

we not forbid the renting of rooms in which putrid, damp, and noisome vapours are working as sure destruction as the worst food? Did people understand they were as truly poisoned in such dens as by tainted meat and decaying vegetables, would they not appoint commissioners for houses as truly as commissioners for markets? Ought not the renting of untenable rooms and the crowding of such numbers into a single room as must breed disease and may infect a neighbourhood, be as much forbidden as the importation of a pestilence?"\*

The astounding extension of the cotton manufactures has brought with it a corresponding enlargement of the population, and so rapid has been its increase that it has preceded all police regulations for the health and accommodation of the productive classes, until it has assumed an attitude which demands the attention of the legislature.

I have the honour to be, Gentlemen,  
Your faithful servant,  
CHARLES MOTT.

To the Poor Law Commissioners,  
13th February, 1841.

### No. 18.

ON THE SANITARY INQUIRY IN HIS LATE DISTRICT IN  
LANCASHIRE, &c.

BY ALFRED POWER, ESQ.,  
Assistant Poor Law Commissioner.

Malvern, Worcestershire, Dec. 2, 1840.

GENTLEMEN,—In pursuance of the instructions contained in your circular letter of the 23d November last, I proceed to report upon the inquiries which have been made in my late district as to the prevalence of certain causes of disease referred to in the letter of Her Majesty's Secretary for the Home Department, bearing date 21st August, 1839.

This Report will relate—

I. To the degree in which the diseases themselves referred to in Appendix A., No. 1., Fourth Annual Report, and Appendix C. No. 2. Fifth Annual Report, have prevailed in various localities of the district.

II. To the degree in which the causes specified in those Reports have been found to exist in the same localities.

III. To the suggestions which have been made on the subject of remedial measures.

\* Dr. Channing on the Elevation of the Working Classes.

I. AS TO THE DEGREE IN WHICH THE DISEASES REFERRED TO IN APPENDIX A., No. 1, FOURTH ANNUAL REPORT, AND APPENDIX C. No. 2, FIFTH ANNUAL REPORT, HAVE PREVAILED AMONG THE LABOURING CLASSES IN DIFFERENT PARTS OF THE DISTRICT.

The first class of materials available in illustration of this branch of the subject are the forms of statistical return issued by your Board to the medical officers of unions, requiring each officer to report the nosological names, &c., of every case attended by him in his capacity of medical officer during the year ended 29th September, 1840.

The statistical portion of these returns will probably have its greatest value in a general abstract of the whole, showing the degree in which the poorest class of inhabitants in England and Wales, namely, those receiving parochial relief, have been subjected to diseases of every description in the course of the year, under examination. I do not propose to avail myself of those statistics in this report.

The following summary of the cases which have been treated in the Liverpool Fever Hospital, during the years 1834, 5, 6, 7, 8, and 9, has been furnished to me by the master of the Liverpool workhouse, to which institution the hospital is attached.

SUMMARY OF THE CASES OF FEVER admitted into the FEVER HOSPITAL, at LIVERPOOL, from the several Wards of the Borough, during the Years 1834, 1835, 1836, 1837, 1838, and 1839.

Name and No. of Ward.	No. of Cases. 1834.	No. of Cases. 1835.	No. of Cases. 1836.	No. of Cases. 1837.	No. of Cases. 1838.	No. of Cases. 1839.	Total.	Population by Census of 1831.
Everton and Kirkdale } 1	5	4	12	22	3	6	52	7,109
Scotland Road 2	56	84	95	207	94	40	576	20,545
Vauxhall Road 3	290	256	265	576	175	146	1708	20,871
Saint Paul's 4	151	78	104	196	54	59	642	14,891
Exchange . 5	199	224	328	372	131	105	1359	12,605
Castle Street 6	82	105	157	183	42	51	620	8,469
Saint Peter's 7	42	39	76	124	35	31	347	9,256
Pitt Street . 8	73	52	95	148	32	47	447	12,561
Great George's 9	66	64	181	234	34	66	645	15,265
Rodney Street 10	12	23	23	50	14	6	123	9,322
Abercromby 11	8	25	37	27	8	39	144	10,691
Lime Street 12	31	44	59	78	35	34	281	15,863
Saint Ann's 13	56	67	163	18	30	43	477	14,875
West Derby 14	4	3	5	8	5	4	29	5,613
North Toxteth 15	10	20	35	68	18	24	175	24,667*
South Toxteth 16	15	9	52	37	23	26	162	
	1,100	1,097	1,687	2,448	733	727	7,792	

By reference to the accompanying map of the Borough of Liverpool it will be seen that the wards in which fever has most prevailed are those in the heart of the town, and contiguous to the

[2.]

\* The supposed amount of the part within the borough.

docks, while the wards adjoining the outskirts have appeared to be comparatively free.

This circumstance is probably owing to a combination of several causes: among the rest, perhaps, to the different character of the population resident in the two descriptions of wards and to the better state of external vegetation in consequence of the freer action of the winds on the outskirts of the town. It is observable, in reference to the latter cause, that the Scotland Road Ward, which is open to the country in the direction of Kirkdale and Bootle; and which has a population of 20,545, including many of the labouring class, does not supply one-third of the number of cases supplied by Vauxhall Road ward (population 20,871), and that it supplies not half so many cases as Exchange Ward (population 12,615), although it has nearly twice the population. Again, the Toxteth Park wards, on the other side of the borough, containing together a population exceeding 20,000, a large proportion of whom are of the lowest class, furnish a very small number of cases in comparison with the adjoining wards of the parish of Liverpool; while the wards of Everton, Kirkdale, and West Derby, containing altogether a population exceeding 10,000, have supplied only 81 cases in the course of the six years.

I have not been informed to what cause or combination of causes the sudden and remarkable decrease of the number of cases admitted into the hospital in the years 1838 and 1839 is to be attributed. I directed the attention of the medical gentlemen connected with the Fever Hospital to this remarkable fluctuation, deeming it probable that it might be connected, in some measure, with the great improvements which have of late years been effected in the drainage and otherwise, in the town of Liverpool, under the provisions of the local acts. Some observations which have been made upon this table by Dr. M'Rorie, and Mr. Nightingale, the senior physician and house surgeon of the Fever Hospital, will be referred to in another part of this report.

The following subdivision of the borough of Liverpool into two nearly equal portions, with the respective population, and number of fever cases annexed, will show how large a proportion of the cases have been supplied by those wards which are contiguous to the docks, and which are inhabited to a great extent, though not exclusively, by the lower class of the working population.—(See table, p. 245.)

Any conclusions, however, derivable from such a comparison as the above, must be qualified by the obvious consideration that it is only the cases of poorer patients which will be found in the books of the hospital, and that if the cases of fever had been equally distributed over the several quarters of the town in proportion to the population, the books of the hospital would still show a greater proportion from the quarters inhabited chiefly by the poorer classes.

Wards.	Popula- tion, 1831.	No. of Fever Cases in 6 Years.	Wards.	Popula- tion, 1831.	No. of Fever Cases in 6 Years.
Vauxhall Road	20,871	1708	Everton and		
Exchange Ward	12,605	1359	Kirkdale . }	7,109	52
St. Paul's .	14,891	642	Scotland Road	20,545	576
St. George's .	15,265	645	Rodney Street	9,322	128
Castle Street .	8,469	620	Abercromby .	10,891	144
St. Peter's .	9,256	347	Lime Street .	15,863	281
Pitt Street .	12,561	447	St. Anne's .	14,875	477
			West Derby .	5,613	29
			West, Toxteth		
			Park . }		
			South, Toxteth	24,067	175
			Park . }		
Total . .	93,918	5768		108,285	2024
Per centage of					
cases on popu-					
lation.			. . . 6.1 . . . . . 1.9		

There are dispensaries in many of the large towns of the district, and numerous clubs and societies by which medical assistance is provided for a great mass of the labouring population. The returns, therefore, derived from the medical officers of unions for one year, or even for several years past, would be manifestly but an imperfect means of indicating the proportion in which particular diseases may have prevailed among the labouring classes of any particular locality.

