

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.

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R E P O R T S
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 Fourth and Fifth Annual Reports of the
Poor Law Commissioners.*



LONDON:
PRINTED BY W. CLOWES AND SONS, STAMFORD STREET,
For Her Majesty's Stationery Office.

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1840

FOREIGN LAW COMMISSIONERS

STATISTICAL

Copy of the Report of the Board of Commissioners of the Department of Agriculture, for the year ending June 30, 1891, is hereby transmitted to the Honorable the Secretary of the Senate, and the Honorable the Speaker of the House of Representatives, for their consideration.

Very respectfully,
J. D. HARRIS,
Secretary of the Department of Agriculture.

Approved: J. D. HARRIS,
Secretary of the Department of Agriculture.

W. L. GAY,
Director of the Bureau of Statistics.

The following is a list of the names of the members of the Board of Commissioners of the Department of Agriculture, for the year ending June 30, 1891, as reported by the Secretary of the Department of Agriculture, to the Senate and House of Representatives, for their consideration.

The names of the members of the Board of Commissioners of the Department of Agriculture, for the year ending June 30, 1891, as reported by the Secretary of the Department of Agriculture, to the Senate and House of Representatives, for their consideration.

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FROM THE FOURTH ANNUAL REPORT

OF THE

POOR LAW COMMISSIONERS:

APPENDIX (A.)—No. I.

COPY of the REPORT of the POOR LAW COMMISSIONERS relative to certain Charges which have been disallowed by the Auditors of Unions in England and Wales.

REPORT on the Necessity of introducing a Bill into Parliament "For the purpose of making Parish Rates (or County Rates, as may be thought most advisable) liable to certain Expenses of Constables and others in the discharge of their Duty."

To the Right Honourable Lord John Russell, &c. &c.

*Poor Law Commission Office, Somerset House,
14th May, 1838.*

My Lord,

IN answer to the communication from Mr. S. M. Phillipps, of the date of the 18th ultimo, wherein he informed us that "your Lordship considers it necessary that a bill should be introduced for the purpose of making parish-rates (or county-rates, as may be thought most advisable) liable to certain necessary expenses of constables and others in the discharge of their duty, the payments for which have been disallowed by the auditors," and that you desired our opinion thereon, we have now the honour to report as follows:

The legal principles on which it was necessary to act in the audit of the accounts of the expenditure from the poor-rates are thus stated in our instructional circulars:—

"Your attention will next be required to your duties in the expenditure of the rates and other moneys so collected; and herein you must bear in mind that usage is of no legal authority in the construction of the statute of Elizabeth, by which the poor-rates are established. The law has not given to the parish-officers, or even to the vestry, any power of charging or of taxing their fellow-parishioners, even for useful purposes, at their own mere discretion; and no charge upon the poor-rates is legal unless it is, in plain words, sanctioned or directed by some statute.

"In no case, however, except in relief of destitution, will it be safe to make any payments out of the poor-rates, unless sanctioned by the express direction of some statute. In doubtful cases, therefore, the proper inquiry will always be,—Under what statute, or by what regulation, is the proposed charge warranted? And, unless the authority can be found in the words of the statute, or in some lawful order or regulation of the Poor Law Commissioners, it must be presumed that the charge would be illegal.

"By the 50th Geo. III., c. 49, s. 1, the justices (and by the Poor Law Amendment Act, auditors) are authorised to strike out of the overseers' accounts all such charges and payments as they shall deem to be unfounded, and to reduce such as they shall deem to be exorbitant, specifying, on the foot of such account, every such charge or payment and its amount, so far as such justices shall disallow or reduce the same, and the cause for which the same was disallowed or reduced.

"With relation to the unfounded charges, the primary general rule has already been stated—namely, that all charges on the poor-rates are unfounded which are not authorised by some statute."

In another portion of the instructions to overseers, we stated that—

"Either from ignorance or neglect, many illegal practices have crept into the administration of relief, which, from their notoriety and general prevalence, have

been supposed to be legal, and have frequently been continued in perfect confidence of their correctness. The Commissioners are aware that many of the charges thus illegally defrayed out of the poor-rates were incurred for useful public purposes; but all such illegal charges they are bound to disallow, and they have accordingly issued directions to the auditors to disallow them in the quarterly audit of the accounts. The Commissioners have directed the following instructions to be issued, to prevent you from incurring such charges unwittingly, and to save you from the consequences of their disallowance."

Amongst the charges which have been unavoidably disallowed are many which increasing experience proves it necessary to submit for the sanction of the Legislature for their allowance. The chief charges which we feel it our duty to recommend for allowance are—

1. Those charges found necessary for the prevention of burthens upon the rates, occasioned by the desertion of children by their parents, or by the refusal of natural relations to contribute their proper charges; and those charges caused by nuisances, by which contagion is occasionally generated and persons reduced to destitution.

2. Those charges necessary for the protection of parish property from injury and destruction.

3. Those charges found necessary for the protection of officers engaged in the administration of the law.

To these may be added miscellaneous charges for useful purposes, the pecuniary burden of which, as in nearly all the instances referred to, is inconsiderable, whilst the inconvenience to the public and consequent discontent at the unavoidable disallowance is great and extensive.

The most prominent and pressing of the first class of charges for which some provision appears to be required, are for the means of averting the charges on the poor-rates which are caused by nuisances, by which contagion is generated and persons are reduced to destitution.

In general, all epidemics and all infectious diseases are attended with charges, immediate and ultimate, on the poor-rates. Labourers are suddenly thrown, by infectious disease, into a state of destitution, for which immediate relief must be given. In the case of death, the widow and the children are thrown as paupers on the parish. The amount of burdens thus produced is frequently so great as to render it good economy on the part of the administrators of the poor-laws to incur the charges for preventing the evils, where they are ascribable to physical causes, which there are no other means of removing. The more frequent course has been, where the causes of disease are nuisances, for the parish-officers to indict the parties for nuisance, and to defray the expenses from the poor-rates.

During the last two years the public has suffered severely from epidemics. At the present time fever prevails to an unusually alarming extent in the metropolis, and the pressure of the claims for relief in the rural Unions, on the ground of destitution caused by sickness, have recently been extremely severe; but, in the course of the investigations into the causes of destitution and the condition of the pauperized classes, carried on under the operation of the new law, and especially in the course of the investigations of the claims for relief arising from the prevalent sickness, extensive and constantly acting physical causes of sickness and destitution have been disclosed and rendered fearfully manifest. With reference to the claims for relief on the ground of sickness, in the metropolis, we have directed special inquiries to be made of the medical officers of the new Unions. We have also directed local examinations to be made, in parts of the metropolis where fever was stated to be the most prevalent, by Dr. Arnott, by Dr. Southwood Smith (the chief physician of the London Fever Hospital), and by Dr. Kay, our Assistant Commissioner. The more important communications of the medical officers are comprehended in the medical report prepared by Dr. Kay, with the concurrence of Dr. Arnott. We have given their opinions in a Supplement to this Report;* and also the report made to us by Dr. Southwood Smith,† on the sanitary condition of the district comprehended by Bethnal Green and Whitechapel. From this last report we select the following instances of the condition in which several neighbourhoods, densely populated by the labouring classes, have been found:—

* Suppt., No. 1, p. 11.

Suppt., Nos. 2 and 3, pp. 31, 38.

"Lamb's-fields.—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 in 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 8 to 10 feet wide. Into this part of the ditch the privies of all the houses of a street called North-street open: these privies are completely uncovered, and the soil from them is allowed to accumulate in the open ditch. Nothing can be conceived more disgusting than the appearance of this ditch for an extent of from 300 feet to 400 feet, and the odour of the effluvia from it is at this moment most offensive.

"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. In several houses in Collingwood-street, fever of the most severe and fatal character has been raging for several months. Part of the street called Duke-street is often completely under water: this street consists of about 40 houses; in 12 of them all the members of the families residing in them have been attacked with fever, one after another, and many have died.

"Virginia-row.—In the centre of this street there is a gutter, into which potato-parings, the refuse of vegetable and animal matter of all kinds, the dirty water from the washing of clothes and of the houses, are all poured, and there they stagnate and putrefy. 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. Families live in the cellars and kitchens of these 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.'"

An instance of other prevalent causes is stated in the communication of Mr. Tensh, the medical officer to the Hackney Board of Guardians:—

"In my district, comprising Homerton and Mare-street of the Hackney Union, I am seldom without cases of a typhoid character, and have carefully searched through my register of sickness from Lady-day, 1837, to Lady-day, 1838, and find there have been 24 cases of severe typhus, of which 4 were fatal; 15 of the number were, in one locality named Silkmill-row and Wick-street, attributable, I think, to an obstruction by a dam to a mill, which allows a large accumulation of decaying and other matter of deleterious nature, likely to cause an atmosphere not at all congenial to health, which, aided by, I am sorry to say, the innate want of cleanliness and care on the part of the poor, frequently gives rise to fevers of this description, notwithstanding my very urgent and strenuous endeavours to inculcate their importance to their own welfare and comfort. There are two or three other places where the drainage is not so good as it might be: Cross-street and College-street, Homerton; Wood's-yard and Wells-street: these are, I believe, private property. As to that previously mentioned, it has been the subject of litigation between, I believe, the parochial authorities and the party to whom it belongs."

Several officers have fallen victims to the prevalent disease. The excuse from one Union, for answers being only given by one medical officer is, that the other officer had fallen a victim to typhus fever, caught in the course of the performance of his duties in the infected neighbourhoods. In one Union two of the relieving-officers have, within a short time, been carried off by fever, caught in a similar manner. The extent of the pressure upon the rates, in many instances arising from the causes specified, may be judged of from the following return from the parish of Bethnal Green, which has a population of 62,018:—

"St. Matthew, Bethnal Green.

"FEVER REPORT.

"Number of fever cases attended by the medical officers of this parish, for one quarter ending 25th March, 1838:—

“ Mr. Taylor, out-door surgeon	256 cases
Mr. Goodwin, ditto	136
Mr. Ager, house surgeon	129
Total	<u>521</u>

“ The cost of in-door cases is at least 5*s.* weekly, averaging 20*s.* for each case, before the patient is sufficiently recovered.

“ Twenty-six cases were admitted into the London Fever Hospital, at the cost of 27*l.* 6*s.* to the parish for the last quarter, in addition to the number above reported.”

It is stated that the number of fever cases which have been attended by the medical officers in the parish of Whitechapel, within one year, is upwards of 2000.

All the evidence is strongly expressive of the want of immediate legislative measures to check the evil, against which the Boards of Guardians have made such exertions as were within their power. The guardians of Camberwell state that they have made representations to the Commissioners of Sewers, from which we extract the following, of the date of the 18th ultimo :—

“ They, the guardians, beg to represent that a proper drainage is extremely essential to a great part of this parish, on account of its exceedingly low level, while it is comparatively easy of attainment by reason of the gravelly nature of its soil.

“ They beg to remind the Commissioners that an attempt to drain the village of Peckham was made some years since, but this drain has been left in an unfinished and imperfect state, and the guardians wish to impress on the Commissioners the necessity of its immediate completion.

“ The guardians have been given to understand that this completion has been hitherto delayed by the want of funds; but they cannot admit this to be a valid excuse, when it consists with their own knowledge that a great number of the inhabitants are rated to the sewers, which, as far as they, the inhabitants, are concerned, have no existence, and from which, of course, they can derive no benefit.

“ The guardians, therefore, earnestly request the Commissioners to take this matter into their immediate and most serious consideration; and they press it more earnestly at the present time, because, in addition to the ordinary nuisances, the pond on the Green, which is situate in the very heart of the village, has, ever since the frost, sent forth such a terrible effluvia, as to render the front rooms of the houses around it scarcely habitable, and to fill the whole neighbourhood with alarm at the probable consequences when the hot weather shall arrive.”

