wynds; neglect of drainage; prevalence of fever; rate of mortality, &c., *Symons* 1068-1119. 1134, 1135
 —It is in a worse condition than any town upon the Continent, *Symons* 1152-1158
 —There is a large open space for exercise, and the situation of the city is naturally good, *Symons* 1182-1185.
- Goldsmith's-place to Cambridge-heath*, Bethnal-green. Striking improvement in the health of the district between these places since a common sewer was made, *Smith* 58, 59.
- Gravediggers*. Disgusting occupation of that class of persons; perquisites accruing to them from the wood of coffins, *Walker* 3517.
- Gray's Inn Lane*. District near there; defects of drainage, &c., *Moseley* 907, 908.
- Great Field*, Poplar. Frequent applications from inhabitants to arch over the Great Field sewer, Poplar, *Baker* 1566.
- Green Dragon Court*, West London Union. Filthy and unwholesome state thereof; raging of typhus fever and small-pox, *Jordan* 145, 146.
- Gregg, Messrs.* State of workmen at their factories, *Fletcher* 1272.
- Guardians, Boards of*. Would be the fittest bodies for carrying sanatory measures into effect, *Dr. Arnott* 557, 558.
- Gullyholes*. Persons living opposite to gullyholes may be affected with fever, *Dr. Arnott* 574—Necessity of care with respect to the gratings of sewers, *Evans* 679-680.
- Gutters (St. Olave's)*. The leet jury has the power of preventing nuisances, but no one takes sufficient interest in the matter, *Clarke* 465-468.—See also *Open Gutters*.
- Guy's Hospital*. A sewer about to be formed 900 feet in length, surrounding the property of Guy's Hospital, arched over partly at the expense of the hospital, partly at that of the commissioners, *Newman* 2129.

H.

- Hamilton, Dr.*, of Edinburgh. His opinion that the irrigation of the meadows in the neighbourhood of Edinburgh was by no means injurious to health, *Miller* 3041.
- Hare-street Fields*, Bethnal-green. Frequent inundations; malignant character of the fever which is constantly breaking out, *Smith* 47—Extent to which excavations are worked; brick clay and gravel removed; district left in holes; this state of things a public nuisance; commissioners of sewers no power to prevent it, *Peeke* 2080-2085.
- Hartshill*. State of the population in the village of Hartshill, *Fletcher* 1235.
- Heelis, Robert*. (Analysis of his Evidence.)—Medical officer for the Limehouse district of the Stepney Union, 263-265—Class of population, 266—The health of the inhabitants is very much affected by the open drains; in 1838 nearly every family living near one of them was affected by fever, 267-276—The drains communicating with the sewers are very imperfect, 277—There are small courts in which illness prevails from want of cleanliness, 278-280—They are never visited by the scavenger, 281-284—Many of the old houses are very dilapidated, 285, 286—There was a sewer in one of the streets in which the cholera broke out, but the drains did not run into it; there was not a house that did not lose an inhabitant, 287-289—Dilapidation of a house in Globe-alley, 290—There is no power of compelling persons to cleanse houses in which persons have died of fever, 291-293—There should be some power of inspection, 294.
- There is no power to oblige persons to drain into the sewers, or to prevent them from sinking cesspools below the level, 295-297—Extraordinary improvement in the health of the inhabitants of White's-roads since the covering of an open sewer, 298, 299—Inconvenience of a private drain at Church-row, Limehouse; the inhabitants will not agree together to cleanse it, 300—The supply of water is good in Limehouse, 304—There is no authority to compel the construction of houses so as to conduce to health, 305, 306—The principal mortality is amongst the children, on account of their miserable

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Long-acre and South-street. District bounded by those streets; prevalence of typhus fever, *Moseley* 857-860.

Lynch, Jordan, M. D. (Analysis of his Evidence.)—Medical officer of the West London union, 131—His opinion coincides with that of Dr. Southwood Smith, as to the causes of fever, 132-134—Places included in the West London union; population of the union, 135-137—Numerous cases of typhus fever in Back Bear-alley; want of ventilation and drainage; the city of London have made sewers, and not a case has since occurred, 138-144—Filthy and unwholesome state of Green Dragon-court and St. John's-court; raging of typhus fever and small-pox, 145, 146—Elliott's-court, Dean's-court, Phoenix-court, 147—Some of the courts have no thoroughfare, are very narrow, and a family occupies every room, 148, 149—Defective drainage in New-street, St. Bartholomew's; open sewers an accessory cause of fevers, 151, 152—The Fleet-ditch is open for nearly a mile from Snow-hill to Clerkenwell-green; the back windows of the houses occupied by the working classes open directly upon it; all the sewers are emptied into it, 153, 154.

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Lyons. Escape of that city from the cholera; attributed to the lime-kilns, *Symons* 1168-1170.

M.

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Manufactories. Proximity to manufactories, especially bone-boilers and manure manufactories, is very unwholesome, *Moseley* 945-951—If injurious to health, they would be indicted in a district occupied by wealthy persons, *Moseley* 1055-1060.

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Martin's-court, Whitechapel. There is no sewerage in this street, *Peeke* 2014.

Martin's, St., Lane. District between St. Martin's-lane and Bedford-court; imperfect sewerage; closeness of the houses, &c., *Moseley* 856.

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Moorgate and Bishopsgate. Want of drainage; density of the population; quantity of courts and alleys, *Moseley* 889–895.

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2. In Particular Places:

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State of George's Rookery, by Mutton-hill and Clerkenwell-green, 876—Fleet-ditch is often in a filthy state, and very productive of fevers, 877-879—The whole district is a hot-bed for fever, 881, 882—The district between Golden-lane and Bunhill-row is very populous, and there are a number of burial grounds, which are very injurious to health, 883-888—Parts of Moorgate and Bishopsgate inhabited by the poorest classes, 889-890—Want of drainage, 891, 893-895—It consists entirely of courts and alleys, 892—The effluvia affects the health of the people imperceptibly to them, 896-899—District by Rosemary-lane and East Smithfield proverbial for fever and filth, 901, 902—On the Southwark side of the river the air is also vitiated by manufactories, 904—District near Gray's Inn-lane and the Small-pox Hospital; defects of drainage, 907, 908—Number of courts in Islington; they are as bad as in London, but have a more free circulation of air, 909-914—People are more healthy in the neighbourhood of unenclosed grounds, 915.

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Municipal Government. Disadvantageous manner in which population has been crowded into large towns, without any municipal government, *Fletcher* 1313.

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New-street, St. Bartholomew's. Defective drainage of it; open sewers an accessory cause of fever, *Jordan* 151, 152.

North-street, Bethnal-green. Collection of filth, and dreadful stench in this street, which is occupied by pig-dealers, *Smith* 49.

New-streets, Liverpool. Great advantages would arise from opening new streets, and carrying them through densely populated districts, *Duncan* 2538.

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Newman, John. (Analysis of his Evidence.)—Surveyor of district of sewers on Surrey side, 2086—No power to compel owners of houses to communicate with drains, 2089—Or to prevent them from sinking cesspools and receptacles for filth below the level of the sewers, 2090—Many owners neglect to communicate by underground drainage with the sewers, 2093—Injurious effects arising from this cause, 2094—Very desirable that power should be given to compel persons to communicate by underground drains with the sewers, 2096—The cholera much extended in witness's district, from the filth of the district, thirty or forty persons living in houses in the filthiest state, 2099—Extent of witness's district, 2102—Sewer constructed, a year since, in Camberwell, of a mile long, at the urgent request of inhabitants; only one application been made for an opening into the sewer, 2102—Desirable that there should be a power of compelling communications, 2104.

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North Ward, Hull. State of the courts in that district, *Wood* 2332.

North Ward, Leeds. Bad state of the North Ward, Leeds, *Williamson* 1676.

North-east Ward, Leeds. Bad state of the North-east Ward, *Williamson* 1683.

North Myton District, Hull. State of the courts in that district, *Wood* 2324-2331.

North-west of London. Is the healthiest part, as the prevailing winds are south-west and north-east, *Dr. Arnott* 563.

Norwood. The health of the children in the workhouse of the Holborn Union is very good; better than when they were at Norwood, *White* 398-401.

Nuisance. Under the new Police Act, the district surveyor is liable to a penalty if a nuisance is not removed when pointed out to him, *Byles* 184—The surveyor of pavements is the only person who has power to remove nuisances, *Byles* 239, 243—In all cases of nuisance the landlord should be held responsible, the tenants in many cases being too poor to remedy the evil complained of, *Hodgson* 3007.