A more comprehensive view is that which is derivable from the new system of registration of deaths, embracing, as it does, every class of the community, but in which those cases only are enumerated which have ended fatally.

It appears important to refer to these registers for the purpose of ascertaining the comparative proportion of deaths which have occurred from the different classes of diseases in those which may be called the Town unions, and those which may be called the Country unions of the district, with a view to consider how far it may be necessary to apply to the latter any or all of the remedial measures which may be recommended for introduction into the towns.

The last report of the Registrar-general contains a classification of the several causes of death for the year 1838, which enables this comparison to be made without difficulty for that year; and for this purpose I adopt in part the statistical form suggested in the minute of your Board of the 13th November last, omitting the classification of the various callings of the individuals whose deaths are registered. I am fully aware of the value of that portion of the inquiry, but it is not in my power to pursue it at this time, as I have assumed the superintendence of another district.

TABLE of Deaths, distinguishing those caused by Fever and other Epidemic Diseases in the Unions and Districts undernamed during the Year 1838.

Name of Union or District.	Population by Census, 1831.	Total No. of Deaths in 1838.	Per Centage of Deaths by all Causes.	Deaths caused by Epidemic Diseases, and per Centage thereof.				
				Deaths by Fever.	Per Centage of Deaths by Fever.	Deaths by Small Pox, Measles, & Hooping Cough.	Per Centage of Deaths by Small Pox, &c.	Total No. of Deaths by Epidemic Diseases.
Liverpool . . . . .	165,175	6627	4.012	580	.351	559	.338	1139
West Derby . . . . .	53,058	1625	3.062	85	.160	113	.213	198
Ormskirk . . . . .	30,568	616	2.015	36	.117	70	.229	106
Fylde, Garstang, and Clitheroe . . . . .	51,016	1002	1.964	60	.117	46	.090	106
Lancaster . . . . .	33,415	720	2.154	26	.077	57	.170	83
Ulverstone . . . . .	22,563	436	1.932	35	.155	40	.177	75
Burnley . . . . .	48,017	1160	2.415	120	.249	47	.098	167
Todmorden, Haslingden.	58,701	1343	2.287	74	.126	33	.056	107
Blackburn . . . . .	60,594	1612	2.660	132	.217	64	.105	196
Preston . . . . .	59,355	1726	2.907	50	.084	148	.249	198
Chorley . . . . .	33,575	684	2.037	30	.089	12	.035	42
Rochdale . . . . .	52,337	1477	2.819	68	.129	102	.194	170
Bury . . . . .	62,599	1901	3.036	109	.174	199	.317	308
Bolton . . . . .	83,369	2432	2.917	155	.185	162	.194	317
Wigan . . . . .	58,402	1483	2.539	82	.141	120	.205	202
Leigh, Prescott	59,120	1514	2.560	92	.155	97	.164	189
Warrington . . . . .	27,757	765	2.756	62	.233	32	.115	94
Huddersfield . . . . .	88,772	1847	2.080	62	.069	174	.196	236
Halifax . . . . .	89,739	2098	2.338	99	.110	120	.133	219
Skipton, Sedburgh, Settle	47,322	982	2.075	46	.097	95	.200	141

It is desirable to arrange the foregoing districts in four classes, as follows:—

1. Liverpool, a town of first-rate magnitude, population exceeding 100,000.

2. Districts comprising towns of the second class, as Lancaster, Preston, Bolton, &c., population above 10,000, but not exceeding 50,000.

3. Districts comprising towns of a third class, as Burnley, Colne, &c., population above 5000, but not exceeding 10,000.

4. Districts chiefly agricultural, and comprising only villages or towns, with a population not exceeding 5000, as Clitheroe, Fylde, Garstang, &c.

The result of the comparison will appear in the subjoined Table:—

DISTRICTS.	Popu-lation, 1831.	Deaths by all Causes	Per Cent-age.	Deaths by Epidemic Diseases.					
				Deaths by Fevers.	Per Centage.	Deaths by Small-pox, &c.	Per Centage.	Total.	Per Centage.
Liverpool . . . . .	165,175	6,627	4.012	580	.351	559	.338	1139	.689
Districts including Lan- caster, Preston, Toxteth Park, Wigan, Blackburn, Warrington, Bolton, Ha- lifax, Huddersfield, Bury, Rochdale . . . . .	669,447	17,686	2.641	930	.138	2221	.331	3151	.470
Districts including Burnley, Colne, Todmorden, Heb- denbridge, Haslingden, Accrington, Chorley, St. Helen's, Leigh, Chow- bent, &c. . . . .	199,413	4,701	2.357	316	.158	505	.253	821	.411
Districts comprising the Agricultural Unions of Ormskirk, Fylde, Gars- tang, Clitheroe, Skipton, Settle, &c. . . . .	120,898	3,136	2.593	177	.146	428	.354	605	.500

It would appear from this comparison—

1. That in the town of Liverpool the general mortality is in the ratio of about three to two as compared with the three other classes of districts, while the mortality by fever is in the ratio of three to one; the mortality by small-pox, measles, and hooping-cough, taken together, being about the same as in the other classes of districts.

2. The general mortality in the districts comprising towns of the second class, as Lancaster, Preston, &c., is a little greater than in the districts comprising towns of the third class, and those in the

country districts; while the mortality by fevers is somewhat less in the former than in the two latter classes.

3. The districts comprising towns of the third class, as Burnley, Colne, Chorley, &c., show a less ratio of general mortality than the other districts, and also a less ratio of mortality by epidemic generally: but they show at the same time a greater mortality by fevers than the districts comprising towns of the second class, and also than the country districts.

4. The country districts show a general mortality nearly equal to the districts comprising the second class of towns, and a greater mortality by fevers as well as by other classes of epidemics.

The general result, then, of the registers for 1838 is that the country districts and the districts comprising towns of a smaller class have shown a greater ratio of mortality by fever than the districts comprising towns of a larger class, Liverpool only excepted. It is to be observed that the above tables are constructed according to the census of 1831, no allowance being made for the supposed increase between that time and 1838; and as the ratio of increase is greater in the more densely-peopled districts, the result last stated in reference to the country districts and smaller towns is strengthened by this consideration.

Having premised thus much as to the comparative prevalence of fever in the various localities of this district, I pass to the second branch of the inquiry.

## II. AS TO THE DEGREE IN WHICH CERTAIN CAUSES OF DISEASE ENUMERATED IN THE APPENDIXES TO THE FOURTH AND FIFTH ANNUAL REPORTS ARE STATED TO EXIST AMONG THE LABOURING CLASSES IN VARIOUS LOCALITIES OF THE DISTRICT.

The information relating to this branch of the inquiry is contained in the observations of the medical officers of unions, and of the several gentlemen who have voluntarily undertaken to make reports on the subject.

It will be useful to separate those statements which relate to town districts from those which relate to villages and other situations in the country, for in this way it will readily be seen what classes of causes more particularly prevail in each kind of locality.

The causes dwelt upon by Dr. McRorie, senior physician, and Mr. Nightingale, house surgeon to the Liverpool Fever Hospital, are the following:—

“The inhabiting of dark and damp cellars having no escape for carbonic or azotic gas.

“This remark equally applies to other dwellings up courts and with imperfect ventilation.

“From too great a number of persons living in a confined space.

“From living near to stagnant water, or to other sources of malaria or miasmata.

“Want of due attention to bodily cleanliness.

“Scanty or very poor diet, &c., &c., &c.”