Mr. Bowling, a medical officer of the Kensington Union, states,—

“ We have always had, at certain seasons of the year, fever prevailing to a great extent among the poor, attributable in a great measure to miasma, produced by a quantity of water which had been left stagnant on the surface of the earth after brickmaking, and which, in process of time, had become full of vegetable matter. Some years ago this evil had become so alarming, that the inhabitants, influenced by the respectable medical men in the neighbourhood, agreed to adopt measures for improving the drainage, and the parish expended considerable sums in so doing; but we have still several places, inhabited by paupers, without any drainage at all, or what there is so very insufficient that a great quantity of filth of all descriptions is constantly lying on the surface.

“ It appears, by the register of sickness and mortality, that we have had 104 cases of fever from the 29th of September to the 25th of March, and the greater part of these are certainly to be attributed to causes that might be removed by improved drainage or greater cleanliness. These are independent of small-pox and other diseases, the malignancy of which must be increased by the above circumstances.”

Mr. Wagstaffe, one of the medical officers of Lambeth, represents that not only the existence of disease, but of particular diseases, may be inferred from obvious physical and removeable causes :—

“According to the district or situation, so you will have the different degrees of fever, such as ague, typhus in all its stages, yellow, and many other kinds.”

We have eagerly availed ourselves of the opportunity of making the present Report to submit to your Lordship the urgent necessity of applying to the legislature for immediate measures for the removal of these constantly-acting causes of destitution and death. All delay must be attended with extensive misery, and we would urge the consideration of the fact that in a large proportion of cases the labouring classes, though aware of the surrounding causes of evil, have few or no means of avoiding them, and little or no choice of their dwellings. The Boards of Guardians have now the services of an efficient body of officers, including experienced medical officers, to guide them in the application of sanitary measures more efficiently than was practicable by the overseers of single parishes under the old system. Until more complete measures could be obtained, and even as a temporary measure, we should recommend that the guardians should be empowered to exercise the like powers that have heretofore been exercised, and incur the like charges that have heretofore been irregularly incurred by parish-officers; that they should be empowered to indict parties responsible for such nuisances as those described, and to make arrangements with the owners of property, or take other measures, according to circumstances, for the removal of the causes of disease in cases where there is no ostensible party who can be required to perform that duty. So extreme has been the social disorder, and so abject is the poverty, of some of the places which are now the seats of disease, that great numbers of the dwellings have been entirely abandoned by the leaseholders.

The remainder of the first class of charges for which we conceive that an allowance should be made from the poor-rates appear to us to be the expenses of the pursuit and apprehension of husbands and parents who have deserted their wives and families, and left them chargeable to the parish. In some districts the offence is very frequent, and the burthens thereby cast on the parish grievous. In a very large proportion of cases the pretended desertion is fraudulent, the husband being absent in work, with the knowledge and connivance of the wife, who thereby obtains a full widow's allowance until her husband returns, with augmented gains. The Vagrant Act affords no expenses for its correct administration, no sources of remuneration to paid officers, except from any moneys which may be found on the person of the vagrant, for long pursuits, which are usually out of the limits of the Union, or even of the country.

The following extracts of correspondence exhibit the tenor of the communications made to us on this subject. From the Horsham Union we received a communication, of which the following is an extract:—

“The guardians are obliged to refer to the Poor Law Commissioners for England and Wales for information respecting the expense of the apprehension of persons for absconding from their families, and other offenders against the poor-laws. Two warrants have been issued by the magistrates, which remained unexecuted in consequence of the disallowance by the auditor of expenses which have been incurred on former occasions by constables who have gone out of their districts. As they are not compellable to go out of their districts, they appear to be entitled to a reasonable remuneration, and the guardians consider that unless it is allowed they cannot expect the law to be enforced against offenders.

“The guardians beg to state that the cases have been reported to the magistrates, who are prepared to sanction the payment of the expenses, it being, in their opinion, a complete suspension of their powers if the necessary charges of executing the process are not paid.

“The guardians therefore request the Poor Law Commissioners will issue such instructions as may appear necessary for securing the due execution of the process against offenders, by the allowance of the reasonable expenses attending it.”

To this we were only enabled to answer :

“The Commissioners, in reply to this communication, have to state that there is no law to sanction the payment of any remuneration to constables for doing the duties of their office, but, on the contrary, such a practice is wholly at variance with the constitution of the office, which is by law compulsory and gra-

tuitous. This law it is clearly out of the power of any administrators of the poor-laws to change.

"The Commissioners admit that inconveniences exist in consequence of the existing law as regards the constitution of the office of constable, especially as regards their authority or obligation to act in precincts not their own; but this inconvenience is not peculiar to the Vagrant Act, or to parochial business, nor, as the Commissioners conceive, susceptible of a lawful remedy by the means suggested."

From various Unions we have received communications of the tenor of the following from the Epping Union, stating the impunity arising from the absence of proper provisions for the maintenance of the law:

"I am desired by the guardians of the Epping Union to represent the great inconvenience which arises from the circumstance that the payment of money for the apprehension of paupers who have deserted their families is not authorised by law (as declared by Colonel Wade's letter to them on that subject, on the 18th of December last). The effect is, that several paupers of the Unions who have taken that course absent themselves with perfect impunity, the parish authorities being unwilling to offer rewards for their apprehension, which, if claimed, they themselves have little or no chance of getting repaid."

Our answers to these complaints are of the same import as the answer to a similar communication from the guardians of the Maldon Union, *i. e.*, that, whilst we fully recognised the necessity of some provision for the purpose, we stated that we had not authority to charge the rate-payers for a purpose not contemplated by the laws under which the rates are made, or charges imposed on them; and it was added,—

"The Commissioners trust that the obvious evils arising from the want of such a provision will shortly lead to an effective legislative enactment; meanwhile they can only repeat the words of Lord Denman, in the case of *Rex v. Guyer*, 2 Ad. & E. 216.

"These expenses, however reasonable the charges may be, however necessary the incurring of them may have been, however much it may have been for the benefit of the parish that they should be incurred, are not such as the overseers are entitled by law to charge to the parish."

In various Unions the Boards of Guardians have exerted themselves to give to the rate-payers a neglected benefit of the poor-rate, by rendering it available for the repression of mendicity. This is done partly by its influence in diminishing the motives to almsgiving, and partly by active coercive efforts against avowed and sturdy impostors by their pursuit and prosecution. As respects the proceedings against this class of offenders, the Vagrant Act, by giving no costs, gives no motives to pursuit. At present the coercive, as well as the ordinary administrative means for the abatement of the evil of mendicity, must be almost exclusively with the Boards of Guardians; and we entertain no doubt that it would be highly beneficial to strengthen their hands for this course of proceeding by allowance, subject to control, of proper expenses to the parties pursuing or prosecuting the offenders. The second class of charges, for which allowances are urgently, and we conceive properly, requested, are such as may be incurred in the protection of parish property from depredation, injury, or destruction.

Where the offence amounts to a felony or misdemeanor, or to a malicious injury, under 7 Geo. IV., c. 64, the costs of prosecution are payable out of the county-rates. But costs incurred in discovering and apprehending the offender, and all such necessary costs as fall upon private persons in the discovery and pursuit of such offender, should, when the offence is committed against the property under the control of the administrators of the poor-laws, be made payable out of the poor-rates, to the extent to which the county is not and cannot be properly made liable.

To some extent this is apparently allowed by 55 Geo. III., c. 137, which, however, only extends,

First. To goods of a moveable kind. The power should be extended to property of every description susceptible of injury.

Secondly. Only to goods for the use of the poor. The power should be extended to all property of the parish or Union not specially protected.

Thirdly. It only extends to such goods as are vested in overseers under that Act. The power should extend to property vested in guardians.

Fourthly. It only enables overseers to take proceedings. The guardians should be enabled to direct proceedings by their clerk or attorney.

In recommending the sanction of the legislature to the payment of expenses, such as those in the cases specified, we would especially guard ourselves from being supposed to recommend in the cases of constables the payment of any expenses for loss of time, or any other payments than of expenses actually incurred in the performance of the duty, such as horse, turnpikes, or otherwise. To allow any other expenses would, it appears to us, be to open the door to extensive malversations and improper charges, which it would be extremely difficult to check. In answer to complaints of the onerous nature of duties of constables on that class of persons who are chosen as parish constables, often but one degree above a labourer, and their inability to bear the expenses of office, we have remarked that the appointment of such persons is an oppression to them, and, legally considered, an abuse, it being clear that the constable ought to be of the abler sort of parishioners; and, if an ignorant or poor person be chosen, he may by law be discharged, and an abler person appointed in his room (Dalton, chap. 28). Where, therefore, such a person has been appointed to serve the office, he should apply to the justices for his discharge, who will appoint a more proper person.

The third class of charges to which we conceive that the poor-rates may properly be made liable are such as are necessary for the protection of the persons of such as are engaged in the administration of the laws for the relief of the poor.

In various reports and communications we have already made your Lordship acquainted with the circumstances of attacks made upon the Union-officers in the execution of their duty, and you will perhaps deem it unnecessary that we should submit any reasons for giving to them the like special protection to that which is generally given to the inferior officers of the law whilst in the execution of their public duty.

It may often be difficult to ascertain whether an offence against an officer originates in the discharge of his duty, and is committed with a view to prevent its performance, or in feelings of hostility excited by its performance. But it is conceived that the Board of Guardians would, under regulations to insure the concurrence of a sufficient number of guardians, be the best possible judge of the fact whether the injury arose out of the official or private relations of any of the officers, and to authorise, subject to the auditor's allowance, such expenses as may be necessarily incurred in prosecution of the offence, and as may not be recoverable from the county or the offender.

Without such protection the duties of the more active officers are rendered more hazardous, and consequently the services of such as are paid are rendered more costly to the public. While in the case of the guardians themselves, whose duty is gratuitous, your Lordship will no doubt consider that the justice of securing them the utmost protection is not more obvious than the wisdom of removing, as far as possible, all such disinclination to serve as may arise from want of protection to the individuals who may undertake a duty always obnoxious to grievous misrepresentation, and even serious dangers.

In connexion with the miscellaneous charges, the allowance of which we are prepared to submit as deserving of legislative sanction, we have to observe that a very general practice has long prevailed of paying constables and others from the poor-rates, for collecting the county-rates and conveying them to the county treasurer.

These charges, so far as we can ascertain, are wholly without authority. On the other hand, the 55 Geo. III., c. 51, s. 16, provides,—

“That it shall and may be lawful for the justices of the peace of any county, in general or quarter sessions, or any adjournment thereof, from time to time assembled, to order such allowances and compensations to be made to the overseers, churchwardens, constables, assessors, collectors, clerks, or other persons employed in the execution of this Act (namely, the County Rate Act), which have not heretofore been provided for, from, by, and out of, the moneys assessed, levied, and

collected by any county-rate made under this or any former Act or Acts as to the said justices shall appear reasonable and proper."

It has been suggested by Sir Edward Knatchbull, and we entirely concur in the suggestion, that it would be a highly beneficial course to discontinue the present mode of collecting and paying the county-rates to the county treasurer. He proposes, for example, as a substitute for the separate collections by the separate constables of the 433 parishes and places from which, we believe, the county-rate is now payable in Kent, that the rate should be payable by the order of the magistrates of quarter sessions, made on the treasurer or proper officer of each of the 26 new Unions, which now comprehend nearly the whole of that county. By this course he thinks it probable that upwards of 1000*l.* per annum would be saved in that county alone. We propose that, upon the order to the Unions from the quarter-sessions, payments shall be made to the county treasurer in such mode as we shall direct. By means of this power special arrangements may be made with the county treasurer for the attainment of the object in the best manner, according to the circumstances of the treasurers of each Union, and their means for the transmission of the money as bankers or otherwise.

From obvious utility practices have arisen, and have been assented to by all parties, of applying the rates to various useful purposes for which no legislative provision has been made. The following are instances.