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O.

Olave's, St., Union. Is chiefly inhabited by the working classes, who obtain a precarious livelihood from the wharfs, *Clarke* 445—The Greenwich Railway intersects the district, *Clarke* 447—Population of the district; proportion of the working classes, *Clarke* 448, 449, 453-455—Their mode of life predisposes them to fever, *Clarke* 456, 457—Sickness is very prevalent among the children, *Clarke* 473.

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Paddington. Bad state of the drainage from Paddington to Chelsea, *Cubitt* 3449.

Party Walls. Regulations under the Building Act for making party walls, *Cubitt* 3414.

Pauper Children. Most beneficial and humane regulation to send all pauper children out of town to school, in all large towns, *Williamson* 1941-1945.

PAVING:

1. Generally.
2. In particular Places.

1. Generally:

Evils arising from streets being unpaved, *Smith* 106, 107—Necessity of paving all courts and alleys, *Dr. Arnott* 507—Any new Act as to drainage, &c. should include powers to enforce paving the surface of courts and streets, *White* 2588—Any new Building Act should make provision for paving courts, &c., *Pennethorne* 2849.

2. In particular Places:

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2. In particular Places.—continued.

Bradford.—Paving attended to in Bradford, but not in the suburbs, which are the largest portion of the town, *Ellison* 1598.

Olave, St.—It is the duty of the commissioners of pavements to see that the courts and alleys are properly cleansed, *Clarke* 469-472.

Saffron-hill.—At the time of the cholera there was a general cleansing of the parish (*Saffron-hill*) by the paving board, *Wilkes* 439.

Pecke, James. (Analysis of his Evidence.)—Surveyor of the Tower Hamlets, 2007—There is no sewer about Virginia-row; none nearer to it than Prince's-street, 2012—Wretched state of the inhabitants, 2013—The land excavated for brickmaking, so that sewers are hardly available; parts of Whitechapel in which there is no sewerage, 2014—The district alluded to, the filthiest imaginable, 2014; and very densely populated, 2015—State of Lamb's-fields; improvements owing to Eastern Railway, 2019—Mode of application to commissioners of sewers; in some cases proprietors of land pay the expense; where the public would derive a benefit, the commissioners have borne a portion, 2023—Commissioners have no power of preventing the making receptacles for filth below the level of the sewer, 2024—Nor any power to compel communications from houses to sewers, 2024—Sewers have not all the effect which is attributed to them, 2028—Filthiness of the inhabitants of the district, 2030—Commissioners endeavouring to lay down sewers in all the great thoroughfares, 2032.

Persons who erect houses cannot use drains without leave of commissioners, 2033—2035—Owners of property have nothing to pay for the privilege of communicating with the main sewer, 2039—There are many streets in which sewers are situated and the inhabitants neglect to take advantage of them, 2041—Mode of rating to sewers rate, 2045. 2049-2073—Houses situated in streets without sewers are rated, 2048—Tide cannot rise in drains, unless by accident; there are sluicekeepers appointed, whose business it is to attend to valves, 2074—Extent to which excavations are carried; brick clay and gravel removed; districts left in holes; this state of things a public nuisance; commissioners of sewers no power to prevent, 2080-2085.

Pennethorne, James. (Analysis of his Evidence.)—Has been professionally engaged in surveying buildings for some years past, 2794—Acquainted with the construction of buildings in all parts of the metropolis, 2795—Has surveyed St. Giles's, Essex-street, Spitalfields, and parts of Farringdon-street, round Field-lane and Saffron-hill, 2796—Miserable courts of which these districts are composed; houses back to back; cottages two rooms; ladders for staircases; dirty and filthy, 2797—Entrances by archways; close and badly ventilated, 2798, 2799. 2804—No underground drainage of any kind to St. Giles and Spitalfields districts, 2809—Drainage, north of Farringdon-street, by an open ditch, 2809—Drained by surface drains, 2810—State of Rose-lane, Spitalfields, 2810—There is no system of inspection, 2812—Disgusting state of privies; one only to each court, 2816. 2819—Houses continually built against back premises of others; nothing to prevent it, 2825-2828—London Building Act; its powers, 2828—Desirable to have a general Building Act, that should lay down general regulations to prevent such forms of construction as are injurious, 2831—Close courts should not be allowed, 2835—Building back to back should be prevented, 2837.

Cellar dwellings should be forbidden, 2838—No dwelling should be erected of greater height than the width of the street, 2843—Every house should be provided with a privy, and be well ventilated, 2849—There should also be provision for paving, 2851—There should be a general Drainage Act; commissioners appointed by rate-payers, 2856—Commissioners of Sewers cannot compel inhabitants to use sewers, 2858—Ought to have power to prevent sinking cesspools below the level of the sewer, 2859—Power to enforce emptying into drains, and to have traps on drains, 2863—There should be inspection to enforce cleanliness, 2868, 2869—Power should be given to enforce the Act, 2871—Supply of water should be especially regarded, 2873, 2874—Nuisances, as slaughter-houses, bone-boiling, &c., should be put down by law, 2880—Plan of the Rookery, St. Giles, 2880—Plan of courts between Whitechapel and Wentworth-street, 2883—Very little good to be done by schools and prison discipline while these districts are left in the dreadful state they now are, 2884, 2885—Commissioners should make great lines of sewers through every district on which buildings stand or are about to be erected, 2090.

Picket-place Station-house, Strand. Unwholesome state of the house from the deterioration of the water, *Walker* 3150.

Piershill Barracks, Edinburgh. Healthy state of those barracks; the average cases of sickness and mortality in the cavalry barracks of Glasgow and Hamilton are 25 per cent. more than at Piershill, *Miller* 3051.

Pigs. The practice of keeping pigs in dwelling-houses should be put a stop to, *Hodgson* 3005.

PLAY-GROUNDS:

1. Generally.
2. In particular Places.

1. Generally:

Witness never recollects a school for the working classes with a play-ground, *Wood* 2231—Advantages of play-grounds to the health of towns, *Hodgson* 3018—Are extremely essential to the health of children, *Walker* 3165.

2. In particular Places:

Birmingham.—No play-grounds whatever attached to any of the schools for the poor *Wood* 2308, 2309.

Bolton.—Schools in Bolton are without play-grounds, *Ashworth* 1849, 1850.

Brighton.—Generally play-grounds attached to schools, *Jenks* 2781, 2782.

Hull.—No play-grounds at all the schools, *Wood* 2349.

Leeds.—With the exception of the infant school, no schools in Leeds have play-grounds, *Williamson* 1736.

Police Act. See *Metropolis Police*.

Police Act, Edinburgh. No power in the Act to abate the nuisance of the irrigation which is pursued by using the water from the common sewers, *Stodhart* 2000—Provision relative to irrigation, *Miller* 3054.

Poor Law, Dublin. Operation of the New Poor Law in Dublin; number of unions formed, &c. *Maunsell* 3307-3312.

Poor Rates:

St. Olave's.—The poor-rates have been reduced more than one-half in the last year, *Clarke* 500.

Whitechapel Union.—Much expense is cast upon the poor-rate by the sickness of the poorer classes; if the causes were removed a great saving would be effected, *Byles* 185-190.

Poplar District of Sewers. Evidence as to extent; mode of management, &c., *Baker* 1548.

Portpool-lane, Holborn Union. Improvement effected in that street by Messrs. Reid *White* 369-374.

Portugal-street, Lincoln's-inn-fields. Injury done to the health of the inhabitants from the effluvia arising from the burial-ground in that street, *Walker* 3141.

Privies:

Birmingham.—Should be under a sort of supervision, being in a very bad state in some parts of the town, *Hodgson* 3005.

Drury-lane.—Description of a privy in Nag's Head-court, Drury-lane, the floor of which is ankle deep in filth, *Walker* 3119.

Dublin.—Many of the houses of the poorer classes have no privies, and those that have are never emptied or cleansed, *Maunsell* 3201.

Giles, St.—Disgusting state of privies in St. Giles; only one to each court, *Pennethorne* 2816-2819—Neglected and filthy state, *Moseley* 871.

Glasgow.—In some of the courts there are none at all, *Symons* 1147-1151.

Lambeth.—In some houses are in the cellars, *Wagstaff* 700.