See also the whole of Dr. Duncan's Report on Liverpool.

## 2. Observations on Causes of Fevers, &c., in Towns of the Second Class, in point of population and importance, viz., LANCASTER, PRESTON, TOXTETH PARK, WIGAN, BLACKBURN, WARRINGTON, BOLTON, and HALIFAX.

Town and borough of Lancaster. *Edward de Vitre, Esq., M.D.*

See the whole of Dr. De Vitre's able Report.

It is sufficient here to state that the causes chiefly dwelt upon by him are the following:—

Want of proper stench-traps to the drains and sewers in the main streets of the town.

Want of sufficient drainage and sewerage in the back streets and alleys.

Accumulations of refuse in various quarters.

Stream of water dammed up and rendered noxious by decomposition of animal and vegetable substances.

Want of internal ventilation of the dwellings of the poorer classes.

Want of cleanliness in lodging-houses.

Habits of intemperance.

Poverty, as affecting the quantity and quality of food.

Town and Borough of Preston. *James Harrison, Esq., Surgeon, Medical Secretary to the Board of Health at the period of the cholera.*

See the whole of Mr. Harrison's valuable communication, given in the Appendix to this Report.

The causes chiefly dwelt upon by him are the following:—

Imperfect state of the sewers and drains in some parts of the town.

Uncovered and stagnant state of drains and ditches.

Accumulations of filth and refuse.

Open and stagnant pools of water, with liquid manure draining into them.

Pigsties in small back yards, with the drainage flowing close to the houses.

Situation of slaughter-houses.

Deficiency of privies.

Situation of public burial-grounds.

Crowded state of dwelling-houses.

State of cellars used as dwellings, dark, damp, and ill ventilated.

Filthy state of the common lodging-houses.

Habits of intemperance.

Poverty, as tending to the use of innutritive and insufficient diet, and of scanty clothing.

Difficulty experienced in getting the infected removed to the House of Recovery.

Mr. Harrison has furnished another report as medical officer of the Broughton district of Preston union, which will be found extracted in another place.

*Mr. Halden*, Medical Officer of the Preston District of Preston Union, observes upon—

Cellar dwellings.  
Crowded and filthy state of lodging-houses.  
Narrow streets and courts.  
Confinement in factories or at the loom.  
Deficiency of food and clothing.

*Mr. Scott*, Medical Officer of Toxteth Park, District of West Derby Union, observes upon—

Damp, small, and crowded cellars.  
Crowded and filthy state of other rooms.  
Dwellings in back courts.  
Want of receptacles for refuse.  
Want of bedding, and other discomforts.

*Dr. Pearson*, Medical Officer of the Wigan District of the Wigan Union—

Filthy condition of the town; some of the streets unpaved and covered with stagnant water, in which animal matter is accumulated and decomposed.

Want of privies.  
Filthy habits of Irish inhabitants.  
Waste land covered with stagnant water full of putrefying matter.  
Confined yards and courts in filthy state, with large dung-heaps.  
Drains choked with filth, and in bad repair.  
Crowded state of common lodging-houses.  
Improper quality of food, and insufficiency both of food and clothing, aggravated by want of work and decline in the rate of wages.

The above report is confirmed by the testimony of *Dr. Stuart*, who also dwells on—

The extreme poverty of the lower orders, aggravated by imprudence and improvidence.

Filthy domestic habits of the Irish, and proneness to congregate in large numbers in dwellings.

*Mr. Wilding*, Medical Officer of Blackburn District of Blackburn Union—

Intemperate habits of the poor.  
Want of cleanliness in person and dwelling; wearing the same clothes; sleeping together when the fever rages in the house or room.  
Want of ventilation, washing, &c., and crowded state of rooms.  
State of common lodging-house, and of the dwellings of the more needy Irish.

*Mr. Hunt*, Medical Officer of Warrington District of Warrington Union—

Drainage of the town considered defective.

Situations cold and damp, or little ventilated.  
Congregating together of the poor Irish.

*Mr. Heap*, Medical Officer of Bolton District of Bolton Union—

Cellars or houses in confined situations.  
Vegetable and animal substances in a state of decomposition, and refuse thrown from the houses.  
Habits of the lower classes.  
Back and front dwellings—cellars ill ventilated and filthy.  
Insufficient number of privies and receptacles for filth.  
Crowded state of dwellings.  
Inferior lodging-houses crowded by mendicants.  
Want of cleanliness in person and habitation.  
In part of the town occupied by Irish, pigs kept in cellars or close to door of the house.  
No hospital for infectious diseases.  
Want of common necessities of life.

*Mr. Greenwood*, Medical Officer of the Halifax District of the Halifax Union—

Deplorable state of dwellings in certain quarters of the town.  
Irish lodging-houses for vagrants and trampers of the lowest description and most abandoned habits.

Want of attention in clearing away offensive matter in sewers, cess-pools, privies, pigsties, &c. surrounding the houses, and sometimes opening close to the doors.

Neglect of the owners of such property.

Instance given of a cottage, the cellar of which is constantly flooded with water, floor of the cottage partially unpaved and constantly damp; the family have suffered much from typhus, and three of them now ill with scarlet fever. The owner refuses to open the drains.

Compulsory draining and purifying of cottages much wanted.

3. *Observations on Causes of Fever in Towns of the Third Class, in point of population and importance, viz. BURNLEY, COLNE, PADHAM, ST. HELEN'S, PRESCOT, CHORLEY, LEIGH, HASLINGDEN, ULVERSTONE, KEIGHLEY, BINGLEY, and ELLAND.*

*Mr. Hargreaves*, Medical Officer of Burnley District of Burnley Union—

Both in town and country, accumulations of refuse thrown into a channel in front of dwellings.

Not much attention to sufficiency of drains and sewers, and removal of noxious substances.

Too many persons in one apartment.  
Privies inconvenient, and too few.  
Residences unduly crowded.  
Want of proper nourishment and efficient clothing.

*Mr. Ayre*, Medical Officer of Colne District of Burnley Union—

Animal and vegetable substances in a state of decomposition, in nearly all the back streets of the town, mixed with ashes and night-soil.

No scavengers; filth collected and kept for manure.



Town built on a hill, and nearly all the streets have a slope, but none drained, except by a gutter.

Greater part of the houses of the poor built back to back in rows.

Cellar, in almost all cases, let off to a different family.

No thorough draught or ceiling to the ground-floor apartment.

No attention paid to ventilation. Many of the windows not made to open; neither, at the same time, sufficient regard to warmth.

Want of sufficient receptacles for filth; eight or ten only to forty or fifty cottages. Nearly all open, and most out of repair.

Lodging-houses much crowded.

Want of cleanliness both in persons and dwellings of poorer classes. Pigs, donkeys, and fowls commonly kept in the same room with the family, and, in innumerable instances, close to the doors and windows.

Want of proper nourishment and clothing.

Cesspool for refuse from slaughter-houses in thickly populated parts, into which animals, and sometimes children, fall.

*Mr. Holt*, Medical Officer of Padiham District of Burnley Union—

All the back streets deficient in cleanliness.

Quantities of stagnant water, full of all sorts of putrefying matter.

No drains nor proper receptacles for refuse provided.

Houses badly ventilated.

Tenements filthy, and a few unduly crowded; sometimes six persons in one bed.

Lodging-houses formerly much crowded, but not so bad since the introduction of rural police.

Piggeries not uncommonly close to the door.

In some few instances, disease imputable to want of food and clothing, but majority of cases to the causes above specified.

*Mr. Blundell*, Medical Officer of St. Helen's District of Prescott Union—

Instance given of typhus in a close yard, where filth of every description allowed to accumulate, together with bad drainage. In this situation fever generally prevails.