The churchwardens and overseers of the parish of Ilfracombe write to us:—

"In consequence of a child having been drowned at Appledore, not far hence, from the insecurity of a well over which that parish is about to erect a pump, the attention of the officers of this parish has been called by many of the inhabitants to the unsafe and filthy state of the wells in this town. They are six in number, quite open and exposed, and into which there is constantly thrown filth of every description, whereby the water is contaminated, and the public health liable to be affected. Further, the water is made very impure by the masons, bricklayers, and other persons dipping up the water with dirty buckets, &c., an evil which is greatly increased by the many new buildings. It is therefore proposed that the wells be covered in, and cast-iron pumps put down, the whole expense of which, it is estimated, will amount to about 30*l.*; and, it being considered that, from our situation, we are guardians of the public health, and more especially as it is known that impure water tends more than anything else to generate bowel-complaints and other diseases, especially amongst the poor, whose chief beverage it is, and who are no doubt often driven on the parish for relief when impure water has been the cause, we have been called upon to carry the above desirable object into effect, and pay the same out of the poor-rate, to which we can have no objection, as far as we are concerned, provided we are justified and safe in so doing. But, as a question may be raised, when the accounts are brought forward to be passed, as to the legality of the application of the rates for the purpose contemplated, however much desired, we consider it due to ourselves, and the parish generally, to solicit the favour of your opinion and advice on the subject."

From the acting overseer of the parish of Horndon-on-the-Hill we have received the like application:—

"Pardon me the liberty that I have taken; but, as I am the acting overseer for the parish of Horndon-on-the-Hill, I shall be glad of your advice about a pump that belongs to our parish. Standing on the waste, it is used by all the inhabitants of the parish, and especially by the poor. Owing to the dry weather, we are sometimes without water. There wants from about 6*l.* to 8*l.* laid out about it. Some of the parishioners are of opinion that it ought to be a parish charge, and others are not. The poor are not able to pay any towards the expense, and, as it stands on the waste, we cannot make private property of it. I shall be much obliged by your sending me your opinion on the subject."

Amongst other instances may be cited applications for the allowance of the charge of obtaining a fire-engine for the common use of villages; for the erection of a clock, and other similar works of importance or utility in rural economy. On these applications, admitting the importance of the works, and the comparatively small amount of the charge, we could only advise that such charges upon the poor-rates were not sanctioned by law, and must be disallowed.

From the general allowance of such charges, during the lax administration of relief which has heretofore prevailed, a strong persuasion has existed that they were sanctioned by the old law, and we are apprehensive that their disallowance has been attended with much discontent in many instances where the necessity of an adherence to the express provisions of the legislature was not felt, or where it was supposed that the disallowance was the consequence of some direct enactments contained in the new law.

Believing that such charges from the poor-rates on the order of the Board of Guardians, subject to control, may be safely sanctioned, and that by such means such public conveniences may be the best provided, we recommend that this class of charges may also be sanctioned by the legislature.

We have, &c.

(Signed)

T. FRANKLAND LEWIS.

JOHN G. S. LEFEVRE.

GEO. NICHOLLS.

SUPPLEMENT TO FOREGOING REPORT.

SUPPLEMENT, No. 1.

REPORT on the Prevalence of certain Physical Causes of Fever in the Metropolis, which might be removed by proper Sanitary Measures.

By NEIL ARNOTT, M.D., and JAMES PHILLIPS KAY, M.D.

To the Poor Law Commissioners.

Gentlemen,

London, 12th May, 1838.

BEFORE proceeding to state to you the results of our personal investigations, and of the inquiries made from the medical officers of the London Unions concerning the prevalence of certain physical causes of fever in the metropolis, which might be removed by proper sanitary measures, we deem it important to offer a few preliminary observations.

Among the causes which prevent the greater part of mankind from attaining the full age of 70 years or more, which the nature of the human constitution allows, certain poisons disseminated in the air hold a conspicuous place. Of these the most noted are the matters of small-pox, measles, hooping-cough, and that called malaria, the chief subject of this Report, which is generated wherever animal and vegetable substances are undergoing putrefactive decomposition, and which produces a great variety of fevers.

This decomposition of animal and vegetable substances takes place with rapidity proportioned to the warmth and moisture of the place, and hence it attracts attention chiefly in tropical countries, where organized matters abound, and in low moist situations, as along flat shores, the banks of rivers, in marshy levels, and in thick forests; it is what renders the situations described so fatal, as is known to human inhabitants, and particularly to strangers. Englishmen, for instance, have painful mental associations with the names of many of their Indian and African colonies, as of Sierra Leone, &c., and particularly as these existed originally, when cultivation and draining were not yet begun.

Malaria differs in different situations, according to the nature of the substances and other circumstances producing it. In tropical regions the kind produced, independently of human agency, causes the fevers to which the epithets of jungle, yellow, remittent, bilious, &c., have been applied. In more temperate climates, it generates such as the fever of malaria in the Campagna di Roma, that which attacked the English army in Walcheren, and all the intermittents or agues of marshy situations. The malaria arising from matters accumulated in the business of human societies will be noticed afterwards.

The noxious activity of malaria is proportioned to its concentration; hence, wherever much air is passing, that is, where there is free ventilation to dilute the poison as it rises, its presence is often unperceived. In many flat tropical islands,

for instance, as in Sincapore, beyond Malacca, where the process of decomposition must be going on with great activity, because there is a constant breeze and free ventilation, there is no disease; but in other situations near, where surrounding hills make deep unventilated valleys, the malaria is so powerful that the ignorant inhabitants have believed some such places to be the habitations of malignant spirits, enemies of man. And the reason why the danger in all such situations is much greater in the night than in the day, although more malaria is produced in the day than in the night, is, that during the day the sun's rays, by warming the surface of the earth, and the air in contact with it, where the malaria is springing into existence, cause the air to rise and carry away the poison; but at night, the surface of the earth, by radiating away its heat, becoming colder than the general atmosphere, then keeps in contact with it a heavy layer of colder air, in which the poison is confined and concentrated. A boat's crew of eight persons was detained from the ship for a night in the low flat on which part of the town of Batavia in Java stands; and of the eight persons seven were dead of fever before the end of a week. Malaria being invisible and untangible, men in rude states of society are totally ignorant of its existence; and, indeed, until lately, it has been little understood even among people more advanced. The fever said by Homer to have destroyed so many of the Greeks in the plains of Troy was occasioned, according to him, by invisible arrows shot from the bow of Apollo, who favoured the Trojans.

Besides the malaria arising where nature is uncultivated, we find that, wherever men congregate and bring together the quantities of vegetable and animal substances which constitute their food, in the preparation of which there is much refuse, or where the excrementitious matters from their own bodies (being the matter of their food again rejected, and in another form) are allowed to accumulate, there is produced another malaria, often as destructive to life as the most active which dwells in an Indian jungle. The fevers called typhus, putrid, malignant, jail, hospital, ship-fever, &c., are the produce of this malaria, and, when once induced, the bodies of persons affected give out a contagious malaria, often more quickly operative on other persons than the original cause. In the early history of cities, therefore, we are prepared to find striking examples of the influence of such malaria; and the succession of epidemics or plagues, which have almost everywhere appeared, are these examples. In London, for instance, before the fire of 1666, which destroyed great part of the city, and led to the rebuilding of it, with better drains for carrying away the noxious matters which produced malaria, and wider streets for ventilation, there occurred, within 72 years of the time of the fire, five epidemics or plagues, and the average destruction by each was of one-fourth part of the population, as if nearly 400,000 people were now to be swept off in one year. Since the improvements which accompanied the rebuilding of the city, there has been no disease deserving the name of plague until the cholera lately, and the deaths from that, instead of being 25 in every 100, were only one person in every 250 of the population; proving the prodigious influence of knowledge, and of art founded on it, in guarding against such evils. In many of the old less-improved cities of Europe, as in Paris, Naples, &c., the cholera was as fatal as the plagues of London formerly were. We have now to show that, even in London, the securities against the diseases of malaria are yet far from being so complete as they should be, and easily might be.

The means of removing completely the noxious animal and vegetable matters brought to or produced in cities evidently are,

1. 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.

2. A plentiful supply of water to dilute and carry all such refuse, and to allow of sufficiently washing of streets, houses, clothing, and persons.

3. 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.

4. Free ventilation by wide streets, open alleys, and well constructed houses, to dilute and carry away all the hurtful aëriiform products of the processes of society.

5. Keeping as distant as possible from the people the practice of all the arts or processes capable of producing malaria. Hence the situation of cattle-markets, slaughter-houses, cow-houses, tripe-shops, gas-manufactories, burying-grounds, &c., should be determined by competent authorities.

6. Preventing the great crowding of the lodging-houses of the poor.

The want of proper attention to these things in London has often been complained of by medical men, and is evident to any attentive observer. We shall adduce a few of the illustrative facts which have occurred to Dr. Arnott in the course of his professional engagements.

1. In the field behind Euston-square, towards Somers Town, now occupied by the commencement of the Birmingham Railway, there was until lately, near some very extensive cow-sheds, the meeting of several public drains or sewers in an open ditch, which often overflowed and covered a considerable space with a lake of the most odious filth. In the neighbourhood of this field typhoid fevers were frequent, and in a school of 150 female children in Clarendon-square, Somers-Town, every year, while the nuisance was at its height, the malaria caused some remarkable form of disease. In one year it was an extraordinary nervous affection, exhibiting rigid spasms, and then convulsions of the limbs, such as occur on taking various poisons into the stomach: more than 30 of the girls were so affected. In another year it was typhoid fever, affecting an equal number of the children; in another ophthalmia; in another, extraordinary, constipation of bowels, and so forth. Since the covering of the drains all these diseases have disappeared.

2. Dr. Arnott has seen analogous effects produced by foul obstructed drains in private houses. In a house in Baker-street, let during three successive years to different families from the country, there were foul drains, and fever broke out in each of the families.

In a mews behind Bedford-square a stable had been let for a time to a butcher, and a heap of dung had been formed at the door, containing pigs' offal, pigeon's dung, &c. During the act of removing this heap, a coachman's wife and her three children, of an adjoining stable, sat for a time at an open window nearly over the place, until the insufferable stench drove them away; two of the poor children died of the poison before 36 hours, and the mother and other child narrowly escaped.

3. Some body-snatchers, having mistaken the grave they meant to open, two of them died of fever caused by the effluvia from a putrid corpse.

4. Various cases have occurred of persons suffocated by descending into cesspools, old wells, &c., filled with mephitic air from putrid animal and vegetable matters, &c. &c.

Lately fever of the kind which proceeds from the malaria of filth had prevailed extensively in London, the peculiarity of season probably having rendered the ordinary causes more active. 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.

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.

In the following pages of this Report many of these facts will be minutely described, and fit remedial measures will be pointed out. We have no doubt that by proper sanitary police regulations, other 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.

In compliance with your instructions we visited some of those districts which, from the records in the London Fever Hospital, are found to be habitually the seats of fever in the metropolis. We have perused the reports made by the medical officers of the metropolitan Unions, in answer to your circular inquiring into the nature of any of those causes of fever and other endemic diseases which might be remediable if the Boards of Guardians possessed authority to enforce certain measures of sanitary police. Dr. Kay has likewise had an opportunity of conferring with certain of the metropolitan Boards of Guardians, and with some of the medical officers of the metropolitan Unions on this subject, and from these various sources we have been enabled to collect information which it is our duty to present to you.

The subject which we have thus been directed to investigate had obtained some attention from Dr. Kay about seven years ago, at the period when a special Board of Health was established in Manchester, in expectation of the invasion of the cholera. On that occasion his duties led him, in connexion with other members of that Board, to originate and promote an investigation of the state of the streets and dwellings of the poor in the town of Manchester, the results of which are not unimportant in the consideration of this subject.

A tabular form of inquiries respecting the state of the streets and houses was prepared, and a large portion of the town was divided into small districts, which were allotted to certain of the more intelligent inhabitants, who were requested to visit these districts and make answers to the inquiries contained in the tabular form with which they were furnished. An inspection of a considerable portion of the town was thus obtained, and, though the replies did not comprise all the streets in every district, or all the houses in every street, the tabulated results present an accurate general description of the state of those districts of the town of Manchester which were then inhabited by the working classes, as far as the elements comprised in the tables are concerned.