Liverpool.—Disgusting state of privies in the courts inhabited by the labouring poor, *Duncan* 2401—Disgusting state of the privies; only one to a great many houses, *Wood* 2171.

The Mint, Southwark.—Their neglected and dangerous state, *Evans* 649, 650.

Spitalfields.—Disgusting neglect of privies; a great source of typhus fever; improvement of Wentworth-court in this respect, *Byles* 258, 259.

PUBLIC WALKS:

1. Generally.
2. In particular Places.

1. Generally:

Open spaces should be preserved, calculated for public walks, essential to the health and comfort of the poorer classes, *Rep. p. xx*—People are more healthy in the neighbourhood of uninclosed grounds, *Moseley* 915—Working classes stand in great need of some places on which they could get out to take exercise and promote health, *Fletcher* 1240—Want of open spaces applies to all large towns, *Fletcher* 1241—Importance of providing airing grounds for the lower orders, *Cubitt* 3423.

2. In particular Places:

Brighton.—Necessary for the people, *Jenks* 2779.

Holborn Union.—Public walks in this district would promote the health of the inhabitants, *White* 386-390.

Macclesfield.—Has no space left for public walks, *Fletcher* 1241.

Manchester.—Entirely devoid of any space for the recreation of the working classes, *Fletcher* 1241.

Liverpool.—There are no reserved places for the poor to exercise in except St. James's Park, and the two cemeteries, and the pier-head, *Duncan* 2494-2497.

London, East.—The open spaces in the east of London are not healthy, being full of ditches and stagnant water, *Dr. Arnott* 595-597.

Punderson's Gardens, Bethnal-green. Disgusting condition thereof described; prevalence and fatal character of fever described, *Smith* 41.

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Ratcliff Highway.—Disgusting state of parts thereof; prevalence of fever, *Dr. Arnott* 517-520.

Rainsford-street, Dublin. Description of the dwellings of the poor in that street, *Maunsell* 3215.

Rates, Local. Considerable saving would arise from better sanitary regulations, *Fletcher* 1290, 1291—Sanitary regulations would be a great saving to the rates of a parish, *Ellison*, 1610—Great expense thrown upon richer classes owing to illness and fevers, generated by general neglect of the precautions mentioned, *Williamson* 1720—Good regulations as to health of towns should no doubt tend to lower rates, *Smith* 2703.

See also *Local Taxation*.

Read-street, Bethnal-green. Families live in the cellars and kitchens of undrained houses; fever is never absent, *Smith* 54.

Recreation Grounds. See *Public Walks*.

Rheumatism. Prevalence of rheumatism in the crowded lanes, courts, and cellars of Liverpool, *Duncan* 2471-2475.

Restalrig, near Edinburgh. Healthy state of the village, owing to the irrigation of the meadows, *Miller* 3028.

River Side, Lambeth. The people being close to the river, are subject to intermittent fevers; filth thrown upon the mud; their unwholesome diet, *Wagstaffe* 729, 730—Evils arising to the shipping, from crews being taken from the unhealthy and infected places of the river side, *Moseley* 1013-1015.

Robert-street, Dublin. Description of the habitations of the poor, and prevalence of disease therein, *Maunsell* 3222, 3235.

Rookery, St. Giles. Plan of the courts and streets composing the Rookery in St. Giles, *Pennethorne* 2880.

Rosemary-lane. District proverbial for fever and filth, *Moseley* 901, 902.

Rotherhithe. Its peculiarly unhealthy situation; malaria arising from the mill-pond, *Moseley* 998-1003—No waterworks in Rotherhithe; inhabitants supplied from sewers; disinclination on this account to make new sewers, *Newman* 2121.

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Royal Manor, Coventry. Formerly an open space, used for recreation, now enclosed; property of Marquis of Hertford, *Fletcher* 1238.

Russell-court, Drury lane. Injury done to the health of the inhabitants from the effluvia of the burial-ground, *Walker* 3142.

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Saffron-hill, Holborn Union. Is very unhealthy; with the exception of Fleet-ditch, there is no drainage near it, *Wilkes* 414—General want of drainage throughout the district, *Wilkes* 415—Dreadful state of the courts round Saffron-hill, which were investigated during the cholera, *Smith* 2643—Description of the wretched courts which are to be found in this district, *Pennethorne* 2797.

Salford. State of working classes, *Cobden* 1811.

Sanatory Regulations. Some general regulations absolutely necessary, *Ellison* 1604—Absolutely necessary in large towns; scarcely any large towns which do not prove the fact, *Fletcher* 1658—A complete system to secure draining, cleansing, paving the streets, and the proper construction of dwelling-houses, most desirable, *Fletcher* 1660—No adequate provision at present exists to enforce sanatory regulations, *Williamson* 1715—Very opprobriously neglected, *Williamson* 1723—General necessity for some legislative enactment, conferring powers for the purpose of sanatory regulations, *Williamson* 1807—Highly desirable to have regulations as to buildings, sewerage, &c. in all crowded populations, *Ashworth* 1844—1846—Drainage and sanatory regulations absolutely necessary, *Williamson* 1876—Sanatory provisions highly necessary to the health of the lower orders, *Wood* 2235—General wants of the poor as to sanatory regulations, ventilation, good water, sufficient drainage, width of streets, paving, and preventing houses being built back to back, and prevent underground dwellings, *Jenks* 2777.

See also *Cesspools. Drains. Guardians, Board of. Gutters. Inspection. Landlords. Privies. Rates. Sewers.*

Scarlet Fever. Very prevalent among the poor of Liverpool; diseases more virulent owing to the state of the parts of the town inhabited by the poor, *Duncan* 2433, 2434—Disease much aggravated by the wretched state in which the poor live in large towns, *Wood* 2249.

Scavengers. Necessity of an effective service of scavengers to remove offal, *Dr. Arnott* 510—There are no regulations for it, *Smith* 108—Never penetrate into the courts in Westminster, *Weld* 1220—1226.

See also *Cesspools. Cleansing. Drains. Dublin. Sanatory Regulations.*

Shacklewell-street, Bethnal green. Closely and densely populated; prevalence of malignant fever, *Smith* 51.

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1. Generally.
2. In particular Places.

1. Generally:

In some towns there are regulations for sending the pauper children to school at a distance from the town, *Wood* 2199—Very little good to be done by schools while whole districts are left in the dreadful state in which the poor live, *Pennethorne* 2884.

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Birmingham.—General state of schools in Birmingham; 23,176 children who were receiving no education at Sunday or day schools, *Wood* 2295—In confined situations, small rooms, close, and ill ventilated, *Wood* 2300—2302—Prevalence of schools with play-grounds attached to them in Birmingham, *Hodgson* 3017.

Brighton.—Many schools at Brighton, and in general play-grounds attached, *Jenks* 2781, 2782.

George's, St., Southwark.—School accommodation; the school children are the healthiest and most cleanly, *Evans* 662—671.

Hull.—Description of dame and day schools, *Wood* 2348.

Leeds.—Several large public schools for the working classes in Leeds; day schools and Sunday schools, *Williamson* 1735.

London.—Vast number of schools about Drury-lane without any play-grounds, *Walker* 3161.

Olave's, St., Union.—Very few children go to school, and those who do suffer from the filth and evil example of their homes, *Clarke* 474—478.

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Stepney Union.—Management of it; healthiness of the children; they are taught to work, and have gymnastic exercises, *Heelis* 313-322.

See also *Dame Schools. Day Schools. Education.*

Scotland Road, Liverpool. Miserable condition of the schools round Scotland-road, *Wood* 2183.

Sepulchre's, St. Amount expended on the poor in St. Sepulchre's parish, *Jordan* 166—The parish consists of 8,000 souls, and only 650 rate-payers, *Miller* 794—The parish is well cleansed, but the habits of the people make it impossible to prevent an accumulation of filth, *Miller* 795.

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1. Generally.
2. Necessity for a General Act.
3. Present and proposed Power of Commissioners.
4. Communication with Sewers.
5. Regulations for Application to communicate with Sewers.
6. Increase of.
7. Uncovered Sewers.
8. In particular Places.

Aldersgate-street.
Birmingham.
Bolton.
Drury-lane.
Dublin.
Edinburgh.
Giles, St.
Hull.

Leeds.
Limehouse.
Liverpool.
Manchester.
Poplar.
Southwark.
Surrey District.
Tower Hamlets.