Case of synochus. The house small and dirty, all the inmates attacked. Fever of a severe and fatal character has prevailed in this district for two years without intermission. It is at all times particularly damp in consequence of water which is raised from coal-mines in the vicinity, not being able to get away.

*Mr. Atty*, Medical Officer of Prescott District of Prescott Union—

Fever prevails more or less throughout the year, principally owing to the low Irish who inhabit the most confined and damp situations, and are filthy in the extreme; in many instances, having pigs in their houses, and in one or two instances, where fever of a virulent description prevailed, using the back room as a dunghill.

Lodging-houses crowded to excess during harvest—10 or 12 in one small room with neither fire-place nor window that can be opened.

Filthy habits and bad drainage.

No fever ward attached to the town.

*Mr. Bamford*, Medical Officer of Chorley District of Chorley Union—

Refuse matter thrown in front of the houses and kept for manure for the farmers.

Sewers not in a good state, their contents being impeded by an obstruction at their common opening.

Cottages too frequently without windows that may be opened.

Not proper receptacles for filth.

Cottages frequently unduly crowded, and many in a filthy state.

In some instances disease has arisen from insufficiency of nutritious food, but rarely where proper attention paid to objects above mentioned.

*Mr. Anderton*, Medical Officer of Leigh Union—

Case of typhus mitior. An aggravated case in a neighbourhood notorious for filth and dirt.

Wide and open sewers, on the level, with no means for their contents to escape.

Street ill-paved; large holes and excavations in which animal and vegetable refuse, mixed with the washings of the street, are allowed to remain and decompose.

Habitations generally low, ill ventilated, and confined.

Rooms small and dirty—white-washing neglected; constructed so as not to admit of ventilation.

Rooms unduly crowded, five, six, and seven individuals in one bed.

Dwellings double, that is, back to back.

Privies in front and close to the doors, with reservoir open and uncovered.

Bad food and clothing, the former frequently unsound.

*Mr. Stansfield*, Medical Officer of Haslingden District of Haslingden Union—

A bad fever broke out about two years since, arising from accumulation of filth and refuse matter from the houses, the situation being low and no sufficient sewers, aided by habitual want of cleanliness in the inhabitants and their residence in houses not large enough for their families.

Cottages constructed without means of ventilation, built in rows back to back.

Stench and effluvia from persons of those daily occupied in mills and manufactories.

Windows constructed without slides, so that no air can be obtained without taking out a pane or two of glass.

*Mr. Postlethwaite*, Medical Officer of Ulverstone District of Ulverstone Union—

Several instances given of fever occurring in situations where the drainage is bad, animal matter accumulated and putrescent, or dwelling badly ventilated and confined, and inmates indolent.

Formerly ague in Ulverstone, but after the drainage of marsh-land in the neighbourhood ague has disappeared.

In the same manner, if local nuisances could be removed and lime-

washing, &c. be enforced, fever would be abated in the same manner as the ague.

No house of recovery.

Termination of the fever much dependent on the character of the dwelling.

*Mr. Milligan*, Medical Officer of Keighley District of Keighley Union—

In some parts of the town fever seldom or never absent.

This happens where the streets are unpaved and no sewers, where privies are in close apposition to dwellings, and night-vessels and vegetable refuse emptied into the streets for want of other convenience, the effluvia forming a constant source of irritation and disease.

In country districts in the neighbourhood, land superirrigated to a great extent, and hence arises miasm, productive of fever.

Habits of intemperance, distress, and poverty, through depression of trade.

*Mr. Hartley*, Medical Officer of Bingley District of Keighley Union—

Those principally affected by fever who are of—

Slovenly, indolent habits; residing with large families in small dwellings; ill ventilated, and not supplied with the usual drains or receptacles of refuse, causing large accumulations of filth, decayed vegetable matter, and stagnant fluid.

Use of unsound corn.

Situation of the town low, bounded on one side by the river, on the other by the canal.

*Mr. Brook*, Medical Officer of Elland and Greetland District of Halifax Union—

Case at Greetland of a family afflicted by typhus. Private road in front of the dwelling a receptacle of filth and refuse from neighbouring dwelling, and no drains to carry off the accumulation.

Similar case at Elland in a family of clean habits, produced entirely by the poison arising from various sorts of filth surrounding the dwelling.

Dirty state of the back of New-street the cause of fever, which is almost always prevailing there.

4. *Observations on Causes of Fever, &c., in Villages and other Country Situations comprised in the following Unions, viz., LANCASTER, PRESTON, WEST DERBY, WIGAN, BLACKBURN, BOLTON, WARRINGTON, BURNLEY, CHORLEY, HASLINGDEN, ULVERSTONE, ORMSKIRK, HALIFAX, SKIPTON, SETTLE, and KENDAL.*

Lancaster union, country districts.

See the latter part of Dr. *De Vitre's* report; tract of land toward the sea, flat, swampy, and only partially drained.

People occupied in fishing on the coast much exposed to fever.

Refuse fish allowed to accumulate and decompose near their dwellings.

Cottages badly lighted and ventilated, and frequently damp.

Cottages densely crowded.

Construction worse than in the towns.

Thriftless and improvident habits of fishermen, with some exceptions.

*Mr. Corles*, Medical Officer of Longton District of Preston Union—

Case of ague. Patient in a cottage with stagnant ditch behind it, and predisposed by insufficient supply of nourishing food.

Disorder of general health. Cottage unflagged and damp, and ill-ventilated; stagnant ditch with dung-hill before the door. Inside of the house clean and orderly.

Ague formerly prevalent, but owing to better system of drainage now extremely rare.

Five cases of fever from cold and wet operating on constitutions predisposed by irregular and insufficient diet.

*Mr. Spenser*, Medical Officer of Walton District of Preston Union—

Cellars with clay floors, very damp.

Bedding scarce. In many cases, man, wife, and three, four, or five small children on one small chaff-bed.

Fever prevails above other diseases, particularly among the hand-loom weavers, through unwholesome food and want of good and sufficient clothing, added to the damp and unhealthy places in which they weave, which are cellars with ground-floors.

*Mr. Harrison*, Medical Officer of the Broughton District of Preston Union—

Great part of the district consists of low, flat land, insufficiently drained, with wide stagnant ditches, into which the manure drains from the land and manure-heaps, and sometimes from open hog-holes.

Four cases of typhus now existing among a colony of Irish, whose dwellings are surrounded with water impregnated with animal and vegetable refuse.

Cottages built of mud, with ceilings so low that it is frequently impossible to stand upright.

Doors very small; windows seldom a foot square.

Floors generally covered with clay, sometimes with no covering whatever.

Sleeping-rooms confined, with too many beds crowded into them; sometimes no window, in other cases very small, and without casement or means of ventilation.

Poor employed on the land or at the loom at low wages, consequently subject to great depression of spirits, and fed on innutritious and insufficient food.

*Mr. Stanning*, Medical Officer of Walton District of West Derby Union—

Situation of this district high and dry, and seldom infected by malaria.

Great source of disease is the badly-ventilated and crowded state of the sleeping-rooms, and want of bedding and bed-clothes.

*Mr. Fisher*, Medical Officer of No. 5 District of Wigan Union—

General typhus nearly always exists among the poor weavers and

nailors, whose diet is very poor and scanty; and the more malignant cases among those who pay little attention to cleanliness and ventilation, and whose houses are often situated in very low, damp, or flat situations, so that they were nearly surrounded by filth and moisture.

*Mr. Mather*, Medical Officer of Ashton District of Wigan Union—

Want of sufficient food and raiment.

Malaria from cesspools situated two or three yards from the doors of cottages.

Cottages damp, filthy, and ill ventilated.

Sleeping-rooms unduly crowded, seven or eight sleeping in one room.

Sleeping in the same bed with the diseased.

*Mr. Pennington*, Medical Officer of Upholland District of Wigan Union—

Locality itself favourable to contagious disease.