Number of District.	Number of Streets Inspected.	Number of Streets Unpaved.	Number of Streets partially Paved.	Number of Streets Ill ventilated.	Number of Streets containing heaps of Refuse, Stagnant Pools, Ordure, &c.
1	114	63	13	7	64
2	180	93	7	23	92
3	49	2	2	12	28
4	66	37	10	12	52
5	30	2	5	5	12
6	2	1	. .	1	2
7	53	13	5	12	17
8	16	2	1	2	7
9	48	. .	. .	9	20
10	29	19	. .	10	23
11	—	—	—	—	—
12	12	. .	1	1	4
13	55	3	9	10	23
14	33	13	. .	8	8
Total . . .	687	248	53	112	352

District.	Number of Houses Inspected.	Number of Houses reported as requiring White-washing.	Number of Houses reported as requiring Repair.	Number of Houses in which the Soughs wanted Repair.	Number of Houses Damp.	Number of Houses reported as ill ventilated.	Number of Houses wanting Privies.
1	850	399	128	112	177	70	326
2	2,489	898	282	145	497	109	755
3	213	145	104	41	61	52	96
4	650	279	106	105	134	69	250
5	413	176	82	70	101	11	66
6	12	3	5	5	. . .	. . .	5
7	343	76	59	57	86	21	79
8	132	35	30	39	48	22	20
9	128	34	32	24	39	19	25
10	370	195	53	123	54	2	232
11	—	—	—	—	—	—	—
12	113	33	13	27	24	16	52
13	757	218	44	108	146	54	177
14	481	74	13	83	68	7	138
Total . . .	6,951	2,565	960	939	1,435	452	2,221

The Reports of the medical officers of the metropolitan Unions refer the prevalence of the various kinds of endemic contagious fever to two classes of causes.

1. Circumstances injuriously affecting the well-being of the poorer classes, and arising independently of their habits.

2. Circumstances injuriously affecting their well-being, and originating to a considerable extent in their habits.

Among the former classes of causes are enumerated,—

I. Imperfections or want of sewers and drains in the parish or district.

II. The existence of uncovered and stagnant drains or ditches, containing vegetable and animal matter in a state of decomposition.

III. Open stagnant pools of water rendered putrid by the admixture of animal or vegetable substances.

IV. Undrained marsh-land.

V. Accumulations of refuse, either thrown from the houses, or otherwise collected in the streets, courts, and lanes.

VI. Lodgment of filth in large cesspools and privies, in situations where the exhalations are destructive of health.

VII. The situation of slaughter-houses in densely-peopled districts, among narrow streets, and the bad regulation of these establishments.

VIII. The state of some of the public burial-grounds, in thickly-peopled districts.

IX. The want of ventilation in narrow alleys and close courts, inhabited by the working class.

Among the second class of causes are enumerated—

I. The state of the lodging-houses of mendicants and vagrants, and of a certain class of Irish poor.

II. The crowded state of dwelling-houses, which, in certain districts, contain several families under one roof.

III. The gross want of cleanliness of the person and dress and habitations, among certain classes of the poor.

IV. The prevalence of intemperance.

V. The habit of dwelling in previously-deserted houses, cellars, &c. &c. Keeping pigs, &c., in dwelling-houses.

VI. Indisposition to be removed to the hospitals when infected with contagious disease.

VII. The neglect of vaccination.

I. Imperfection, or want of sewers and drains in the parish or district.

The communications received from medical officers of the metropolitan Unions enumerate this among the chief causes of fever in their districts.

The want of proper sewers is described as occasioning accumulations of filth in cesspools, privies, and surface drains, and rendering the streets the source of miasmata. The cellars inhabited by certain classes are said to be consequently damp, if not actually flooded, and the lower rooms of houses unwholesome, from the fetid exhalations which infest the atmosphere. Some cottages at Nottingdale, inhabited by Irish families, and called the Potteries, are, as I was informed at the Kensington Board of Guardians, built over stagnant pools of water, which may be seen through the interstices of the floor. In some instances the floors have given way, and rest at one end of the room in the stagnant pool, while the other end, being still dry, contains the bed or straw mattress on which the family sleep.

Among the more important communications on this subject are the following:—

Sir,

Vestry-hall, Camberwell, 3rd May, 1838.

IN reply to your circular of the 27th ult., and the enclosure addressed to the medical officers, I am instructed by the Board of Guardians to state that the drainage of this district is in so defective a state as to induce the Board to memorialize the Commissioners of Sewers on the subject.

A copy of the memorial alluded to I beg to enclose, and am, Sir, &c.

Edwin Chadwick, Esq.,

(Signed)

G. W. POOLE, Clerk.

Poor Law Commission, Somerset House.

(Copy enclosed.)

To the Commissioners of Sewers.

THE guardians of the poor of Camberwell beg to draw the attention of the Commissioners of Sewers to the defective state of the drainage of a great part of this parish. They are deeply impressed with the importance of this subject to the health of that part of the population over whose welfare it is chiefly their duty to watch, and its ultimate consequence to the well-being of the whole parish.

They, the guardians, beg to represent that a proper drainage is extremely essential to a great part of this parish, on account of its exceedingly low level, while it is comparatively easy of attainment by reason of the gravelly nature of its soil.

They beg to remind the Commissioners that an attempt to drain the village of Peckham was made some years since, but this drain has been left in an unfinished and imperfect state, and the guardians wish to impress on the Commissioners the necessity of its immediate completion.

The guardians have been given to understand that this completion has been hitherto delayed by the want of funds: but they cannot admit this to be a valid excuse, when it consists with their own knowledge that a great number of the inhabitants, are rated to the sewers, which, as far as they, the inhabitants, are concerned, have no existence, and from which, of course, they can derive no benefit.

The guardians, therefore, earnestly request the Commissioners to take this matter into their immediate and most serious consideration; and they press it more earnestly at the present time, because, in addition to the ordinary nuisances, the pond on the Green, which is situate in the very heart of the village, has, ever since the frost, sent forth such a terrible effluvia as to render the front rooms of the houses around it scarcely habitable, and to fill the whole neighbourhood with alarm at the probable consequences when the hot weather shall arrive.

Vestry-hall, Camberwell, 18th April, 1838.

Sir,

Walcot-place West, Lambeth, 30th April, 1838.

I have the honour to acknowledge the receipt of your letter of the 27th inst. and, in answer, beg to inform you that I addressed the Board of Guardians of Lambeth the 18th September, 1837, on the subject of the prevalence of fever in many parts of my district—the periodical recurrence of its almost continued existence, chiefly among the labouring classes, and, in my opinion, as I

then told them, arising in part 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, I 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, be likewise lime-washed.

The Board of Guardians gave prompt attention to the whole of my suggestions: and, as regarded the forming of a sewer in East-street, forwarded a letter to the Commissioners of Sewers, who, they gave me to understand, promised to have a sewer made in the above-named street; and Mr. Mundy, their surveyor, called to intimate to me that such was their intention. This, however (the formation of a sewer), has not been done. I also called the attention of the landlords of the several places to the unhealthy state of their houses, &c., and recommended that they should have them lime-washed, and not let immediately (to new tenants) those houses in which fever (typhus) had been fatal.

I would therefore beg to direct the attention of the Poor Law Commissioners to the above-named places, and also to William-street, High-street, Lambeth.

I have, &c.

To E. Chadwick, Esq.

(Signed)

MATTHEW FRENCH WAGSTAFFE.

COPY of a LETTER from Mr. WAGSTAFFE, one of the Parochial Surgeons to the Board of Guardians.

Gentlemen,

Pratt-street, Lambeth, 25th September, 1837.

IN conversation with Mr. Hunt, I made a statement on the subject of the state of disease in East-street and the parts adjacent, and my opinion of the cause of such; and at his suggestion, I beg to address you upon the same.

There are, at the present time, many cases of severe fever in and about the parish above alluded to (which have continued for some time); the worst places are the following:

East-street, New-street, Saunders-street, John-street, Fountain-court, and Frances-court (Lambeth-walk). The primary cause of this infection 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 burden upon the parish by the increased number of paupers rendered wholly incapable of work, and throwing them and their families entirely on the parish.

According to the district or situation, so you will have the different degrees of fever, such as ague, typhus (in all its stages), yellow, and many other kinds.

I should therefore recommend, as a remedy and preventive, that the drains be cleaned, 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. If a few pieces of lime were occasionally thrown into the gutter it might assist in purifying the air, &c.; and those houses where fever is or has been should be lime-washed throughout, and thus we may very possibly modify the present state of disease, and prevent worse. I remain, &c.

(Signed)

MATTHEW FRENCH WAGSTAFFE.

To the Guardians of the Poor, Lambeth.

Resolved—That Mr. Wagstaffe's letter be referred to the Surveyors of the Highways, with a request that they will give the same their best consideration.

COPY of a LETTER from Mr. THOMAS ROFFEY, by direction of the Surveyors of the Highways, addressed to the Board of Guardians.

Sir,

No. 18, Walcot-place, Lambeth, 17th October, 1837.

I AM directed to acknowledge the receipt of your communication of Mr. Wagstaffe's letter of 25th ultimo, respecting the existence of fever or malaria in the following places, viz.,—East-street, New-street, Saunders-street, and John-street; Fountain-court and Frances-court (Lambeth-walk).

As regards the first-named, East-street, I beg to observe that, at the present time, the surveyors are in communication with the Commissioners of Sewers, in

order to effect the making of a drain or sewer from the main sewer in Walcot-place up Union-street and John-street to East-street; which, if accomplished, of which the surveyors are extremely anxious, the cleansing and drainage of the whole neighbourhood will be materially benefited and improved.

The courts called Fountain and Frances-courts are not under the jurisdiction of the surveyors. Summonses have recently been served upon persons residing there; upon the hearing of which the magistrates were of an opinion that the surveyors had no jurisdiction.

The surveyors beg to suggest the expediency of the Board of Guardians forwarding a communication to the trustees acting under the Lighting and Watching Act, the trustees having greater power to abate nuisances, &c.

In conclusion, Sir, I am directed to inform you that the surveyors will use their best endeavours to decrease the evil complained of. I have, &c.

(Signed)

THOMAS ROFFEY.

W. Shadbolt, Esq., Chairman of the Board of Guardians.

II. The existence of uncovered and stagnant drains or ditches, containing vegetable matters in a state of decomposition.

In visiting the district in which the patients of the London Fever Hospital had resided previously to admission, we found the nuisance to be a frequent source of fever, in some instances removable by constantly cleansing the ditch, but at much less cost, and more effectually remediable, by substituting for the ditch an arched sewer of sufficient capacity.

Among the several communications received, this is mentioned as the cause of fever in certain districts, of which one example will suffice.

To the Poor Law Commissioners.

Gentlemen,

115, Holborn-hill, 3rd May, 1838.

IN reply to your letter of the 27th ultimo, I beg respectfully to make the following observations. The district of which I have the charge (Saffron Hill) is a very filthy one, perhaps as much so as any in London; and, although it would be difficult to describe it in all its details, yet there are two or three prominent features which I may point out. First, there is an open sewer running the whole length of the district; not a small drain, but almost a river of filth, which passes under Farringdon-street and Bridge-street (where it was formerly known by the name of the Fleet Ditch), and empties itself at the foot of Blackfriars' Bridge: upon the very edge of this ditch many of the poor have their dwellings, so that they may be said to live continually in an atmosphere tainted by it. Next I may mention that some of the privies in the neighbourhood of this sewer are in a very sad condition; and lastly, the great mass of the houses in this neighbourhood are exceedingly dirty, and contain as many inhabitants as they well can. The great majority of the cases of sickness occurring in this district are in the locality above alluded to; and the diseases most prevalent since I have had the charge (six years and a half) are typhus and continued fevers. Six years ago fever prevailed very much in this particular neighbourhood; and again, for nearly the last two years, we have never been quite free from it. Many of these fever-cases become chargeable to the parish, in some shape or other, principally by being admitted into the workhouse, in which we have been obliged to appropriate one ward to fever cases, and which has seldom been empty for the last 18 months. The number of fever-cases occurring in the year 1837 was about 200; of these, about 60 cases were treated in the workhouse. No doubt some of these cases came from various parts of the district. Considering the filthy habits of the people dwelling in this particular locality; considering the privations many of them undergo with respect to food, and their intemperate use of ardent spirits; that they are huddled together in ill-ventilated rooms, and that this place is the resort of Irish lodgers, who are travelling the country, it is exceedingly difficult to give an opinion how far these cases of fever have had their origin in such causes; how far they have had their origin in states of atmosphere equally affecting the crowded parts of this metropolis; and how far they have originated in the local causes above-named; especially as I must not omit to mention that during three years we had very few cases of fever, and also that this part was very lightly visited by spasmodic cholera, not more than 100 cases occurring, so far as

I know, from its first appearance in this town. With respect to the remedy for these nuisances, I perceive no effectual one that I can recommend, but that of pulling down all the old houses, arching over the sewer, and building a new street. As to any lesser remedy, it does not appear to me that more can be done than to see the privies and drains from them are well washed continually with water, and that the ashes, which are sometimes allowed to accumulate in the courts, are regularly taken away. This seems to me all the information I am able to communicate.