1. Generally:

Administrative authority recommended for drainage and sewerage, without incurring the expense and delay of an Act of Parliament, *Rep. p. xix.*—A great many populous districts in which there are no sewers, *Newman* 2111—Parishes could not make the sewers at their own expense; they should be assisted by the public, who are now endangered by the spread of disease, *Smith* 98-105. 114-116—Extreme deficiency of sewerage generally admitted, *Williamson* 1695—Difficulty of making sewers arises generally from want of money; the expense ought to be spread over as many years as possible, *White* 2594—All main drains should admit a man to go up and clean them, *Hodgson* 2980.

2. Necessity for a General Act:

A general Act for the sewerage of densely peopled communities absolutely necessary, *Rep. p. xvii. Smith* 92-97, *Byles* 253, *Williamson* 1705, *White* 2572-2576, *Smith* 2672. 2676. 2695. *Cubitt* 3417. 3456—There are many streets in which sewers are situated, and the inhabitants neglect to take advantage of them, *Peeke* 2041, *Newman* 2093.

3. Present and proposed Powers of Commissioners:

Improvements suggested; every house should be obliged to have communication with the sewers, *Smith* 92-97—The commissioners of sewers cannot make persons communicate with the sewers; on the contrary, there is a penalty for communicating with them, *Byles* 193-196—There should be some power to compel people to communicate with sewers, *Dr. Arnott* 547, 548—Power to enforce simultaneous cleansing of sewers would be most important, *Baker* 1580—Commissioners have very much felt the want of this power, proceedings being greatly embarrassed in consequence of not having such power, *Baker* 1581—Commissioners no power of preventing the making receptacles for filth below the level of the sewer, *Peeke* 2024, *Newman* 2089—Nor any power to compel communications from houses to sewers, *Peeke* 2024*, *Newman* 2086—Mode of rating to sewers' rate, *Peeke* 2045-2073—No house should be allowed to be inhabited till sewerage was complete, *White* 2581—The Building Act does nothing as respects open spaces or sewerage, *Smith* 2638—Proposed alterations in the Board composing the Commissioners of Sewers, *Cubitt* 3453—Defects in the working of the Commissioners of Sewers in London; none of the main sewers should be carried into the Thames, *Cubitt* 3447.

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4. *Communication with Sewers:*

No power of enforcing communication with sewers, *Byles* 193, *Unwin* 1406, *Drew* 1486, *Williamson* 1725, *White* 2582, *Smith* 2680, *Newman* 2096, *Pennethorne* 2858—Advantage to health of under-ground drainage, *Newman* 2113.

5. *Regulations for application to Communicate with Sewers:*

Communication:

Mode of consenting of commissioners; application of landlords; amount of contribution of landlords to rate, *Drew* 1480—Mode of application to Commissioners of Sewers; in some cases proprietors pay the expense; where the public would derive a benefit the commissioners have borne a portion, *Peeke*, 2023—Persons who erect houses cannot use drains without leave of commissioners, *Peeke* 2033, 2035—Owners have nothing to pay for the privilege of communicating with the main sewer, *Peeke* 2039.

6. *Increase of:*

Commissioners endeavouring to lay down sewers in all great thoroughfares, *Peeke* 2032—Commissioners should make great lines of sewers through every district on which buildings stand, or are about to be erected, *Pennethorne* 2890.

7. *Uncovered Sewers:*

Fever is most prevalent in the neighbourhood of uncovered sewers and other places in which filth is collected; intolerable exhalations arising from them; such places described, *Smith* 22-24—Archways over sewers very beneficial to the health of the neighbourhood, *Drew* 1492.

8. *In Particular Places:*

Aldersgate-street.—An improvement in the sewerage would improve the health of the poor, and save an expense to the parish, *Jordan* 160, 161.

Birmingham.—Open drains in the Bordesley district, *Wood* 2281-2284—Proceedings of Commissioners of Sewers when new streets are erected in Birmingham, *Hodgson* 2985.

Bolton.—There are sewerage Acts, but they are very inefficient, *Ashworth* 1842.

Drury-lane.—Defective state of the sewerage in Drury-lane, and injury done to the health of the inhabitants in consequence, *Walker* 3133.

Dublin.—The Commissioners of Paving in Dublin have no funds wherewith to make sewers, and have not the power to enter houses to see that private sewers are properly constructed, *Maunsell* 2237—Imperfect state of the sewerage in Dublin, the majority of the courts and alleys are destitute of drains, *Maunsell* 3194—Landlords are required to provide sewers communicating with the main sewers, under the penalty of 20*l.*, *Maunsell* 3238.

Edinburgh.—Immediately in the vicinity of the town there are open common sewers; water from these sewers is used for irrigation, *Simpson* 1981.

Giles, St.—No underground drainage of any kind to St. Giles and Spitalfields, *Pennethorne* 2809.

Hull.—In many parts of the suburbs there are several open sewers, *Wood* 2344.

Leeds.—State of sewerage in the large streets, *Williamson* 1759-1761—No provisions for drainage, sewerage, cleansing, ventilating, or building, *Williamson* 1749.

Limehouse District.—There was a sewer in one of the streets in which the cholera broke out, but the drains did not run into it; there was not a house that did not lose an inhabitant, *Heelis* 287-289.

Liverpool.—No courts have underground sewers, *Duncan* 2395—In the main streets, the greater number of those inhabited by the working classes there are no sewers, *Duncan* 2395—No authority in Liverpool has power of inspection as regards sewerage and drainage; amount lately laid out in sewers' sums exhausted, *Duncan* 2418—Local act has no power to force householders to communicate their drains with the sewers, *Duncan* 2422—Neglect of sewerage and drainage in Liverpool, *Duncan* 2518-2521.

Manchester.—Cleansing and sewerage as bad at Manchester as possible, *Wood* 2216.

Poplar District.—Amount of rate levied in this district, *Baker* 1554—No power in commissioners to force householders to communicate with sewers, *Baker* 1561.

Southwark.—The open drains and cesspools are very prejudicial to the health, *Evans* 630-637.

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8. In particular Places—continued.

Surrey District.—Amount of sewers' rate levied in the district, about 1 *d.* in the pound, *Drew* 1494.

Tower Hamlets.—The sewers are not regularly inspected, but only casually, by the inspector of pavements, *Byles* 200, 201—Every facility given to householders to communicate with sewers, *Unwin* 1359—Many cases in which inhabitants do not avail themselves of the power of communicating with sewers, *Unwin* 1407—Amount of sewers' rate in Spitalfields is 9 *d.* in the pound on the rack-rent, *Unwin* 1415—Evidence as to collection of rates; mode of levying them, *Unwin* 1423-1449.

See also *Alleys. Cesspools. Cholera. Courts. Disease. Drains. Fever. Fines. Gullyholes. Gutters. Lambeth. Landlords. Liffey. London. Mortality. Open Gutters. Rotherhithe. Slaughter-houses. Sluices. Stagnant Water. Stayley-bridge. Stepney. Suburbs of London. Surrey and Kent Districts. Tower Hamlets.*

Shepherd's Court, Whitechapel Union. Remarkable case in which successive lodgers were affected by fever, the rooms not having been whitewashed; cessation of the fever when they were cleansed, *Smith* 36-38.

Shepherdess Fields Bath. Rule of admission to the mechanics' bath, and number capable of being accommodated, *Sowten* 3086-3090.

Simpson, Dr. J. (Analysis of his Evidence.)—Resides at Edinburgh, 1956—Use of the water from the common sewers, for the purpose of irrigation, a great nuisance, 1957—Majority of medical men of opinion that it is unwholesome, 1958—Increased value of land, 1963—Carried to such an extent that in some localities persons avoid particular roads to keep out of the way, 1967—Authorities in Edinburgh have reported against the system, 1968—Great cause of complaint to the working classes; stench on King's domains, Holyrood-house, so dreadful, that the poor cannot walk there except on particular days, 1970—Filthy state of houses where many strangers lodge; case cited; fever raging occasioned by the stench from deposits, 1974—System of inspection recommended, 1977—Fever board of Edinburgh press the subject of ventilation and cleansing houses of the poor, 1978—Fever board clean out and whitewash; in many instances inhabitants refuse permission, 1969, 1970—Mortality of the troops in the barracks at Peers-hill, attributed by witness to the insalubrity occasioned by this mode of irrigation, 1980—Immediately in the vicinity of the town there are open common sewers; it is this water which is sprinkled over the land to irrigate it, 1981—Holyrood declared by the Queen's physicians to be unfit for a residence for Her Majesty, on the grounds of the insalubrity occasioned by the present mode of irrigation from the sewers, 1988.