Houses situated in dales interspersed with hills, where water and mud are emitting constant effluvia from insufficient drainage and occasional inundations.

Houses badly constructed, most of them only one story.

Accumulations of refuse close to the doors.

In winter, great distress among the nailmakers, weavers, and stone-masons, and fever prevails to a prodigious extent.

Scarcity of food; little, bad, and irregularly taken; also thin and bad clothing.

Disregard of cleanliness, ventilation, and white-washing.

*Mr. Shaw*, Medical Officer of Hindley District of Wigan Union—

Fever in Ince; some of the cases of a most malignant form; most of them in Broom-street, Ince, a very uncleanly place, with pools of stagnant water, decayed animal and vegetable matter, and many other nuisances of a like description, lying in heaps from one end of the street to the other.

*Mr. Morris*, Medical Officer of West Houghton District of Bolton Union—

Fever more or less prevalent at intervals in every township of the district.

Accumulations of animal and vegetable matter close to the dwellings, which remains decomposing until there is a sufficient bulk to be removed for manure.

Cottages generally crowded.

Gross want of cleanliness in some of them.

Want of common necessities of life.

*Dr. Anderton*, Medical Officer of Hulton District of Bolton Union—

Fever prevalent in most parts of the district, recurring occasionally.

External state of the dwellings good. Fevers appear more frequent where families live in cellars and houses where they sleep and live in the same apartment.

In some places filth accumulates near the cottage doors.

Contagion the chief cause.

*Mr. Robinson*, Medical Officer of Lever District of Bolton Union—

Undrained and dirty situations.

In several hamlets in the district there are accumulations of refuse near the houses, without drains.

Houses in the country better ventilated and more roomy than in the town, where they are built back to back.

Dirty, ill-fed, ill-clad persons more susceptible than the cleanly.

*Mr. Barron*, Medical Officer of Newton District of Warrington Union—

Typhus frightfully prevalent in township of Haydock.

In one row of cottages, consisting of nine or ten, more sickness than in all the rest of the township, consisting of 2,000 inhabitants.

This spot, unwholesome by reason of cesspools, privies, and other accumulations of animal and vegetable matter by which the inhabitants were surrounded, but during the last few weeks much improvement has been made.

*Mr. Wood*, Medical Officer of the Marsden and Barrowfield District of Burnley Union—

Habits of extreme filthiness and extreme intemperance.

Uncovered drains.

Putrefying animal and vegetable refuse thrown out in front of the houses.

Exposed privies and privy soil.

Neglect of lime-washing.

Numerous and large families crowded together in small cottages.

Great poverty, partly owing to the lowness of wages for cotton-weaving, but in many instances to be entirely attributed to intemperance.

*Mr. Hartley*, Medical Officer of Rossendale District of Haslingden Union—

Personal uncleanness.

Crowded state of sleeping-rooms.

Windows opening not more than one foot square.

Some parts of the district in a most filthy state, a disgrace to the persons owning the property.

Rawton-stall-fold and Back-lane most conspicuous, without soughs, drains, or sewers; impassable in wet weather; accumulation of dirt until sufficient to remove for manure.

Fever prevailing in consequence every year.

*Messrs. Redhead and Cartwright*, Medical Officers of the Cartmel District of Ulverstone Union—

Village of Lindale much exposed to fever, being walled in on three sides by high and mountainous elevations, preventing access to currents of air, and on the fourth bounded by upwards of eight acres of marsh land.

Population filthy, and living in tenements ill-provided with privies and proper receptacles for filth, with piggeries and manure-heaps immediately under their windows.



Many of the bed-rooms of the poor have no aperture at all for the admission of fresh air, except the door, and the majority merely an opening of a few inches.

Out of 400 inhabitants of the village, 300, in times of sickness, are dependent on the parish, two-thirds of which are cases of contagious fever.

The marsh-land above mentioned was rescued from the sea by an embankment, twenty years ago, the outlet to which is not sufficient.

N.B.—Some of the oldest inhabitants inform us that, previous to the embankment, no contagious fever was known at Lindale.

*Mr. Blundell*, Medical Officer of North Meols District of Ormskirk Union—

In a part of the parish called the Banks fever prevalent in intervals.

Animal and vegetable filth accumulating before the doors of the cottages; draining not attended to, and stagnant pools formed round the dwellings.

The country flat; most of the surrounding land undrained; water issuing from bog-land very unwholesome in summer.

Cottages unduly crowded; two or three families in a house.

Want of food and clothing the cause of disease in some cases.

*Mr. Wilson*, Medical Officer of Burton District of Kendal Union—

Out of eighty-two patients, twenty-four cases of typhus fever, occurring chiefly at Holme Mill.

Situation bad. Two mill-dams not cleansed out for some time, with vegetable decomposition continually going on.

Dwellings ill ventilated and dirty.

Want of receptacles for refuse.

More elevated parts of the same district quite free from infectious disease.

Observations of a similar tendency, and exhibiting some or other of the causes already described, have been received from the medical officers of other country districts, namely,—

*Mr. Burns*, of Hawkshead, in Ulverstone Union; *Mr. Robertson*, of Earl Sowerby and Norland District, in Halifax Union; *Mr. Marchant*, of the Warley District, and *Mr. Holmes*, of the Hipperholme and Brighouse District, of the Halifax Union; *Mr. Bentham*, of the Bradley District of Skipton Union; *Mr. Robinson*, of Settle and Armcliffe District of Settle Union; *Mr. Burrow*, of Long Preston District of the same Union; *Mr. Smith*, of the Ambleside District, and *Mr. Messenger*, of the Browness District, of the Kendal Union.

The general results of the observations extracted, as above, from the returns of medical officers and other reports, may be stated as follows:—

1. In Liverpool, where the mortality by fever is greater in the proportion of three to one than in any other parts of the district, and nearly equal to that of the metropolis, similar causes appear to exist to those enumerated in the Metropolitan Reports. It is probable that one of the

causes which mainly distinguish towns of this magnitude from those of the second class, in regard to the rate of mortality by fever, is the comparative want of external ventilation in the innermost parts of the town, those parts not allowing a sufficiently free access to the winds which prevail at certain periods for the effectual dispersion of malaria. The remarkable difference which the returns of the Liverpool Fever Hospital exhibit, between the external and internal wards of the borough, tends to confirm this supposition.

2. In the second class of towns, which range from 10,000 to 50,000 in population, such as Lancaster, Preston, Wigan, &c., the same classes of causes tending to the propagation of fevers are stated to exist as those described in the Metropolitan Reports. This state of things must be considered, however, to exist only in a partial degree in the second-rate towns of Lancashire and Yorkshire, in many of which the main streets are well drained and cleansed, while in some of them there are local Acts for paving, cleansing, and draining; although in very few cases, which will be particularly mentioned hereafter, do those Acts contain sufficient powers for the proper execution of these purposes. In some of the towns of this class, as Rochdale, Bury, and Wigan, no local Acts exist for the purposes above mentioned; and in Wigan the description given of accumulated filth and want of drainage in some parts of the town are far worse than in any other of the towns of this class. From Bury and Rochdale we have no reports; but I am led to believe that in some parts of those towns the sewerage and drainage is extremely defective.