I remain, &c.

(Signed) JAMES APPLETON.

III. Open stagnant pools of water, rendered putrid by the admixture of animal and vegetable substances.

The evils arising from this source are exhibited in a letter from Homerton.

To the Poor Law Commissioners of England.

Gentlemen,

Homerton, 7th May, 1838.

IN answer to your letter of the 27th April, 1838, I beg to observe that, should the delay appear longer than might have been expected, it has been with the view of making you acquainted with as much information as in my power to acquire. I may state that in my district, comprising Homerton and Mare-street, of the Hackney Union, I am seldom without cases of a typhoid character, and have carefully searched through my register of sickness from Lady-day, 1837, to Lady-day, 1838, and find there have been 24 cases of severe typhus, of which four were fatal; 15 of the number were in one locality, named Silkmill-row, and Wick-street, attributable, I think, to an obstruction by a dam to a mill, which allows a large accumulation of decaying and other matter of a deleterious nature, likely to cause an atmosphere not at all congenial to health, which aided by, I am sorry to say, the innate want of cleanliness and care on the part of the poor, frequently gives rise to fevers of this description, notwithstanding my very urgent and strenuous endeavours to inculcate the importance of it to their own welfare and comfort. There are two or three other places where the drainage is not so good as it might be, which I beg to name—Cross and College-streets, Homerton, Wood's-yard, Well-street; these are, I believe, private property; as to that previously mentioned, it has been the subject of litigation between, I believe, the parochial authorities and the party to whom it belongs.

I beg leave to acknowledge having submitted your letter to the guardians under the New Poor Law, at their weekly meeting, thinking some of them might be acquainted with things which have escaped my observation, pointing out, at the same time, the places mentioned in this letter, which, I am happy to say, meet with their approbation: trusting the same may attend it with yourselves,

I am, &c.

(Signed) FREDERICK EVANS TENSCH, *Surgeon.*

IV. Undrained marsh-land is mentioned as a cause of fever in Great Stanmore parish, Edgware, and the medical officer, Mr. Foote, urges the draining of the marsh at the public expense.

"Two years past a fever raged at Red Hill, which I attributed to the lodgment of the filth from privies, which I had removed at the time; and the same thing occurred at the Hide, the fever prevailing there being of the typhoid type; and I consider that, unless the ditch is cleaned, the same kind of fever will prevail again; and also at the marsh in the parish of Great Stanmore, typhus fever lately prevailed amongst the poor.

"The ditches at the Hide and Red Hill ought to be kept clean by the parties to whom the houses belong, and I should think the draining the marsh should be a public measure."

Ague is said, by Mr. Wright, of Woolwich, to prevail among the poorer classes in the village of Plumstead, and is ascribed to the marshy state of the land in the vicinity; but Mr. Wright does not think the evil admits of a remedy by drainage.

"With respect to the number of cases of illness ascribable to the above causes, I can state that I have attended, from the 25th February, 1837, to 31st Decem-

ber, 1837, 75 cases of illness. I cannot impute blame to persons, on account of the continuance of the evils, neither do I think that the marshes can be more free from stagnant pools than they are at present."

V. Accumulations of refuse, either thrown from the houses, or otherwise collected in the streets, courts, and lanes.

This source of disease is enumerated in several of the letters received, from which we select the following:—

Gentlemen,

Winchmore-hill, 30th April, 1838.

IN reply to your letter of the 27th, received by me on the 28th, I beg to state that there are two parts of the parish of Edmonton, which I have visited, as the medical officer of the district, in which accumulations of filth are allowed to occur, namely, Archer-street and Eaton-place; in the latter, cases of typhus have prevailed, more particularly in one house, which, on my representation to the Board, was immediately cleansed and lime-whited, and has since been free from the complaint. The accumulations are the result of the dirty habits of the people living in the places mentioned, and removable only by public means. The cases of fever arising from the exhalations from the heaps in this narrow and thickly-inhabited part are 20, most of which were removed to the fever-ward of the workhouse, and recovered; I am not aware that any party is at fault in allowing these accumulations. My district has been very free from fever, except in the localities mentioned, therefore I conceive that the cause is local and confined.

I am, &c.

The Poor Law Commissioners.

(Signed) CALEB RADFORD.

Gentlemen,

Hammersmith, 1st May, 1838.

IN reply to your letter of the 27th ultimo, inquiring if any and what cases of fever have come under my care, which have been occasioned by the want of drainage or other causes capable of producing fever,—

I beg to state, from an experience of 30 years, during which time I have been the medical attendant of the poor of Hammersmith, that we have always had, at certain seasons of the year, fever prevailing to a great extent among the poor, attributable in a great measure to miasma, produced by a quantity of water which had been left stagnant on the surface of the earth after brick-making, and which in process of time had become full of vegetable matter. Some years ago this evil had become so alarming, that the inhabitants, influenced by the respectable medical men in the neighbourhood, agreed to adopt measures for improving the drainage, and the parish expended considerable sums in so doing; but we have still several places inhabited by paupers without any drainage at all, or what there is so very insufficient that a great quantity of filth of all descriptions is constantly lying on the surface. In several cases this is attributable to the neglect or cupidity of the landlords, whose duty it should be to render the habitations of their tenants more healthy, but whose names I am not sufficiently acquainted with to mention them, but which information might be easily obtained by inquiries by the parish authorities; and there are others capable of much improvement at the public expense.

It appears, by the register of sickness and mortality, that we have had 10 cases of fever from the 29th of September to the 25th of March, and the greater part of these are certainly to be attributed to causes that might be removed by improved drainage or greater cleanliness; these are independent of small-pox and other diseases, the malignancy of which must be increased by the above circumstances.

I am, &c.

*To the Poor Law Commissioners
of England and Wales.*

(Signed) J. BOWLING.

Gentlemen,

Ratcliffe-highway, 4th May, 1838.

IN consequence of the illness of Mr. Garrett, the medical officer for the outdoor poor in this parish, who is only just recovering from typhus fever, I beg to reply to your circular of the 27th ult. In many parts of this parish the absence of fever is but of rare occurrence, and it is generally more prevalent

spring and autumn; although, undoubtedly, much may be attributed to insufficient drainage, a great deal of disease is produced by the careless and dirty habits of the lower order of people dwelling in many parts of this neighbourhood, who, regardless of all consequences, persist in throwing rubbish and other offensive matters in the streets in front of their houses, which naturally engender much disease. I would particularly mention Dock and Albion-streets, in the upper division; and King-street, in the lower division of this parish; where fever frequently occurs in great violence: many precautionary measures have been at different times taken by the parish authorities, but they have been in a great measure frustrated by the inhabitants themselves. I am unable to state the number of cases which have become chargeable to the parish, that belonging to the department of Mr. Garrett.

I am, &c.

(Signed) J. S. HOPKE,

*Medical Officer for the In-door Poor
of St. George (East), Middlesex.*

*To the Poor Law Commissioners
for England and Wales.*

Mr. Swainer, of the Peckham district of the Camberwell Union, states,—

“There are many situations where the poor reside, which are in a very dirty unhealthy state, and which, if legal power was granted to insist upon their being kept otherwise, would very much improve the health and comfort of the working classes; and I would suggest the idea of the landlords of many of these wretched, filthy tenements being held responsible for their being tenantable, healthy, and cleanly, whether by declaring the tenants not bound to pay their rent, if the relieving officer or medical attendant should report them untenable, or liable, from improper drainage, &c., to promote disease. I beg leave to offer these suggestions, merely conceiving your letter to be seeking for information on so important a subject.”

VI. Lodgment of filth in large cesspools and privies, in situations where the exhalations are destructive of health, as described in the following letter:—

19, *White Lion-street, Goodman's-fields,*

2nd May, 1838.

Gentlemen,

THE receipt of your letter of the 27th ultimo afforded me much pleasure, for by it I perceive that your attention has been directed to the fact that fever has prevailed, and still continues to prevail, to an alarming extent, in several districts in the metropolis; and further, that you express a desire of adopting some means for its removal.

You request, in your letter now before me, to describe the nature of such places where fever has most prevailed; to which I reply, that fever has been most severe in those courts and alleys where there is no free circulation of air,—such as, for instance, Johnson's Change, in Rosemary-lane, in which there are about 20 houses, in almost every one of which fever prevailed.

The disease first made its appearance there in the month of August last, and on my first visit I found the intolerable nuisance of the overflowing of a cesspool or privy, which continued for some time, there being no sewer to carry off the soil. I have no doubt that fever would not be so severe amongst the abodes of the poor, if there existed a more free circulation of air, a more perfect system of sewerage, and a greater attention paid to the more speedy removal of all filth from the numerous courts and alleys; and also if the inhabitants of these places would keep the interior of their habitations in a cleaner state.

I may further state that, if patients, as soon as attacked with fever, were removed to a proper place set apart for them, much distress and suffering would be prevented; for, if one individual of a family amongst the poor be afflicted with fever, the anxiety, care, fatigue, and watching, imposed upon the other members, is almost sure to produce it in them.

I am, &c.

To the Poor Law Commissioners.

(Signed)

JOHN LITTLE.

Under this class of nuisances may be also noticed the accumulation of filth in cow-yards and piggeries, especially those in close courts and narrow areas surrounded by houses.

VII. The situation of slaughter-houses in densely-peopled districts, among narrow streets, and the bad regulation of these establishments.

Among others, this great evil is adverted to by Dr. Jordan Lynch, medical officer of the West London Union.

Sir,

King-street, Snow-hill, 1st May, 1838.

IN answer to your communication of the 27th ultimo, I beg to state that the parish with which I am officially connected comprehends the poorest and most dirty, lowest, and worst-ventilated, parts of the city of London, chiefly inhabited by the humblest classes of the Irish, and the most abandoned of both sexes; West-street, John's-court, and Field-lane, with the numberless intricate labyrinths and courts, the haunts of prostitutes, pickpockets, and thieves of every description, in which fever seems to have taken up a permanent abode. I have known it to exist there through heat and cold, through wet and through drought, through every variety of weather; and that the district has never been wholly free from it. Owing to the absence of cleanliness, the crowded state of the rooms, six or seven inmates sleeping in one small room, intemperance, the accumulations of dirt and filth that are allowed to take place, all contribute to feed disease and to futilize the efforts of the medical attendant to eradicate it. In addition to this, the number of slaughter-houses that there are in the neighbourhood, or on its immediate confines, and the Fleet Ditch, the reservoir of all the contiguous sewers, runs underneath those places, above the bed of which many of the houses in the back alleys of Field-lane are only a few feet elevated; all these circumstances constitute the constant source of the generation of contagion.

The last six or seven weeks we have been called on to attend many cases of typhus fever, of a very malignant character, chiefly attacking the labouring classes residing in the dirty and most unhealthy portions of our locality. Upwards of twenty cases have occurred within the last three weeks, three of which terminated fatally, two taken into the workhouse, the other was an out-door casual, for whom we had not room. The majority attacked were those who were unable to procure adequate nutriment, from want of employment during the last inclement winter, which predisposed them to the attack of the contagion, and deprived them of the power to resist its ravages. I understand that the narrow area into which such a mass of life is impacted will be shortly thrown open by the city authorities, for the site of the new street, which is to be the prolongation of Farringdon street to Clerkenwell.