Slaughter-houses. Striking effect of sewerage in diminishing fever exhibited among the slaughter-houses of Whitechapel and the Hackney-road, *Smith* 26-28—The slaughtering of cattle in crowded places and cellars must be injurious to health, *Dr. Arnott* 575-580—Disadvantages of slaughter-houses in crowded populations, *Jenks* 2793—Should be put down by law, *Pennethorne* 2880—Nuisance arising from slaughter-houses in Dublin, *Maunsell* 3316.—See also *Abattoirs.*

Sluices, Sewers. Tide cannot rise in the drains in Tower Hamlets districts unless by accident. There are sluice-keepers appointed, whose business it is to attend to valves, *Peeke* 2074.

Small Pox. At present very prevalent at Bradford, *Ellison* 1641—The malignity of the small-pox is increased (Holborn Union), *White* 397—Often spread and much aggravated by the miserable state of the residences of the poor in large towns, *Wood* 2249.

Smith, Southwood, M. D. Opinion coincides with that of Dr. Southwood Smith as to cases of fever, *Jordan* 132-134.

Smith, George. (Analysis of his Evidence.)—An architect, residing in the Old Jewry 2626, 2627—Has considerable practice for the last 37 years in the City, 2628—District surveyor of the south of the City of London, 2630—In the neighbourhood of the metropolis the Building Act does take in many places which are now growing very populous, 2636—The Building Act does nothing as respects open spaces or sewerage, 2638—Some regulation which would insure ventilation, and buildings constructed for health, would be very desirable, 2641—Many instances of ill-health exists in London; generally every room occupied by a family, all huddled together, 2642—Dreadful state of the courts round Saffron-hill, which were investigated during the cholera, 2643—Evils of cholera much aggravated from the form of dwellings, and the confined state of courts, and want of proper sewerage, 2644—There is a court in the neighbourhood of Holborn which is horrible to go up, in a most filthy state, 2647.

Witness aware of the great extent of cellar population in Manchester; unhealthy state of the inhabitants, 2650-2653—Many instances of courts in London with the

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worst ventilation, 2654—Any new Building Act should forbid the construction of courts of certain description, and the building houses back to back, 2656—Every court should be of a width comparative with the height of the houses on either side, 2658, 2659—2633—At present there are seven rates or classes of buildings, 2664—Regulations as to privies, dust-holes, 2670, 2671—A good system of sewerage should also be ensured, 2672, 2673—A general sewers Act, laying down general regulations, and give facilities to populous districts, would be of great use, 2676—No power in commissioners to enforce inhabitants to communicate with sewers, 2680—2681—Commissioners should have power to prevent the sinking of cesspools, 2690, 2691—Evidence concerning the London Building Act, 2692—A general sewerage Act, giving additional power, in large towns, would be highly advantageous, 2695—Good regulations as to health, &c. of towns would no doubt tend to lower rates, 2703—Commissioners of sewers have sometimes made objections to make sewers on application, 2711—On the grounds of want of funds and want of power, 2712—Commissioners have no power in Westminster, 2713—Buildings erected in the Commercial-road district by the Mercers' Company, 2722—Rent of houses and lodgings; rate of wages; 2723—2729—Very few of the houses inhabited by the poor have any sewers, 2730—A local inspector, appointed by the inhabitants, should have power to see the districts properly cleansed, 2739—Highly desirable that some regulation, such as a board of health, should take place, to preserve the health of inhabitants in close districts, 2742.

Smith, Thomas Southwood, M.D. (Analysis of his Evidence).—Physician to the London Fever Hospital, 2—Has examined the state of the dwellings of the poorer classes of Bethnal-green and Whitechapel, and has made a report to the Poor Law Commissioners, 3—5—General causes of fever, 6—Greater prevalence of fever where drainage is bad; districts could be marked out as defective in sewers, by the number of cases of fever, 7—9—Districts enumerated in which this defect is observable, 10—They are the most densely populated, and by the poorest classes, 11—13—Peculiar prevalence and malignity of fever in Bethnal-green and Whitechapel, 14—16—Number of pauper fever patients in those unions in 1838; probable number of others, 17—21—Fever is most prevalent in the neighbourhood of uncovered sewers and other places in which filth is collected; intolerable exhalations arising from them; such places described, 22—24.

Dampness of Bethnal-green; practice of silk weavers to close their windows, 25—Striking effect of sewerage in diminishing fever exhibited amongst the slaughter-houses at Whitechapel and in the Hackney-road, 26—28—By proper drainage, cleansing and ventilation, much of the evil might be removed, 29—Expense of fever cases to Bethnal-green and Whitechapel unions, 30—To incur expenses in making drains would be economy as well as humanity, as the outlay would not be annual, 31—33.

Free currents of air might be produced by cutting openings which might be done at a moderate expense, 34—Power should be lodged somewhere to prevent landlords from building in swampy places, and to compel them to keep their houses in a state of wholesome cleanliness, 35—Remarkable case in Shepherd's-court, in which successive lodgers were affected by fever, the rooms not having been whitewashed, cessation of the fever when they were cleansed, 36—38—Bethnal-green is not generally crowded; there is no reason why it should not be healthy, except that the necessary precautions are not taken, 40—Disgusting condition of Punderson's gardens described; prevalence and fatal character of fever, 41—Extraordinary malignity of the fever in Campden gardens, where the houses, if properly built and drained, are healthily situated, 42, 43.

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Smithfield. Densely-peopled district surrounding Smithfield; the lower class of Irish live there, *Miller* 792, 793.

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Sowten, William. (Analysis of his Evidence.)—Proprietor of baths in the Westminster-road, 3056—Dimensions of the baths; charges for admission; temperature; number of visitants, &c., 3060-3081—Description of the baths in Holborn and in Shepherdess-fields, 3083-3092—Facilities for the establishment of baths in Manchester, Birmingham, and Leeds, 3093—Mode in which the Westminster baths are heated, 3095-3100—In one day, at the Westminster baths, there were 2,500 in the mechanics' bath, and 1,000 in the other two baths, 3102—Attendance of Messrs. Maudslay's and Messrs. Clowes' workmen at the mechanics' bath, 3105, 3106—It is the intention to establish a mechanics' bath in Holborn, 3110—Raising the rate of admission to the mechanics' bath would tend to shut out the noisy and disorderly, 3113.

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Stagnant Water. Effects of the use of bad water from pits, in which dead dogs, &c. have been thrown; this water nevertheless often used by the poor for culinary purposes, *Wood* 2205—Drains and stagnant waters left open in the populous districts immediately round Manchester and Liverpool, *Wood* 2251.

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Stodhart, J. R. (Analysis of his Evidence.)—Treasurer of the city of Edinburgh, 1991—Nuisance near Edinburgh of the using the water from the common sewers for the purpose of irrigation, 1992—Practice prejudicial to health, 1993—Practice prevails in the royal domains of Holyrood, 1995—No power in the Police Bill to abate the nuisance, 2000—A great majority of the inhabitants consider it a great nuisance, 2003—A very general opinion that the salubrity of the air is affected by the exhalation, 2006.

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Symons, John. (Analysis of his Evidence.)—Assistant hand-loom weaver commissioner, &c. 1061-1063—The state of the poorer classes in Glasgow is exceedingly bad, 1068—The drainage is neglected, and filth lies in the courts and alleys, 1069-1071—Extraordinary filth and misery of the wynds, 1072-1075—Fever is much generated, 1076, 1077—Wretched and indecent state of lodging-houses, 1078—Horrible state of society, 1079-1083—Extraordinary number of spirit-shops, 1084-1087—Mortality, 1089—Penury, disease, and crime are unparalleled, 1090-1094—Occupation of children; want of instruction, 1100-1107—Increase of mortality as stated by Dr. Cowan, 1110-1116. 1134, 1135—Typhus fever is generally existing, 1117-1119—Supply of water, 1120-1122.

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Troops, Edinburgh. Mortality of the troops at the barracks at Piershill attributed by witness to the insalubrity occasioned by their mode of irrigation, *Simpson* 1980.