3. In towns of the third class, as Burnley, Colne, St. Helen's, &c., where the amount of population ranges from 5,000 to 10,000, and in the districts comprising which the rate of mortality by fever is greater, according to the registers of 1838, than in the districts comprising towns of the second class, as Lancaster, Preston, &c., the reports of the medical officers describe the existence of nearly all the causes enumerated in the metropolitan reports. The reports of the town and union of Leigh, and that of Colne, are particularly worthy of attention: From these descriptions, from personal observation, and from the ratio of mortality by fever, shown by the registers of 1838, there is reason to suppose that the towns of this class are at least equally in want of legislative interference as the larger towns of the second class, more especially as the former are at present wholly without the advantages, imperfect as they are, obtained in some of the second-rate towns, by means of local Acts. In addition to the third-rate towns already named in this report, there are in Lancashire, and in the manufacturing parts of the West Riding of Yorkshire, a great number of villages already populous and fast increasing in population, in which the want of proper paving, drainage, and sewerage is very strongly set forth in the reports of the medical officers. For examples of this latter class of places, refer to the reports from Padiham, in Burnley union; from Hindley and Ince, in Wigan union; from Elland and Greetland, in Halifax; and from the Rossendale district of Haslingden union.

4. In the country districts, several of the causes enumerated in the metropolitan reports are stated to prevail, more particularly the following:—want of external as well as internal cleanliness of the dwellings; want of internal ventilation, the windows being too small, or without

openings, and no thorough draught; accumulations of refuse; imperfections of drainage; the crowded state of the rooms; habits of intemperance; the progress of contagion for want of removal to hospitals; undrained lands.

It is manifest that upon some, if not all of these causes, legislation might operate with effect, and the high rate of mortality by fever, prevailing in the country districts, as compared with all but the largest class of towns, as Liverpool, &c., recommends them strongly to the consideration of Parliament.

There are certain causes referred to in some of the medical reports from this district, as tending to promote fever among the labouring classes, which have not been mentioned in the metropolitan reports, and which have probably been omitted there as unconnected with the subject-matter of inquiry, namely, the want of sufficient and wholesome food, and of proper and sufficient clothing; the latter being dwelt upon more especially in connexion with the sudden changes of temperature to which the climate is exposed.

It is to be presumed that an insufficient supply of the common necessities of life, wherever it might exist, would predispose the system generally to disease; and, so far as appears from those reports, especially to diseases of a febrile character.

There exists, without doubt, amongst a portion of the labouring classes of this district, particularly the Irish (great numbers of whom are located in nearly all the towns), a great degree of indigence, aggravated occasionally by the reverses of trade, but still existing independently of any such circumstance, through the habits of the sufferers themselves, their improvidence, their intemperance, and the low estimate they have of the advantages of wholesome food, proper clothing, clean and commodious lodgings, and the other ordinary comforts of civilized life.

A liberal supply of the public charity would tend, in the long run, to encourage the indigence arising from such causes; and it is probable that the only legislative measures which can be brought to bear with effect upon the general condition of these persons are such as may raise them in the scale of social beings, promote a due estimate of the ordinary comforts of life, and thus impart the stimulus, now wanting, both to exertion and to the provident and economical use of the earnings derivable from their labour.

Some of the medical gentlemen who have dwelt most upon the topic have given remarkable testimony on this subject.

Mr. Scott, of West Derby, after a description of the miserable condition of the fever patients attended by him, which has already been extracted, observes—

“I have met with many similar cases of misery; yet, amidst the greatest destitution and want of domestic comfort, I have never heard, during the course of twelve years’ practice, a complaint of inconvenient accommodation.”

Mr. Harrison, of Preston, states—

“Much might be done to better the condition of the labouring population, by the efforts of societies having a tendency to encourage economical habits, and the exercise of a prudent foresight that anticipates and provides for evil days. A great proportion of the poverty existing in manufacturing districts arises from improvidence. Many of our now indigent poor, or their parents, have been in circumstances that admitted of considerable savings. I have known many families whose income has exceeded 100*l.* a-year, who, in times of sickness, have been in great distress, and even some who have been obliged to have recourse to the parish for assistance. And I am acquainted with several families now, of the best-paid class of workpeople, whose total weekly earnings will average 2*l.*, and in some cases 3*l.* a-week, who, should sickness overtake the head of the family, and some of the principal workers among the children, would be thrown upon the parish. I have been convinced, from extensive observation, that the masters of these people have it in their power to improve the condition and happiness of their workpeople, beyond what can be effected by any other agency.”

It will be observed, at the same time, that the evil of poverty or indigence is seldom otherwise described in these reports than as predisposing to the reception, and tending to the spread of fever, and that it is not usually placed on the same footing with other more active and exciting causes.

Although not exactly within the scope of this inquiry, which relates solely to the labouring classes, it may be right to mention here, that since my attention was directed to this subject, a great number of instances have been mentioned to me, of fever breaking out in the families of wealthy and opulent persons, which have been distinctly traced to the existence of effluvia, arising from imperfect drainage, under or near their dwellings, and which can have had no connexion with the want of sufficient and wholesome food, or of the other necessities of life.

Some of the returns forwarded by the medical officers of unions in this district exhibit large tracts of country as free, or comparatively free, from contagious disease, and from those local causes which appear to have been most active in promoting disease elsewhere; and such districts are sometimes exhibited as presenting no necessity for the introduction of sanitary measures.

These have appeared to me a most important class of statements, as showing, in many instances, the favourable state of circumstances usually accompanying freedom from disease. It is instructive, also, to compare the number and character of this class of communications with those which have been already given of an opposite tendency.

Many of these statements relate to districts comprised in unions, from other parts of which the medical officers have represented the existence of the most malignant causes of disease, and the necessity of introducing efficient sanitary measures.

Examples of such a diversity of circumstances are found in the different rural districts of the Ulverstone, Kendal, Blackburn, Preston, Prescott, and Halifax unions.

*Observations showing the comparative freedom of certain districts from contagious disease, and from those causes of disease which are removable by sanitary measures, have been received from—*

Mr. Eccles, of the Alston district of Preston union; Mr. Bury, of the Little Bolton district of Bolton union (for further explanation of which, see Mr. Ashworth's statements, given below); from Mr. Pickop, of Mellor district of Blackburn union; from Mr. Pickop, of Witton district of Blackburn union; from Mr. Hunt, of Croft and Rixton district of Warrington union; from Messrs. Parkinson, of the Habergham Eaves district of Burnley union; from Mr. Ashworth, of New Church district, and from Mr. Horsman, of Accrington district of Haslingden union; from Mr. Pearson, of the Woolton district of Prescott union; from Mr. Dickinson, of the Colton district of Ulverstone union; from Mr. Burns, of the Hawkshead district of Ulverstone union; from Mr. M'Lachlan, of the Shelf and Queen's Head district of Halifax union; from Mr. Lowery, of the Kirby Lonsdale district, and Mr. Armitstead, of the Millthorpe district of Kendal union; from Mr. Greenwood, of the No. 3 district of Kendal union; from Mr. Bryden, of the Muncaster district, and Mr. Fish, of the Millom district of Bootle union; and from Mr. Hodgson, of the Clapham district of the Settle union.

In a few of the reports last referred to, the necessity for sanitary measures is questioned in localities where fever is admitted to prevail; while, in the greater part of them, the absence of those causes to which sanitary measures would apply is described as leading to a comparative freedom from febrile disorders; and it is frequently observed that, under such circumstances, the poorest classes are no more liable to be attacked than the most opulent.

On comparing the testimony of those medical gentlemen who urge the adoption of sanitary measures, with the testimony of those who dispute the necessity for such proceedings, there is certainly a great preponderance in favour of legislative interference in every description of locality comprised in this district, in the country districts as well as in the larger and smaller class of towns.

Although the inquiry has not been extended in specific terms to the consideration of remedies, it appears important to set forth the suggestions which have been made by those medical gentlemen who have reported their opinions on this part of the subject.

I now pass, therefore, to the third branch of this report; namely, the consideration of those—

### III. SUGGESTIONS WHICH HAVE BEEN MADE ON THE SUBJECT OF REMEDIAL MEASURES.

Many suggestions of remedial measures are contained in the reports of the medical gentlemen above referred to; but, as most of those measures have already been submitted to the consideration of the legislature, it will be sufficient to give a brief summary of the suggestions contained in the medical reports.