I have, &c.

(Signed)

JORDAN R. LYNCH, M.D.,

E. Chadwick, Esq., &c. &c. &c.

Medical Officer, West London Union.

VIII. The state of the public burial-grounds, in thickly-peopled districts, is an intolerable nuisance, as the following documents show.

*19, Three Tuns Court-road, Redcross-street,
Cripplegate, 8th May, 1838.*

Gentlemen,

SEEING, from your circulars to the medical officers of the various Unions, that you are desirous of information on the cause of contagion among the working classes, and seeing also that these gentlemen cannot account for the evil, I take the liberty of stating the cause, or at least that which is in a great measure the cause, of diffusing the miasma of pestilence among the poor: how fever among them affects the other classes I leave you to decide.

The subject to which I call your attention is the cheap burial-grounds in the metropolis, which in general are situated in poor neighbourhoods: the graves in these grounds are dug and left open from one Sunday to another, or till they are filled with bodies; no more earth is thrown in them than will just fill up the sides of each coffin; when seven or eight bodies are interred, then it is filled up, and not till then, be that a week or a fortnight. These grounds are in general divided into three or four different prices, as suit the circumstances of the parties; those graves are also dug so close together, that the range of bodies in the adjoining grave may be seen with the heads and feet of others at each end: thus, those long dead, as well as the recent, give forth the mephitical effluvia of death, and it is only for a person that desires to be convinced of the fact just to visit some of those grounds after a heavy shower of rain; one of the reasons why pestilence attacks the poor first is by their visiting these pest-grounds as mourners.

I will now give a case in point. There are four burial-grounds for the poor, within 200 yards of each other, in that densely-populated neighbourhood, Golden-lane, Cripplegate, surrounded with houses, and abutting close to the walls. About this time last year a court filled with poor people (not forty yards from one of these burial-grounds) was attacked by fever. So direful were its effects, that the court was ordered to be closed, unless it was pulled down or thoroughly repaired.

Permit me now to suggest preventives: a strict attention to the burial of the dead and the burial-ground; absorbents may and ought to be used, with good effect and at a cheap rate, with interest also to the proprietors, at these grounds; absorbents have a tendency to retain and neutralize putrescent matter; inspectors ought to be appointed in every parish to inspect grounds and vaults; and, as parish beadies have not so much to do as heretofore, a few pounds to such annually for such extra labour would be the best money paid by any parish. I think that an inspector is quite necessary, as one of the preventives, and would be so with proper instructions. There wants but little observance to prove that the exposed bodies of the dead are the great cause of contagion; next is the decomposed animal and vegetable substances, a want of ventilation and cleanliness in the houses of the working classes; these all contribute to the worst of maladies. Visit many of the houses of the poor, and you will find in thousands of them no ventilation at all, no thorough draught of air; their cellars loaded with rubbish, and their cesspool seldom emptied. To attend to these also is a most essential part of the duty of those who desire to see the metropolis healthy. I remain, &c.

(Signed)

ROBERT BULLEN.

*To the Honourable the Poor Law Commissioners,
Somerset House.*

IX. The want of ventilation in narrow alleys and close courts inhabited by the working classes.

Some of the communications from which quotations have been made, in illustration of other subjects, also advert to the defective ventilation of the close courts and narrow streets and alleys in which the working classes frequently live. Many other letters advert to this evil, and among the rest the following:—

Gentlemen,

High-street, Borough, 5th May, 1838.

IN reply to observations and questions addressed to me in a circular dated 27th ult., I beg leave to state, that in the district to which I attend, fever is seldom or never altogether absent, though much more rife at particular seasons than ordinarily.

That the disease principally exists among the poor in localities where either there is no or very imperfect drainage, or the drains are open and badly kept; where filth accumulates; where the population is extremely dense, and the ventilation exceedingly defective.

That it is my opinion, independent of any higher consideration, money might be profitably expended by the parochial authorities in diminishing these evils.

That the localities in which typhus of the worst form usually exists, and, when prevalent, most commonly extends, are narrow courts, lanes, and alleys, through which there is little or no current of air, in which drains do not exist, or are improperly kept; the houses densely crowded, several persons, and often two or three families, very generally Irish, occupying a single room in which all kinds of filth are allowed to accumulate, and little care is taken, either by the landlord or tenants, for the removal or prevention of such evils, for the establishment and maintenance of cleanliness. Such places are often, I doubt not, together with atmospheric influences, the fruitful sources of fever, and I am confident that they often act as prolific foci of contagion. This is not unfrequently rendered increasingly virulent by the great indisposition of the poorer classes to be removed, at the early stage of the complaint, to hospitals or other receptacles of the sick, and in some few instances by the landlord or his collector aggravating the evils for the purpose of ejecting refractory or distressed tenants. Only a few cases have occurred in which individuals have become chargeable to this parish in consequence of the death of heads of families; they may amount in the whole to about six families, independent of those sent at the parish expense to different hospitals, to the number of about forty. Though the evils to which I have ad-

verted are not to be entirely removed without a rigid system of medical police, yet I believe they might be materially diminished by a proper regard to cleanliness, by a regular purification of such courts, &c., by lime washing the houses and rooms, by a wider distribution of their densely-crowded inhabitants, and by some restraints upon the numbers admitted into the lowest class of lodging-houses.

I am, &c.

(Signed)

GEORGE ODLING.

P.S.—I beg to inform the Commissioners that my colleague in this Union, Mr. Doubleday, is at present dangerously ill from typhus fever, caught in the prosecution of his professional duties, that I am consequently under the necessity of attending his pauper patients at the workhouse.

2dly. Among the circumstances injuriously affecting the well-being of the poorer classes, and originating to a considerable extent in their habits, are—

I. The state of the lodging-houses of mendicants and vagrants, and of a certain class of the more needy Irish poor.

Frequent opportunities of observation enable us to state that this nuisance is correctly described in the following letters, which we select from several others on the same subject.

Sir,

Deptford, 8th May, 1838.

As medical officer for the parishes of St. Nicholas and St. Paul, Deptford, in the Greenwich Union, I beg to inform you, in reply to your letter of the 27th ultimo, that in the last-named parish there is a place called Mill-lane, where several cases have occurred, and are continually occurring, most of which are fever-cases.

The houses in the above lane are all occupied by the poorer sort of people, and many of them are common lodging-houses, where beds are let out at a trifling sum per night to itinerants of the lowest description, or to any one else, whether sick or healthy, clean, or dirty, who has the required amount in his possession. In those miserable receptacles, where 30 or 40 people are sometimes lodged for the night in one small house, disease is engendered, and many heavy burdens have been thrown upon the parish in consequence; no less than 82 cases having required my attention, as the medical officer of this portion of the Greenwich Union, in the year ending on the 25th March last.

The parish-officers have often threatened the keepers of the above-mentioned lodging-houses with prosecution; but, owing, as I am informed, to the inadequacy of the existing law to meet the case, no prosecutions have been instituted. It would certainly be very desirable if some public means of a summary nature could be devised to remove evils of the above nature.

I have with much reluctance been obliged to recommend the removal of persons afflicted with malignant disease from the before-mentioned lodging-houses to the workhouse, in consequence of there being no fever hospital or other suitable place in the neighbourhood to receive them.

At the time of the cholera there were more cases in the above situation than in any other part of the town of Deptford.

I shall be happy to give you any further information you may require,

And remain, &c.

(Signed)

ROBERT HATFULL.

Sir,

Highgate, 5th May, 1838.

ALTHOUGH fever has not prevailed generally in Highgate to the extent, or in the very severe form in which it has visited some parts of London and its immediate neighbourhood, still there has been lately a larger proportion of sickness than usual, and cases of fever have been numerous among the poor. Scarlet fever and other eruptive fevers have been prevalent, generally severe, and not unfrequently fatal. From its elevated situation there is a constant change of air and a good natural drainage, yet there are some spots in Highgate where, from the crowded state of the houses and the dirty habits of the people, the local drainage is very imperfect; filth is accumulated and foul air engendered. To one such,

be directed who have the power to prevent or diminish the great amount of bodily suffering, and of both physical and moral evil, which such places are constantly the immediate cause of: that now in question is a lodging-house, which is inhabited by a great number of the lowest and most abandoned persons, chiefly Irish beggars. These people frequently sleep three or more in a bed, which appears never to be changed or cleaned. There are four or five beds in some of the rooms, which are very imperfectly ventilated. This is a constant and prolific source of disease during summer and autumn; fever is seldom absent, and it is not without risk of infection that the sick can be visited, and when visited is to little good effect, as no dependence can be placed on the administration of remedies, which is neglected, and the food ordered for the sick consumed by the wretched beings who have often refused assistance, and even ill-used their suffering fellow-creatures.

Within the last year eleven cases of severe disease have occurred in this house, mostly to be traced to the above causes; of the eleven, five have died.

One of the principal reasons of my desire to direct attention to this nuisance, and to hope for its speedy removal, is, that poor persons, not having had a home or friends in Highgate, when attacked by illness too severe or sudden to allow of their removal to the workhouse at Hampstead, or, as has sometimes happened, in an exhausted state from want and fatigue, have been sent to this lodging-house by the relieving officer or overseer, by which means disease has been much aggravated and protracted. Any relief, medical or other, is utterly useless, from the certainty that it will either be neglected or perverted in its application. The habitual lodgers are continually suffering from disease, more or less severely; and when this is the case, being deprived of all means of subsistence, they are necessarily a constant and considerable expense to the parish. I remain, &c.

E. Chadwick, Esq.

(Signed)

ROBERT MOGER,

Surgeon to the Highgate District of Hornsey Parish.

To the Poor Law Commissioners.

Sirs,

1st May, 1838.

THE Poor Law Commissioners have been rightly informed that a very malignant typhus fever has prevailed here for some time past, and indeed rages now as bad as ever, and, I think, more fatal in its course. In looking over my books I find that, in the space of nine months, I have attended upwards of 500 pauper cases; but I cannot trace the disease to any local cause, for we have in the parish of St. George very good drainage through the parish, and very little accumulated filth, with the exception of Falcon-court, White-street, Noel's-court, Hunter-street, and Peter-street (Mint); but here the disease does not exist more severe than over the parish in general.

The principal causes by which it continues and is propagated, I think, are, 1st. Intemperate habits of the poor: indulging in spirituous liquors, with little solid food; their irregularity of being at home. 2nd. Want of cleanliness, both in person and habitation; wearing the same clothes; sleeping together at the time when the fever rages in the house or room. 3rd. Want of ventilation; often their rooms are seldom swept, washed, or ventilated for months together; I frequently attend three or four in the same room, generally taking the disease in succession.

Typhus fever has been so contagious that my two assistants caught it in a severe form, but ultimately recovered.

In consequence of all the hospitals being full and our workhouse not completed, the severity of the disease is more felt, for I cannot get the first case removed to prevent others suffering from the first cause; therefore, will the Poor Law Commissioners allow me most respectfully to suggest to them the propriety of urging the completion of the workhouse? as in that case great part of the evil which now exists would be removed, as I could appropriate a room or two for the reception of urgent cases, and would also lessen the burden of the rate-payers; for most of the distress now in existence arises from want of accommodation in the workhouse.

I remain, &c.

(Signed)

EDWARD EVANS, *Surgeon, &c.*

63, Blackman-street, Borough.

II. The crowded state of some of the dwelling-houses, which, in certain districts, contain several families under one roof.

III. The gross want of cleanliness of the person, dress, and habitation, among certain classes of the poor.

These evils form prominent topics in several letters.

Gentlemen,

10, *Church-street, Spitalfields*, 5th May, 1838.

THE information you have received, with regard to the constant existence of fever in some districts, applies so entirely to that division of Whitechapel Union of which I have been some time the medical officer, that 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, 3, 8, 10, 19, 24, 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. In Spitalfields parish, the other side of Wentworth-street, all Rose-lane, Magpie-court, Factory-court, many houses in Flower and Dean-court, 30, 31, 41, 45, 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.