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Vaccination. Small-pox is prevented in a great degree by it; but when it does occur, it is of the confluent kind, *Byles* 216, 217—Small-pox has prevailed very much; labouring classes no objection to the use of vaccination, *Clarke* 484-487—Vaccination modifies the disease so much that it hardly requires medical treatment, *Clarke* 489.

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VENTILATION:

1. *Generally.*
2. *In particular Places.*

1. *Generally:*

Importance of ventilation by wide streets and well-constructed houses, *Dr. Arnott* 511—Regulations in towns to enforce cleansing and ventilation are highly desirable to the health of the inhabitants, *Wood* 2236—Want of these regulations aggravates very much the discontent of the lower classes, from a feeling that there is no sympathy for their comforts, *Wood* 2238—Some regulation which would insure ventilation would be very desirable, *Smith* 2641—In any new building Act great attention should be paid to ventilation, *Pennethorne* 2849—Proposed regulations for ensuring proper ventilation of houses and width of street, *Cubitt* 3410.

2. *In particular Places:*

Birmingham.—Too many houses built back to back, without a thorough air, *Wood* 2270, 2271—Want of ventilation in houses from the practice of constructing them back to back, *Hodgson* 2972.

Bradford.—No regulation whatever as to buildings for ventilation, or for preventing houses being built back to back, *Ellison* 1601.

Dublin.—Great want of ventilation from the practice of building houses in alleys and courts back to back, *Mqunsell* 3185.

Edinburgh.—Fever board of Edinburgh press the subject of ventilation and cleansing houses on the attention of the poor, *Simpson* 1978.

Glasgow.—Objections of the people to ventilation, *Symons* 1159-1167.

Hull.—System has commenced of building houses back to back, *Wood* 3340.

Liverpool.—Many houses in Liverpool, built back to back, without ventilation; this construction very injurious to the health of inhabitants, *Wood* 2160-2162—Evils of courts as to ventilation, *Wood* 2382.

Vincent-street, Bethnal-green. Families live in the cellars and kitchens of undrained houses; fever is never absent, *Smith* 54.

Virginia-row to Shoreditch. Closeness and filth of the courts and lanes in the district lying between those places; constant recurrence of infectious diseases, *Smith* 53—There is no sewer about Virginia-row, none nearer to it than Princes-street, *Peeke* 2012—Wretched state of the inhabitants, *Peeke* 2013.

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Wages, St. Olave's Union. The wages of the working classes at the wharfs are not sufficient to maintain their families, *Clarke* 458-461.

Wages, Spitalfields. General wages of the district described, *Byles* 230.

Wagstaffe, Matthew French. (Analysis of his Evidence.)—A surgeon in Lambeth, 681-684—Necessity of forming a sewer in East-street, as suggested by witness to the board of guardians, 685-687—The want of drainage predisposes the inhabitants to fever; expense thus thrown upon the parish, 688-692—Houses infected with fever ought to be shut up for a time and lime-washed; there is no power to compel landlords to do it, 697-700—In some places the privies are in the cellars, 700—More attention has lately been shown to the cleansing of courts, but not sufficient, 701-713—There is not at present sufficient authority or interest in the matter, 714-728—The people living close to the river are subject to intermittent fevers; all kinds of filth is thrown upon the mud, 729-736.

Their diet is fish and spirits, and is injurious, 737-739—Want of fuel and sufficient food weakens them, and predisposes them to disease, 740-743—They dress their fish

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at home, or buy it at the numerous cook-shops, 744-748—Gin-shops abound, 749, 750—Kennington-common might be improved as an exercising ground, 753-759—Near Vauxhall-gardens many houses have been built on marshy land without any drainage, 760-767—Neglected state of the populous neighbourhood of Walworth-common; deficiency of drainage, 770-779—Some such authority as that of district surveyor, but more extensive, is needed, 780-785—The Vauxhall and South Lambeth Companies supply the district plentifully with water, 787.

Walker, George Alfred. (Analysis of his Evidence.)—Medical man, residing in Drury-lane, 3116—Description of the filthy state of Nag's Head Court, 3118—Injury done to the health of the inhabitants from the want of draining and cleansing, 3123—Prevalence of fevers in the confined courts of Drury-lane, 3124—Filthy state of Clement's-lane, Strand, 3125—Great want of scavenging and cleansing in that neighbourhood; there is no authority to enforce it, 3130—Hardship imposed upon the hard-working surgeon from the neglect of sanitary regulations; witness gives away from 100*l.* to 200*l.* every year to sick persons, 3132—Defective state of the sewerage in Drury-lane, and how the health of the inhabitants suffers therefrom, 3133.

Injury done to the health of inhabitants from the existence of burial-places in densely populated districts, 3134-3138—Situation of burial-grounds in London that are particularly obnoxious to the inhabitants, 3139-3144—Life may be destroyed from the exhalations of a burial-ground without any smell being perceptible, 3149—Unwholesome state of the station-house in Pickett-place, Strand, from the deterioration of the water, 3150—Deterioration of water from the proximity of privies to water-butts, 3153—Great mortality in Clement's-lane, Strand, 3153, 3154—It equals that of the worst districts in London, 3155—Great want of a good medical police, 3156—Promotion of disease by drinking ardent spirits; the bad air inhaled induces the poorer classes to fly to spirits, 3157-3160—Predominance of schools without play-grounds about Drury-lane, 3161—Play-grounds are extremely necessary to the health of children, 3165.

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Case in which the same poison, arising from putrefaction, has had a different effect on two individuals, 3495—Impossible burying in a large town to prevent the gases mixing with the air, 3497—Intolerable nuisance arising from the stench of the dead bodies in St. Clement's church in the Strand, 3501—Length of time gas will remain in a coffin before it is entirely evaporated; case in Hampstead churchyard of a gravedigger being struck down with it, 3505—The practice of keeping bodies in low neighbourhoods before interment is extremely injurious to the health, 3506—The bodies are sometimes kept 12 and 14 days, and there is no power to order their interment, 3509.

Bitter animosity begotten against parochial authorities from their indecent mode of interring the poor, 3512—Disgusting occupation of a gravedigger, 3514—Perquisite accruing to gravediggers from the wood of the coffins, 3517—Danger attendant on depositing the wood of coffins in houses for fire-wood, 3519—Unwholesome state of Enon chapel, Clement's-lane, 3520.

Walton-court, Whitechapel. Description of the state thereof; prevalence of fever, Smith 68.

Walworth Common. Neglected state of that populous neighbourhood; deficiency of drainage, *Wagstaffe* 770-779.

Wapping. Filthy and densely-peopled district, *Moseley* 992-997—Disgusting state of parts thereof; prevalence of fever, *Dr. Arnott* 517-520.

Washing and drying Clothes. There is no place near Leeds sufficiently large for washing or drying clothes available to the working classes, *Williamson* 1693.

WATER :

1. Generally.
2. In particular Places.

1. Generally :

Importance of an ample supply of water; appears to be lamentably deficient in several populous and increasing communities, *Rep. p. xx*—Importance of a plentiful supply, *Dr. Arnott* 509—A supply of good water, in any new regulations, should be especially regarded, *Pennethorne* 2873.

2. In particular Places :

Ashton, Staleybridge, and Dukinfield.—Very well supplied under recent Acts of Parliament, *Ashton* 2621.

Birmingham.—Supply of water in Birmingham generally very good, *Wood* 2289—Goodness of the supply of water in Birmingham, *Hodgson* 3013.

Bolton.—Supply of water is ample, good, and cheap, *Ashworth* 1858.

Bradford.—The town is not well supplied with water, *Ellison* 1638.

Dublin.—Insufficiency of the supply of water in Dublin, *Maunsell* 3281. 3328—Proposed remedies, *Maunsell* 3328.

Lambeth.—Is plentifully supplied by the Vauxhall and South Lambeth Companies, *Wagstaffe* 787.

Leeds.—Supply of water exceedingly deficient, *Williamson* 1736—Former supply of water inadequate; a new company have obtained an Act, and a more ample supply is expected to be brought to the town in the course of two years, *Williamson* 1762—That used by inhabitants of a very impure description, *Williamson* 1769.

Limehouse.—The supply is good, *Heelis* 304.

Liverpool.—Imperfect supply of water to the streets and courts inhabited by the poor, *Duncan* 2442.

London.—Deterioration of water from the proximity of privies to water-butts, *Walker* 3153.

Saffron-hill, Holborn Union.—There is no scarcity of water; it is supplied by the New River Company, *Wilkes* 441.