Most of the remedial measures suggested appear to be as applicable to villages and country situations as to towns; such are the following:

*And first, in reference to the construction of future dwelling-houses.*

The provision of proper drainage;

The provision of sufficient means for internal ventilation, by regulating the size of the windows and their openings, and possibly by insisting on a thorough draught; the system of building houses back to back being wholly prohibited for the future;

The provision of sufficient privies, and other receptacles, in proper situations;

The regulation of apartments to be built hereafter for dwellings below the level of the adjoining ways;

*And, in reference to dwellings already built, as well as those to be built hereafter, the following:*

Drainage, where necessary, at the expense of the owners;

Periodical lime-washing, at the expense either of owners or occupiers;

Removal of filth and refuse at proper periods;

Filling up of stagnant pools and ditches in the immediate neighbourhood of dwellings;

Proper surveillance and inspection for effecting the above purposes;

The provision of fever hospitals; say one in connexion with every union workhouse.

All these measures appear to be called for, and applicable in certain parts of the rural districts, as well as in certain parts of the towns, and to be equally attainable without limitation of the rights of private property beyond what may be fairly claimed for the health and security of the public. It would appear, indeed, from a careful examination of the causes alleged to exist in town and country districts, that the want of external ventilation, the position of public burying-grounds, of slaughter-houses, and other noxious establishments, existing on a large scale, are the only evils peculiar to the towns, although many of the other causes, without doubt, exist in an aggravated degree in the denser and worse inhabited portion of the towns.

The evils of intemperance, want of personal cleanliness, and the too great crowding in lodging-rooms (which are much dwelt upon,

both in the town and country reports), are of a class to which sanitary measures will scarcely be considered to apply. The effect of the last of these evils, in promoting and spreading fever, has been strongly set forth in the medical reports; and some of them have gone so far as to recommend legislative interference in regard to the number of persons to be accommodated in dwellings or rooms of a certain size. It is probable that, although not a proper subject for legislative interference, the effect of this cause of fever has not been overrated in the reports; and there exists, perhaps, on this account, the more occasion for caution in limiting the rights of private property, and in regulating the construction of future dwellings, lest, by too rigid a course, capital may be driven from the building of the lower class of houses and cottages, and the crowding of the poor in cellars and other apartments thereby proportionably increased.

I have now carefully gone through those reports which have been received from the medical officers in my late district, and have set forth the effect of them to the best of my ability. I regret to say that many valuable communications which were promised, and have been expected, have not, up to this time, been received.

I have already made some observations on the imperfect powers of the local Acts now existing in some of the large towns of Lancashire, as regards the provision of effectual sanitary precautions.

It will be right to state here, that great exertions have been made during the last few years, under the Liverpool Sewerage Act, with corresponding advantage and benefit to the town. Whether the great reduction of fever cases treated annually in the hospital has been owing, in any degree, to the proceedings taken under the authority of that Act, I have not been able satisfactorily to ascertain.

In the second-rate towns of Lancashire, comprised within my district, I have met with one instance of a local Act giving efficient powers to the trustees appointed under it, to conduct the paving, drainage and sewerage *both of present and future* streets, and to regulate the proceedings of the owners of building property in such a manner as to secure considerable advantages to the public, and to the inhabitants of the town. The instance I refer to is the Police Act for the township of Little Bolton, which forms part of the borough of Bolton, obtained in the 11th Geo. IV.

Having heard from several quarters of the salutary operation of this local Act, I took an opportunity of examining one of the trustees, Mr. Edmund Ashworth, a gentleman of great judgment and experience, and largely interested in the township, on the subject of the Act, to the execution of which he appears to have devoted great attention from the first period of its enactment.

Mr. Ashworth's evidence, which will be given hereafter, induces me to give, in the first place, the following abstract of certain sections of this Act:—

*Abstract of certain Sections of Little Bolton Police Act.*

Sections 56 and 57 provide for scavenging, under the direction of the trustees.

58 imposes a penalty of 40s. on persons casting any dust, dirt, dung, offal, rubbish, or other filth, into any street, or casting any of the above matters, or any animal, or carcase, or noxious ingredients, or any other substance, into any common sewer, drain, sink, public or private well, pump, canal, pond, pool or reservoir for water.

62 empowers trustees to cause *present and future* streets, &c. to be paved, made, repaired, amended, raised, lowered, widened or altered; also drains, sinks, gutters, and water-courses to be made for conveying water off from said streets, &c.; no other person to alter, &c. without consent of trustees.

65 enables trustees to cause all *present and future* streets, &c. to be *newly* paved, flagged, soughed, cleansed, &c., and put into good condition and order, to the extent of twice the extent of adjoining buildings, with such sewers, soughs, gutters, sinks, drains, or water-courses, on such levels, and with such declivities and falls, as to such trustees shall seem meet and necessary, and to charge the expense of such new pavements, &c. on the owners or occupiers, with power of distress on occupiers, who are to deduct the same from their rent.

67. Amount charged limited to one year's rent.

66. Notice to be previously given to owners or occupiers, requiring them to pave, &c.

74 empowers trustees to make such and so many common sewers, drains, vaults, culverts, and water-courses, public wells or pumps, in, along, or across any of the streets, squares, highways, lands, roads, paths, or other passages and places, or to cause those *now existing* to be altered, enlarged, repaired, *cleansed*, or completed; also to cause gutters or openings to be made in any of said streets, &c., for the carrying off and conveying the filth, foul and other waters into the said sewers, &c.; to carry said sewers, &c., through any enclosed land or ground, *excepting* courts, yards, gardens, or orchards, avenues or approaches to dwelling-houses. Owners may appeal to juries for compensation at Salford sessions.

75. Private drains may be turned into the common sewers by consent of trustees, at the expense of the parties, not otherwise.

76. If owners of certain streets agree to require trustees, they must make common sewers and drains, or allow said owners to do it at their own expense.

77. All private drains emptying into common sewers must be made, repaired, and cleansed, under inspection of trustees, at the cost of the owners or occupiers.

78. Gutters to be turned, tunnelled, or covered over, at discretion of trustees.

91. Trustees may direct the construction of chimneys.

70. Width of footways regulated in proportion to width of streets; 4 feet to 6—8 yards; 5 feet to 8—10 yards; 6 feet to 10—12 yards; and 7 feet to 12 yards and upwards.

92 gives power for removal of slaughter-houses or other nuisances; appeal to the quarter sessions; penalty for continuing nuisance, 5s. per day.



98, among other things, imposes penalties on any one who shall kill, slaughter, singe, scald, dress any beast, swine, ox, cow, calf, sheep, in any street or shop adjoining to, and exposed to such street, or permit any offal, blood, filth, or other offensive matter to run from any slaughter-house, shambles, butcher's shop, swine-sty, or dunghill, into any such street, or burn any rags or bones, or other offensive substance for making manure, ivory or other black, ammoniac, or for other purposes, within 200 yards of any dwelling-house or place, deposit or keep any night-soil, or the emptyings, cleanings, or filth, taken from any privy, drain, or cess-pool, or the refuse, offal, garbage, filth, or sweepings of any slaughter-house, soap lees, ammoniacal liquor, or other noisome or offensive matter, in or upon any open or enclosed ground within the said distance, viz., 200 yards of any dwelling-house.

99. Persons carrying away night-soil, carrion, offal, blood, filth, or other offensive matter, to do so between 12 and 7 A.M., and not to leave it any where exposed in any situation in the said streets, so as to annoy the inhabitants of Little Bolton.

The following is the evidence of Mr. Ashworth on the subject of the working of this Act in Little Bolton:—

"I have acted as trustee of the Little Bolton Police Act since the passing of the Act, to within the last two or three years, and have also been surveyor, both before and since, for twenty years in the whole.