One house, 6, Little Pearl-street, known by the name of the Great House, I look upon as an especial nuisance; it is inhabited by 12 or 14 families, and has scarcely been free from fever-cases for as many years; the same remark applies to Hodson's-court, Wheler-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. 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 particularise. The crowded state of, and constant change of inmates in, the lodging-houses, especially in Essex-street, George-yard, Wentworth-street, and Rose-lane, render them perfect hot-beds for fever; 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. I have, during the last year, attended, out of the workhouse, about 600 cases of fever, a large proportion of which were clearly ascribable to the evils I have hastily alluded to. 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.

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 burdens 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 it is to be hoped that such a portion of the advantages to be anticipated from the labours of the Committee of the House of Commons, for effecting improvements in the metropolis, will fall to the share of our neighbourhood, that this great good will be effected. A line for such a thoroughfare has been recommended by the intelligent and excellent rector of our parish, and by others well acquainted with our local necessities, which would traverse Essex-street, Rose-lane, Red Lion-street, Wheler street, &c., and thus sweep away by far the greatest part of the bad district I have described—bad, morally as well as medically—and improve the character and value of property adjoining: and I trust, if the members of your Honourable Board possess any influence with that Committee, you will recommend the proposed line should be adhered to, as any deviation from it would leave the evil for the most part unassailed.

Nothing occurs to me at this moment to add to my very hurried communication, but, if any oral evidence which I can give be at any time considered of value, I will most cheerfully wait upon you for that purpose, and remain, Gentlemen, with much respect.

Faithfully yours,

To the Honourable
the Poor Law Commissioners.

(Signed)

SAMUEL BYLES.

IV. The prevalence of intemperance.

Mr. Mitchell, of Harleyford-place, among others, dwells on this subject with much feeling.

"The state of the poor, which so extensively tends to produce sickness and suffering, has long pressed heavily upon my mind; not so much on account of the expenses which their diseases entail upon the parishes, but on account of their own sufferings, which I believe to be the bounden duty of the legislature of a Christian country to do all that lies in its power to remove. The great cause of poverty and abject want and disease among this class is their abominable habit of drunkenness, which brings them to want, enervates their bodies, and renders them very susceptible of the attacks of destructive maladies, and, when attacked, is what enables disease to feed with so much ravage upon them. The object then should be to ameliorate this condition by moralizing them, by general and religious instruction, and by endeavouring to disabuse their ignorance of the bad effect of all fermented liquors, even when taken in small quantities as ordinary food, which, with them, is almost sure, ultimately, to lead to their immoderate use, and then to destroy the morality, the mental faculties, the corporeal stamina, and the domestic comfort of all, and produce that carelessness of filth in their own persons and houses which make them live in a far worse state than that of the grossest quadruped.

"I believe that a great advantage would accrue to paupers suffering from contagious disease, or from epidemic diseases, which may, under circumstances, become contagious in their own filthy dwellings, and to the parishes, if a peremptory order were given to have all such cases removed into an isolated ward in the workhouses, immediately that such diseases under such circumstances occur."

V. The habits of occupying houses previously deserted on account of their rickety and unwholesome condition.

We inspected a remarkable example of this source of disease in Ropemaker's fields, Shadwell, called White's-rents; rent having at some remote period been collected from the former tenants of these miserable habitations. These dwellings were built of wood, and were, in external appearance and internal decency, inferior to common cattle-sheds; yet, because they had not been pulled down, they were inhabited by Irish families, who could not afford to live elsewhere, and were the prolific foci of fever to the surrounding neighbourhood.

VI. Indisposition of the poor to be removed to the hospitals, when infected with contagious disease.

This fatal error is adverted to in many letters, but especially in one from Mr. Sterry, of Bermondsey.

Gentlemen,

Grange-road, Bermondsey, 3rd May, 1838.

In reply to your communication of the 27th of April, we beg to state that this district has been the seat of many cases of fever occurring in close confined situations, where the drainage would appear to be defective, where the surface is very seldom cleansed, and where the inhabitants congregate in large numbers in courts and alleys, where the houses are very imperfectly ventilated, and the habits of the inmates very dirty and filthy; such places are in the courts in Long-lane, Snow's-fields, Smith's-buildings, Long-walk, &c.; places known as the back of the Pitt's Head, in Grange-road; in all these places during the last twelve months fever has constantly appeared, and it has very rarely occurred to us that

where one case has arisen, others have not succeeded in the same dwelling. Very few of these cases have terminated fatally, where we could persuade the parties themselves, or their relations, to suffer them to be conveyed to our workhouse, or to an hospital, before the last stage of typhus had set in; but to this in some instances we could not gain their consent until too late. In the course of attendance upon this epidemic, it has often occurred to us (and we have spoken of it several times to the Board of Guardians), the possibility of insisting upon the removal of every inmate from these infected houses until they had been properly cleansed and fumigated. You will allow us to mention a case which points out the necessity of some absolute power to effect this:—On the 28th December last we received an order to attend a child of the name of Witnell, residing in Upper Russell-street; from that time until the present moment we have been in attendance upon this family: it consists of three branches; one residing in Upper Russell-street, one in Raven and Sun-yard, the other in Ebenezer-row. Of the former, the whole family, five in number, have also recovered; of the other family, eight in number have been attacked, and all got well except the mother, who died shortly after her admittance into the workhouse; the children recovered, and, after being some time in the house were removed to an adjoining parish, and from thence sent back to Ebenezer-row, though we gave a certificate that it was dangerous and improper to do so.

One child admitted on Monday last, was the fourteenth of this family which has been received into the workhouse attacked with fever, so that no sooner has one been cured than another has come in; whereas, if we could have insisted upon their earlier removal, the parish would in all probability have been saved the expense of maintaining them during so long a period.

We have been tedious in mentioning these instances, as they appear to us forcible examples of the position we advanced, the necessity of some effectual controlling power.

We have, &c.

(Signed)

SAMUEL HENRY STERRY,
HENRY STERRY.

VII. The neglect of vaccination forms the chief topic of a letter from Mr. Litchfield, of Twickenham.

Sir,

Twickenham, 3rd May, 1838.

IN answer to your letter respecting the prevalence of fever in this district, No. 6, of the Brentford Union, I have to state that little (if any) cause of complaint on that score can be traced here. Although, previous to the Union, I had been on very many occasions parochial surgeon, yet I have no recollection of any epidemic, save the influenza, troubling the labouring classes, and that malady afflicted rich and poor.

The evil which appears must serious (and in my opinion it is a most serious one) is the general prevalence of variola maligna (the worst species and which is generally propagated and increased by the indiscriminate inoculation by improper persons. It is also rendered more general by the neglect of the poor to have their children vaccinated, and which is always done by medical men, in most districts, gratuitously. The small pox is now prevailing here to a great extent, and, should the weather become warm, it is not unlikely the disease may spread, as thereby the symptoms would be increased, and the probability of contagion extended. The attack has been in some early instances scattered, but it is now assuming a more wide range, and the cases multiply daily. Within the last week two persons have been thrown upon the parochial resources, and many more may be expected, for the poorer classes locate thickly, and the most cleanly are capable of much improvement.

I have, &c.

(Signed)

THOMAS LITCHFIELD,
Surgeon District, 6, Brentford Union.

Edwin Chadwick, Esq.,
Poor Law Commission Office, Somerset House.

It appears that the magnitude of the evils complained of in the preceding communications has caused occasional and irregular efforts for their removal by the

local authorities, which, wanting in most cases the direct sanction of law, and being dependent on the general concurrence of the inhabitants for the authorisation of the expenses incurred, have necessarily been inadequate for the removal of the nuisances of which complaint is made. The expenses thus incurred have frequently been illegally charged upon the poor-rates, and not seldom without any public concurrence of the inhabitants, but only with their tacit compliance in the acts of the local authorities: since the law has made no provision for the payment of such charges out of the poor-rates, the auditors have been unable to allow them, and even the irregular and insufficient efforts alluded to are therefore likely to cease.

The visitation of cholera, and the formation of special boards of health, powerfully excited the public attention to the extent of these evils, and the amount of social mischief, of which they were the fertile sources; and well-directed efforts were at that time made, with considerable success, for the temporary abatement of whatever noxious physical influences were found to impair the well-being of the poorer classes, and endanger the community generally. Though these efforts have for some time past ceased to be made, because the special boards of health have been dissolved with the disappearance of cholera, the facts disclosed by the investigations conducted by those boards produced an impression on the public mind which still remains, and which will lead the more intelligent members of the middle classes to welcome any effort which the Government may make to procure a legal sanction to their efforts for the removal of these evils.

It does not appear that such authority could be so usefully intrusted to any other public body as the Board of Guardians:

1. Because the means of inspection necessary to the detection and prevention of the evils complained of already exist in the paid officers of the Board.

2. Because they are a representative body in constant communication with the inhabitants, who are interested alike in the removal of the evils, and in the right application of the funds contributed by them as rate-payers.

3. Because the evils, the removal of which is sought by the exercise of the authority of the Board of Guardians, are such as affect the health of the poorer classes especially, and, by depriving them of ability to labour, occasion their dependence upon the parish, and the Board will therefore necessarily witness both the effects of the evils complained of on the health of these classes, and also be in a situation to ascertain the effects of their interference.

In order to procure the removal of the nuisances described, two classes of powers might be conferred on the Board of Guardians:—

1. Power to procure the temporary cessation of the evil reported.
2. Power to prevent its recurrence.

Under the first class of powers the Board of Guardians might be authorised to direct at the public expense—

1. That uncovered and stagnant drains and ditches, on open and stagnant pools of water, from which fetid effluvia arise, should be emptied and cleansed.

2. The drainage of any open common or waste land which appeared upon the report of two of the medical officers injuriously to affect the health of the inhabitants, or to cause ague.

3. The removal of accumulations of refuse thrown from the houses, or otherwise collected in the streets, courts, lanes, and entries, and the cleansing of all surface drains of such streets, courts, lanes, and entries.

4. To direct the removal of accumulations of filth from cesspools, privies, piggeries, cow-houses, stables, &c., yards of dwelling-houses, and houses, whenever two of their medical officers certified in writing that the state of such places was likely to prove injurious to the health of the neighbourhood.

5. To cause from time to time an inspection of the lodging-houses at which paupers, vagrants, and mendicants are reported by their officers to lodge.

6. To direct the whitewashing of the rooms of such houses at least twice every year, and if, after notice to that effect from the clerk of the Board, dated ten days previously, the inspector shall find the occupier has neglected to comply with such direction, to authorize the Board to cause the house to be whitewashed by such persons as they may appoint for that purpose, and to recover the cost of such whitewashing and cleansing by application to the occupier or owner of such property, or by a summary mode upon refusal of either of them.

7. When the inspector shall report that three or more families live under the same roof, to authorise the Board to cause such house to be whitewashed and cleansed in a similar manner at least twice annually, at the expense of the owner.

8. Empowering the Board to direct two public surveyors to examine the state of any house which shall be reported to be so dilapidated or insecure as to threaten the safety of the inhabitants or the public, and upon receiving such report to remove the inhabitants from such house, and to direct the owner of such property, under penalties, to be summarily recovered, to cause such habitation to be rendered safe, or to be removed, as may seem most expedient to the Board on the report of the surveyors.

9. To prevent the habitation of houses which have for such causes been deserted, and from which no rent is on that account obtained by the landlord.

We cannot close the Report without remarking that the extirpation of the evils arising from these defects in the sanitary police of large cities cannot be effected unless powers are confided to some authority selected by the legislature for the prevention of those grievous defects to which our attention has been drawn. The imperfect drainage, or the absence of all drainage whatever, the want of a proper pavement in the street, &c., are frequently found in districts which have been recently covered with masses of new habitations huddled together in confused groups, with streets so narrow, and courts so completely enclosed, as to prevent the dilution of the malaria arising from various sources within their precincts by the ventilation of free currents of air.

Many of the most recently erected suburbs of our great cities exhibit so complete a neglect of the most common and obvious precautions, that it can be attributed only to the fact of the increase of the population being so rapid that the owners of such property can command tenants, notwithstanding the absolute neglect of sewerage, and the absence of many precautionary arrangements absolutely necessary to insure health. We do not suppose that the means of preventing the recurrence of such evils can be immediately applied; and the circumstances under which this Report is prepared do not enable us to do more than briefly to allude to the nature of the powers which it appears to us to be desirable that the legislature should confide to some competent authority, whenever this subject can obtain the attention which its great importance justly demands.