Southwark, St. George's.—The supply is plentiful; the people get it at cocks common to several houses, *Evans* 672-674—The supply of it is good in St. Olave's, *Clarke* 463.

Whitechapel.—There is a good supply of it in the Whitechapel district, *Smith* 127.

See also *Stagnant Water*.

Weavers. Food and clothing better among the working classes now than formerly, except among weavers, who furnish a large number of cases to the public institutions, and who generally present a low condition of health, *Williamson* 1932.

Weavers' Children, Spitalfields. Marked difference between the children of weavers and of other people; they are subject to scrofulous disease, *Byles* 231-235.

Weavers' Work-rooms, Spitalfields. The weavers work in very close rooms, *Byles* 236-238.

Weld, Charles Richard. (Analysis of his Evidence).—The drains in St. John's and St. Margaret's, Westminster, are in good order, 1193-1195—The courts and alleys are dirty, and injurious to health, 1196-1198—The ventilation is very bad, 1199-1202—High rents paid for bad accommodation, 1205-1209—A whole family generally lives and sleeps in one room, 1210-1216—Uncleanly habits of the poor in the courts, 1217-1219—High rents of Westminster compared with Manchester, 1219—The scavengers do not penetrate into the courts, 1220-1226—The landlords compound for the rates, 1228-1230.

Wellington-court, Drury-lane. Wretched state of this court as regards ventilation and cleansing, *Walker* 3464.

Wellington-row, Bethnal-green. Effluvia rising from an open ditch close to the gardens which the poor people cultivate, *Smith* 57.

Wentworth-street, Whitechapel. No sewerage in this street, *Peeke* 2014.

West-street. The inhabitants are the lowest description of persons; they are chiefly day-labourers, and many of them are Irish, *Jordan* 162, 163—Four women and two men were sleeping in a very small room every night, *Jordan* 164, 165.

West London Union. Places included in this union; population of the union, *Jordan* 135-137.

Westminster. Boundaries of the district in which the poor reside; neglect of sewerage, open drains, &c. *Moseley* 834-850.

St. John's and St. Margaret's.—The courts and alleys are dirty and injurious to health, and the ventilation very bad, *Weld* 1196-1202—Commissioners of sewers have no power to make new sewers in Westminster, *Smith* 2713.

White, Edward. (Analysis of his Evidence.)—One of the medical officers of the Holborn Union, 349-352—Parishes of which the union is composed, 353—Baldwin's-gardens, a long street between Gray's-inn-lane and Leather-lane, has no sewer, and many of the houses are in a filthy state, 357-361—Filthy and unwholesome condition of Tyndal's Buildings, opposite the entrance of Gray's-inn; prevalence of fever there, 362, 366-368—Portpool-lane; improvement effected by Messrs. Reid, 369-374—There is no system of inspection to lead to cleanliness, 375-377—It would be a great advantage if power were given to cleanse and whitewash after fever, 378-382—Typhus fever is generated in the locality, there being predisposing causes, 383-385.

Public walks would promote their health, 386-390—The whole district is occupied by Irish labourers, who pay no attention to their lodgings; their health is evidently less good than that of persons living in better streets, 391-394—The children, unless very strong, die early; there is much typhus fever amongst them, 395, 396—The malignity of the small-pox is increased, 397—The health of the children in the workhouse is very good; better than when they were at Norwood, 398-401.

There has not been much increase of building, 402—The number of cases of fever has fallen off of late, 403-407—The health of the poor would be improved by better drainage, cleanliness, and ventilation, 408—The want of cleanliness has an effect upon the moral character of the children; they run about half naked, 409, 410.

White, John. (Analysis of his Evidence.)—District surveyor of Mary-le-bone, 2541—Principal provisions of the London Building Act; one for the purpose of ensuring thickness of party-walls, to prevent accident from fire, 2545—Evidence as to manner of planning courts in London; general construction very injurious to health, 2549—Want of regulations; some general law on the subject of buildings necessary, 2553-2558—Nothing impracticable in a general Building Act, the regulations of which might be carried out by local authorities, 2559—A good system of drainage, for the improvement of the large towns in England, would be, if no attached houses were to be built without sewers being put down in the first instance, 2568—Great necessity for a general Sewerage Act; no town worse drained for sullage drainage than Oxford, 2572-2576—Cesspool drainage should be prohibited altogether, 2578—Houses should not be allowed to be inhabited till sewerage was complete, 2581—No power in commissioners to oblige owners to communicate with under-ground drains, 2582.

The Act should include powers to enforce paving the surface of courts and streets, 2588; and for performing all scavengers' work, 2589; and for putting gullies into the sewers, 2589—Objections to the Bill for metropolis sewerage; to several clauses, 2591—When any general Act is passed, there should be a competent person to see that it is carried into effect, 2592—A board of health might be appointed in different counties or districts, to report on the sanitary state of the various places, 2593, 2594—Difficulty of making sewers is the want of money; the expense ought to be spread over as many years as possible, 2594—The Bayswater sewer was executed by Government, by an issue of Exchequer Bills, to be paid off in 20 years, 2594—Some mode of this kind might be used to drain all towns, charging the capital on the rent of the houses, 2594.

White's Rents, Limehouse. Extraordinary improvement in the health of the inhabitants of, since the covering of an open sewer, *Heelis* 298, 299.

Whitechapel. Miserably neglected condition of the abodes of the working classes, *Rep.* p. v—The greater part of it is very badly drained, densely populated, and in many parts there is no current of air, *Smith* 61-64—Improvement that might be effected in the health of these neighbourhoods by proper sanitary regulations; efforts are making to improve the sewers, *Smith* 72, 73-77—Streets, courts, passages, and alleys, are without any drainage, and are extremely filthy and close; prevalence of fever, *Smith* 70, 71—Names of streets and courts in Whitechapel in which there is no sewerage, *Peeke* 2014—This district the filthiest imaginable, *Peeke* 2014; and very densely populated, *Peeke* 2015—Plan of courts between Whitechapel and Wentworth-street, *Pennethorne* 2883.

Whitechapel Union. Number of pauper fever cases which occurred in this union in 1838, *Smith* 17-21—Expense of fever cases to this union, *Smith* 30—Worst places in this union enumerated; they have been the constant abode of fever, *Byles* 178.

Wilkes, John Wood. (Analysis of his Evidence.)—Relieving officer of the Holborn Union, 411—Saffron-hill is very unhealthy; with the exception of Fleet-ditch, there is no drainage near it, 414—General want of drainage throughout the district, 415—There are numerous courts and alleys, some of which have no current of air, 416-418—The district is unhealthy, and there have been many fever cases, 419-423—Great expense is thrown upon the parish by them; a guinea is paid for each patient, 424, 425—The Irish frequently live five or six families together in one room, with a donkey, pigs, or stale fish, 426—Beneficial clause in the Metropolitan Police Courts Act, enabling the guardians to summon the owners of houses before magistrates to cleanse their property, 430—The English labourers are much more cleanly in their habits than the Irish, and not so willing to put up with anything; they are more free from fever, 436-438—At the time of the cholera there was a general cleansing of the parish by the Paving Board, 439—There is no want of fuel; much charitable relief is given; witness has generally found good fires, 440—There is no scarcity of water; it is supplied by the New River Company, 441.

Williamson, Dr. (Analysis of his Evidence.)—Physician, Leeds, 1667—Bad state of many parts of the north ward, 1676, 1677—Cases of malignant fever are continually sent to the fever hospital from Boot-and-Shoe-yard 1678—Arising from neglect as to cleansing, draining and ventilating, 1679—State of the north-east ward, 1683—Of the east ward, 1688—Of the north-west ward, 1690—There is no place for washing or drying clothes, sufficiently near the town to be generally available to the working classes, 1693—Improvement of cellar steps and openings necessary, 1693—Extreme deficiency of sewerage and drainage generally admitted, 1695, 1696—State of the sewer in Regent-street in 1839, 1697—State of houses in York-road, from neglect of sewerage, 1703—A legislative enactment necessary to meet the present evils, 1705-1707—Circumstances of many other towns similar to Leeds, and a remedy imperiously required, 1709—Houses of the lower classes continually built back to back; regulations as to ventilation absolutely necessary, 1710, 1711—Numerous alleys and yards in which free circulation of air is prevented from their construction, 1713—No adequate provisions at present exist to enforce sanitary regulations, 1715.