"Before the passing of the Act, the town was in a bad state. Many streets had been laid out by the owners and not completed, with only a few occasional buildings erected, and no pavement in many cases, some in part only paved; the consequence was, there were small pools of stagnant water here and there, and no drainage at all. Some of these pools were very offensive, stagnant and green, with dogs, cats, and other dead animals cast into them. At that time the owners could not be compelled to do any thing, and the neighbourhood was unhealthy. There was expense incurred in obtaining the Act from 1,200*l.* to 1,400*l.*, being much opposed. The assistant overseer of that time, Moscrop, used to say, after the Act had been in operation a few years, that it had already paid for itself, in its benefits to the township.

"The 65th and 67th section have been enforced against the owners and occupiers to a great extent; *both as regards streets laid out before the Act, and those laid out since.*

"We require a main sewer down the whole length of the street of 18 inches wide, 2 feet deep, with stone bottom and side, and flagged at top, from 7 to 9 feet below the surface. We put side-soughs to carry off water, communicating by cast-iron gratings with the sewer every 20 yards. As they build, they put an opening from *each* house into the main sewer to take water, slops, &c., and to drain the cellars into the main sewer.

"We require also the erection of what we consider a sufficient number of privies—one to so many dwellings. In some cases, where sufficient privies had not been previously provided, the owners were obliged to convert some of the buildings into privies. All buildings are now laid out subject to these requirements.

"We are enabled to prevent various nuisances; we have had frequent occasions to summon people for throwing slops and filth upon the foot-

way before the house; and by this means the owners have been compelled to provide proper communications with the sewer. The powers of the Act are so stringent, that it rarely requires more than a verbal notice from the surveyor to compel obedience to our wishes.

"A committee of five sits once a fortnight, and receives complaints from any of the inhabitants, and gives directions to the surveyor to proceed. The surveyor is a paid officer under the Act, at a salary of 60*l.* or 70*l.* a-year.

"The township is greatly improved by the operation of the Act—it is scarcely like the same. The improvements have been made at the expense of the owners, with a few exceptions, which have been obliged to be done by the trustees, particularly in the old streets.

"The rates have been usually about 1*s.* 6*d.* in the pound on two-thirds of the assessment; these expenses have been incurred upon the old part of the town. All new streets are now provided with pavement, flagging, footpaths, and all with main sewers as well as private drains, by the owners of the adjoining land.

"When a street is taken into the town, it comes under the rates—all repairs are then paid from that fund.

"The Act has been a very good thing for the town, and has given general satisfaction. The owners have been disposed to complain at first, but afterwards have been satisfied.

"As to the cellars, our Act does not apply to that—it does not compel the owners to render them dry. A provision is wanted to compel owners to do this, which might be done at moderate expense.

"My brother is in favour of a provision forbidding cellars to be used as dwellings at all. I think that would be too severe upon owners of dwelling-houses already erected with such cellars. An Act providing for this with regard to future buildings might not be so unjust, but still would be complained of by owners. There are many of them not fit to live in. The mischief proceeds from damp floor and damp walls. There might be regulations to prevent both, as well as to ensure ventilation.

"There are some cases where the lower rooms can hardly be called cellars, being in great part above the surface of the adjoining street; it would perhaps be the best way to say that any room let for a dwelling should consist of a certain number of feet at least above the surface: suppose it was eight feet high—that it should be four feet above the surface at least. In regard to future buildings, this could not well be objected to; and in regard to the present cellar dwellings, the owners ought to be compelled to make and keep them dry. This would be best done by subjecting owners to fine where the dwellings were found in a bad state.

"In some parts of Bolton at this time, the families are removing from their houses, and crowding together several families into one house, using one fire, and living at the expense of one rent. This is the pressure of the times. The greatest part of the mills are working short time.

"The owners would not be injured by regulations affecting future buildings. The more comfortable a dwelling was made, the more rent it would command.

"The working people would be also benefited."



I believe that the local Acts in operation at Manchester, at Salford, and the important township of Chorlton-upon-Medlock, contain provisions similar or analogous to those of the Little Bolton Police Act, and I have heard that the operation of those Acts has been extremely beneficial.

It cannot therefore be doubted that the operation of similar provisions in other of the towns in Lancashire and the adjoining manufacturing districts, would be of the greatest advantage to the already large and still fast-increasing population of those towns.

It will be perceived, however, that the best of the local Acts at present in operation by no means embrace the provisions necessary to counteract all the various causes tending to the propagation of fevers, which might be counteracted by legislative enactment.

How far it may be possible to devise any general measure applicable to the removal or diminution of any or all the evils in question, without invading or limiting the rights of private property beyond what may be reasonably insisted upon for the protection of the public, it is for the wisdom of Parliament to determine.

Without dwelling further upon that part of the subject, it is sufficient to state, in conclusion of this Report, that most of the causes of fever enumerated in the Metropolitan Reports appear to prevail more or less in every description of locality in this district, so far as can be judged from those Medical Reports which have been received.

I have the honour to be, Gentlemen,

Your very obedient Servant,

A. POWER, *Assistant Poor-Law Commissioner.*  
Malvern, 9th February, 1841.

#### No. 19.

#### ON THE SANITARY STATE OF LIVERPOOL.

BY DR. W. H. DUNCAN.

*Liverpool, August 31, 1840.*

GENTLEMEN,—In reporting to you my opinion of the causes which favour the prevalence of contagious diseases in Liverpool, it would be almost sufficient to refer to the excellent report of Drs. Arnott and Kay on the sanitary state of the labouring classes in the metropolis, the causes pointed out by those gentlemen being, with one or two exceptions, in equally active operation in this town. But as Liverpool presents, in some important respects, peculiar features, it will be proper to enter somewhat into detail.

The population of Liverpool, at present, may be stated at about 250,000, and of this number the *working classes* may comprise about 175,000.

These last, during illness, are dependent for medical relief chiefly on the two dispensaries, (branches of *one* institution,) which receives a subscription of 500 guineas a-year from the parish, and the officers of which act in the capacity of parochial medical officers. The sick wards of the workhouse and the different hospitals also receive annually a number of pauper patients, but the great majority of these have previously been entered on the books of the dispensaries.

But there are also in Liverpool a number of clubs or benefit societies, to each of which there is usually a surgeon attached, and the members of which (who are principally mechanics or labourers in the receipt of good wages) are not received as patients by the dispensaries. The largest of these clubs consists of 8000 members, and it is probable that in the aggregate they amount to more than 20,000.

During the last five years, (1835 to 1839, inclusive,) there have been treated by the two dispensaries alone upwards of 25,000 cases of *fever*, giving an annual average of more than 5000 cases.

During the same period the club surgeons have probably treated on the average annually . . . 1500 „

To these are to be added the cases treated by private practitioners, including those sent to the fever ward otherwise than through the medium of the dispensary officers or club surgeons, say . . . 500 „

Making together . . . 7000\* „

And giving an average of 1 in 25 of the working population annually affected with fever, a higher ratio, I believe, than is afforded by any other town in England. The proportion which the cases of fever bear to the whole number of medical cases is about 1 in 5½.

There can be little doubt that the causes of the unusual prevalence of this disease in Liverpool are to be found principally in the condition of the dwellings of the labouring classes, who are almost exclusively its victims; but partly also in certain circumstances connected with the habits of the poor.

With regard to their *dwellings*, I would point out as the principal circumstances affecting the health of the poor:—

1. Imperfect ventilation.
2. Want of places of deposit for vegetable and animal refuse.
3. Imperfect drainage and sewerage.
4. Imperfect system of scavenging and cleansing.

\* During one year (1837) more than 7000 cases of fever were treated by the two dispensaries alone.