A great expense is cast upon richer classes, owing to illness and fevers generated by general neglect of the precautions mentioned, 1720—Sanitary regulations very opprobriously neglected, 1723—Increased powers of drainage and sewerage a great boon, 1724—No power to force householders to communicate with sewers, 1725—Any benefits arising from education would be very much neutralized by continued neglect of the cleanliness and decency of the habitations of the poor in large cities, 1730-1734—There are several large public schools for the working classes in Leeds; day schools and Sunday schools, 1735—With the exception of the infant school, none have playgrounds, 1736—Woodhouse-moor is used by the working classes for the purposes of recreation, &c.; partially drained, but not laid out, 1738, 1739—An annual fair, 1743—Supply of water exceedingly deficient, 1746—No provision for drainage, sewerage, cleansing, ventilating or building, 1749—Effect of bad atmosphere on human health, 1750-1756—State of the sewerage in the larger streets, 1757-1761—Former supply of water inadequate; a new company have obtained an Act, and a more ample supply is expected to be brought to the town in the course of two years, 1762—No system of filtration followed, 1768—Water used by inhabitants of a very impure description, 1769.

Under provisions of new Act arrangements exist for the gratuitous supply of the poor with pure water, 1770—Two public baths in Leeds, one for better classes, and one to a certain extent used by the working classes, 1774—Number of Irish resident in Leeds, 1779—Many profligate persons have been reclaimed by temperance societies; but temperance societies have not yet effected any general amelioration, 1786—Spirit-drinking prevails, 1757—Great number of lodging-houses; their condition dirty, crowded, neglected, and ill-ventilated, 1790-1793—There is no regular system of inspection, 1796—Many proofs of the diffusion of malignant disorders from the lodging-houses, 1797—State of Bradford, 1801—General necessity of some Legislative enactment, conferring powers for the purpose of sanitary regulations, is applicable to Bradford as well as Leeds, 1806—Huddersfield and Dewsbury, and other large towns in the West Riding of York, would benefit, very largely benefit, by some such general enactment as is proposed by the Committee, 1807.

[Second Examination.]—Paving and drainage and sewerage regulations, absolutely necessary, 1876—Proper regulations as to buildings and width of streets should be enforced, 1879—All classes of society would benefit, 1886—Local boards of health with extensive powers would be a most important benefit, 1888—System of inspection as to sanitary regulations most decidedly useful, 1889—All medical men, in every town of a certain standing, should constitute the members of a board of health, 1895—A general Act laying down regulations, which might be enforced by municipal or other authorities, 1899—Increase of houses in Leeds, 1901—Lodging-houses should be under some species of local regulation, or should be annually licensed, 1910—Number of lodging-houses has much increased, regulations proposed, 1916-1925—Food and clothing of the working classes better than formerly, 1930—Except among weavers, who

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who furnish a large number of cases to the public institutions, and who generally present a low condition of health, 1932—Evidence as to mortality of children in large towns, 1933. 1936.

Boards of health would be most conducive to the well being of the poorer classes, 1938, 1939, 1940—A most beneficial and humane regulation to send all pauper children out of town to school in all large towns, 1941–1945—Parts in which new cottages are generally improved as to building cellars, &c., in Leeds, 1948—If possible, the poor should be prevented, or rather discouraged from living in cellars, 1950, 1951.

Wood, J. R. (Analysis of his Evidence.)—Employed by the Statistical Society of Manchester in the investigation of several populous districts in Lancashire, 2130—State of Liverpool; summary of the number of courts in the borough town, 2271—Number of inhabited cellars, 7,493, 2137, 2138—Closeness of the courts from the want of outlets, 2141—Several of the courts have 16 houses, in one with 16 houses 40 families resided, 2143—Illness very prevalent in these courts; the expense of boards for coffins in one year 441*l.*, 2149—The district in which fevers principally prevailed, was that in which cellars abound, 2152—Rent of cellars 1*s.* 6*d.* to 3*s.* 9*d.* per week, 2155—Many houses in Liverpool built back to back without ventilation; this construction very injurious to the health of the inhabitants, 2160–2162—Principal part of the streets in which the poor live have only surface drainage, smell of cellars most offensive, 2164—Accumulation of filth in the streets, decayed vegetables, offal of fish, &c., 2165–2166—Bad health of children in these crowded districts, 2167—No regulation in Liverpool as to building, 2169—Good building regulations would be very favourable to the health of the working classes, 2170—Disgusting state of the privies, only one to a great many houses, 2171—Miserable condition of the schools round Scotland road, 2183–2185—Close and offensive atmosphere in the day schools; wretched state of dames' schools, 2185–2187–2197—Price of schools 2*d.* to 6*d.* per week, 2198—In some towns there is a regulation for sending the pauper children to school at a distance from the town, 2199—Effects of the use of bad water from pits in which dead dogs and cats have been thrown, and other offensive articles; this water nevertheless used for culinary purposes, 2205.

Cellar residences not so numerous at Manchester as at Liverpool, 2210—And of a superior description as far as light and ventilation are concerned, 2210—Cleansing and sewerage as bad in Manchester as Liverpool, 2216—Injurious effects on the inhabitants demonstrated during the cholera, 2217—Children living in those dirty filthy dwellings, with miserable inconveniences, would be lowered in their moral tone, nullifying the advantages of education, 2224, 2225—Deplorable state of dames' schools in Manchester, 2226—Witness does not recollect a single instance of a school for the working classes with a play-ground, 2231—Sanatory provisions highly necessary to the health of the lower classes, 2235—Regulations to enforce cleansing and ventilation are highly desirable to the health of the inhabitants, 2236—Want of these regulations aggravates very much the discontent of the lower classes, from a feeling that there is no sympathy for their comforts, 2238—These remarks generally apply to Staleybridge and Duckinfield, Ashton and Bury, although there are fewer cellar residents, 2241–2246 In Liverpool many instances in which old houses have been let out to various families; one, in which were five families, was blown down; loss of life in consequence, 2241.

Disease much aggravated by these miseries; witness observed remarkable cases of the spread of small-pox, measles, scarlet-fever, and whooping-cough, 2249—Drains and stagnant places left open in the populous districts immediately round Manchester and Liverpool, 2251—In Manchester, in the fronts of houses, there is constantly stagnant water at the fall of the year, 2253—Fevers and many complaints have been generated in these places by the want of sanatory provisions, 2257—Employed by Statistical Society of Birmingham, 2258—Had opportunities of seeing the state of the dwellings of the poor, 2267—State of poor very much better than at Manchester, of towns generally in Lancashire, 2268—Generally speaking, drainage is very superior, 2269—Too many of the back-to-back houses without a thorough air, 2270, 2271—Bad state of dwellings in the Bordesley district, 2274—Open sewerage in this district, 2281–2284—Dr. Corrie's account of the extent of fever in Birmingham, 2285—Supply of water in Birmingham very good, 2289—State of schools; 23,176 children who were receiving no education at Sunday or day-schools, 2295—Dames' schools better regulated than at Liverpool and Manchester, 2296—267 dames' schools, and 3,900 scholars, 2298—Schools in confined situations; small rooms, close and ill ventilated, 2300–2302—State of day-schools, 2304–2307—No play-grounds whatever attached to the schools, 2308, 2309.

The general condition of the working classes in Hull much better than in the Lancashire towns, 2322—State of courts in Hull; North Myton district, 2324–2331—State of North ward, St. Mary's ward, and Humber ward, 2332—System has commenced of building houses back to back, 2340—In many parts in the suburbs there are several open sewers, 2345—Day and dame schools much of the same description as in other towns, 2348—No play-grounds at all to the schools, 2347—State of lodging-

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Wooling, the act of, general bad character of the sheep, &c. &c.—No testimony of
 wooling, or of the quality of the wool, to be made. 1840-1841.—
 Wooling, the act of, &c. &c.—The number of sheep very small, &c. &c.

Wool, the act of, &c. &c.—Is used by working classes for purposes of recreation; is probably
 the same, Williams 1733.

Wooling, the act of, &c. &c.—Principal employment of the poor of Bradford, Ellens 1841.

Wool, the act of, &c. &c.—Their extraordinary life and misery, Symonds 1872-1873.

 Y.

Yard, the act of, &c. &c.—Filthy and lowly state of the streets, Mearns 1841, 1842.

 Z.

Zephyrus, the act of, &c. &c.—Exposed to the elements in a house without ventilation,
 &c. &c. 1841.

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