We do not attempt to determine to what body these powers should be confided, nor do we consider it necessary to describe the exact mode of their operation, but it seems most expedient that to some authority should be confided power to cause the survey of land (in the vicinity of towns) likely to be built upon, and to enforce certain conditions on the owners and lessees of such property.

Thus no building should be commenced until plans of the intended streets were prepared, describing the situation of every block of houses for such an extent of area as should be required by the Board intrusted with the regulation of the precautionary measures; duplicates of such plans should be deposited with the Board, and no building should afterwards be erected on the site otherwise than had been delineated in the plans.

The Board should have authority to prevent the formation of streets of less than a certain number of feet in width, and to prevent the formation of courts having communication only by means of covered entries, or alleys of less than a definitive width, with thoroughfares and streets.

It should also have power to prevent the habitation of cellars in any houses erected after the period of the enactment.

Authority should be given to require that, before any buildings are erected on any plot of ground now unoccupied or only partially occupied with houses, such plot of ground shall be drained by such sewers as the Board shall deem sufficient; and provided any owner or occupier of such land should proceed to build without having provided such sewers as the Board should direct, the Board should have authority to cause such sewers to be made at the cost of such owner, and should be empowered to recover the cost from him.

That the Board should have authority to require that every habitation should be provided with a drain communicating with the main sewer, with a proper receptacle for every kind of refuse.

We have, &c.

(Signed)

NEIL ARNOTT, M.D.

JAMES PHILLIPS KAY, M.D.

SUPPLEMENT, No. 2.

REPORT on some of the Physical Causes of Sickness and Mortality to which the Poor are particularly exposed, and which are capable of removal by Sanitary Regulations; exemplified in the present condition of the Bethnal Green and Whitechapel Districts, as ascertained on a personal inspection by SOUTHWOOD SMITH, M. D., Physician to the London Fever Hospital.

Gentlemen,

36, New Broad-street, May, 1838.

SOME of the severest evils at present incident to the condition of poverty, which have a large share in inducing its high rate of sickness and mortality, are the consequences of improvidence. Such evils are capable of being remedied only by bringing the poor under the influence of the inducements to forethought and prudence.

But 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. It is the object of the present Report to direct attention to the nature and extent of this evil, and to show how important it is that its mitigation, and, as far as may be found practicable, its entire removal, should form a part of every exertion that is made for improving the physical condition of the poor, and for lessening the burden of their support to the wealthier classes.

It is known to every one that the putrefaction of vegetable and animal matter produces a poison, which is capable of exerting an injurious action on the human body. But the extent to which this poison is generated, the conditions favourable to its production, and the range of its noxious agency, are not sufficiently understood and appreciated.

It is a matter of experience that, during the decomposition of dead organic substances, whether vegetable or animal, aided by heat and moisture, and other peculiarities of climate, a poison is generated, which, when in a state of high concentration, is capable of producing instantaneous death by a single inspiration of the air in which it is diffused.

Experience also shows that this poison, even when it is largely diluted by admixture with atmospheric air, and when, consequently, it is unable to prove thus suddenly fatal, is still the fruitful source of sickness and mortality, partly in proportion to its intensity, and partly in proportion to the length of time and the constancy with which the body remains exposed to it. Facts without number, long observed, such as the great amount of sickness and mortality in marshy districts, the fevers and dysenteries incident to armies on their encampment in certain localities, several hundred men being sometimes seized with disease in a single night, and great numbers dying within 24 or 30 hours; the dreadful destruction which occasionally took place in ships' crews, in ships in which cleanliness had been neglected, and especially in which the bilge-water had been allowed to collect and putrefy, sufficiently attested the presence, in certain situations, of a deadly poison. But this poison was too subtle to be reduced to a tangible form. Even its existence was ascertainable only by its mortal influence on the human body; and, although the induction commonly made as to its origin, namely, that it is the product of putrefying vegetable and animal matter, appeared inevitable, seeing that its virulence is always in proportion to the quantity of vegetable and animal matters present, and to the perfect combination of the circumstances favourable to their decomposition, still the opinion could only be regarded as an inference.

But modern science has recently succeeded in making a most important step in the elucidation of this subject.

It has now been demonstrated by direct experiment that, in certain situations in which the air is loaded with poisonous exhalations, the poisonous matter consists of vegetable and animal substances in a high state of putrescency. If a

quantity of air in which such exhalations are present be collected, the vapour may be condensed by cold and other agents: a residuum is obtained, which, on examination, is found to be composed of vegetable or animal matter in a state of high putrefaction. This matter constitutes a deadly poison. A minute quantity of this poison, applied to an animal, previously in sound health, destroys life, with the most intense symptoms of malignant fever. If, for example, 10 or 12 drops of a fluid, containing this highly-putrid matter, be injected into the jugular vein of a dog, the animal is seized with acute fever; the action of the heart is inordinately excited, the respiration becomes accelerated, the heat increased, the prostration of strength extreme, the muscular power so exhausted that the animal lies on the ground wholly unable to stir or to make the slightest effort; and, after a short time, it is actually seized with the black vomit, identical in the nature of the matter evacuated with that which is thrown up by a person labouring under yellow fever. By varying the intensity and the dose of the poison thus obtained, it is possible to produce fever of almost any type, endowed with almost any degree of mortal power.

It is proved further that, when this poison is diffused in the atmosphere, and is transported to the lungs in the inspired air, it enters directly into the blood, and produces various diseases, the nature of which is materially modified, according as the vegetable or the animal matter predominates in the poison. In the exhalations which arise from marshes, bogs, and other uncultivated and undrained places, vegetable matter predominates; such exhalations contain a poison which produces, principally, intermittent fever or ague, and remittent fever.

The exhalations which accumulate in close, ill-ventilated, and crowded apartments in the confined situations of densely-populated cities, where no attention is paid to the removal of putrefying and excrementitious substances, consist chiefly of animal matter; such exhalations contain a poison which produces continued fever of the typhoid character. There are situations, as has been stated, in which the poison generated is so intense and deadly that a single inspiration of it is capable of producing instantaneous death; there are others in which a few inspirations of it are capable of destroying life in from 2 to 12 hours; and there are others, again, as in dirty and neglected ships—in damp, crowded, and filthy gaols—in the crowded wards of ill-ventilated hospitals, filled with persons labouring under malignant surgical diseases, and some forms of typhus fever—in the crowded, filthy, close, unventilated, damp, undrained habitations of the poor—in which the poison generated, although not so immediately fatal, is still too potent to be breathed long, even by the most healthy and robust, without producing fever of a highly-dangerous and mortal character.

But it would be a most inadequate view of the pernicious agency of this poison, if it were restricted to the diseases commonly produced by its direct operation. It is a matter of constant observation that, even when not present in sufficient intensity to produce fever, by disturbing the function of some organ, or set of organs, and thereby weakening the general system, this poison acts as a powerful predisposing cause of some of the most common and fatal maladies to which the human body is subject.

The deaths occasioned in this country by diseases of the digestive organs, for example, by inflammation of the air-passages and lungs, and by consumption, form a large proportion of the annual mortality. No one who lives long in or near a malarian district is ever for a single hour free from some disease of the digestive organs. By the disorder of the digestive organs the body is often so much enfeebled that it is wholly incapable of resisting the frequent and sudden changes of temperature to which this climate is subject; the consequence is that the person thus enfeebled perishes by inflammation set up in some vital organ, and more especially in the air-passages and lungs, or by consumption, the consequence of that inflammation. If then, as is commonly computed, of the total number of deaths that take place annually over the whole surface of the globe, nearly one-half is caused by fever in its different forms, to this sum must be added the number who perish by the diseases caused by the indirect operation of this poison.

The records of the London Fever Hospital prove indubitably that there are certain localities in the metropolis and its vicinity which are the constant seat

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, but still in which it is incessantly committing its ravages. Among the most remarkable of these are the following districts:—

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. &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. &c.

From the constant prevalence of fever in these and other districts, it could not be doubted that the poison of fever is constantly generated in these places; but that these localities afford the conditions favourable to the production, concentration, and diffusion of this poison, so generally and in so high a degree, could scarcely have been anticipated. 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.

A particular account of some of these localities, the description of which was in each case written on the spot, is annexed.* From the facts ascertained on this inspection, the following conclusions may be deduced:—

1. 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. Instances are detailed in which there have been found, in one small room, six persons lying all of fever together: I have myself seen this—four in one bed, and two in another. When fever once breaks out and becomes prevalent, under circumstances such as these, the poison acquires a virulence which not only proves unusually mortal to the persons immediately attacked, and to those who attend on the sick, but the evil is frightfully increased by the extension of the infection to neighbouring houses and districts. The exhalations given off from the living bodies of those who are affected with fever, especially when such exhalations are pent up in a close and confined apartment, constitute by far the most potent poison, derived from an animal origin:—"The room of a fever patient, in a small and heated apartment in London, with no perfusion of fresh air, is perfectly analogous to a standing pool in Ethiopia full of the bodies of dead locusts. The poison generated in both cases is the same; the difference is merely in the degree of its potency. Nature, with her burning sun, her still and pent-up wind, her stagnant and teeming marsh, manufactures plague on a large and fearful scale. Poverty in her hut, covered with her rags, surrounded with her filth, striving with all her might to keep out the pure air and to increase the heat, imitates Nature but too successfully; the process and the product are the same; the only difference is in the magnitude of the result."

But 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 there occurred fever-cases—

In the Bethnal Green Union	2,084
In the Whitechapel Union	2,557
Total	4,641

Thus it appears that the medical officers attached to these two Unions alone

* Suppt. No. 3, p. 38.

have attended no less than 4,641 fever-cases. But these returns include only the persons attacked with fever who applied to the parish for relief. Fever, it is notorious, has prevailed extensively in both these districts, among people above the rank of paupers, among the people of the middle class, and, in numerous instances, even in the families of the wealthy.

2. 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. There is no strength of constitution, no conservative power in wealth, capable of resisting constant exposure to the exhalations which are always arising from these collections of filth. But the people who are obliged evermore to breathe the largest doses of this poison, are, for the most part, in a very wretched condition. In Bethnal Green they are almost universally handloom weavers, with the enfeebled constitutions of this class of people; not that, if they had the constitutions of the inhabitants of Grosvenor-square, they could permanently resist the malaria which they must breathe night and day. Were they in robust health, and had they in every other respect the best means of continuing so, they must inevitably, sooner or later, by the mere residence in these places, either fall into fever, or suffer from some or other of the diseases indirectly produced by the febrile poison; but, under the wretched circumstances in which these people are actually placed, of course they become the victims of these maladies more easily and more generally.

3. Moreover, these people are exposed to much additional evil from the dampness of their houses. A large portion of Bethnal Green is a swamp, hardly any part of which is drained. In rainy weather some entire streets are under water; and large collections of stagnant water cover, winter and summer, considerable spaces of ground in every part of the district. 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.

4. There is evidence, derived from the history of these very localities, that the formation of a common sewer, the filling up of a ditch, the removal of stagnant water, and the drainage of houses, have rendered a district healthy, from which before such measures were adopted, fever was never absent. This is strikingly exemplified in the present healthfulness of the upper part of the Hackney Road, in which an excellent common sewer has been recently made, the neighbourhood of which is now well drained. In this part of the district no case of fever is known to have occurred during the present epidemic, although formerly the houses, even in the principal thoroughfare, and more especially the streets, lanes, courts, and alleys adjacent, were the constant seats of fever.

A still more striking illustration of this fact is afforded by the altered condition as to the health of the lower part of High-street, Aldgate, in the jurisdiction of the corporation of the city of London. The south side of this street is occupied by butchers, and the slaughter-houses are behind the street. Formerly this place was in an exceedingly filthy condition; at that time fever of a typhoid character was occasionally prevalent in all this neighbourhood.

About three years ago a common sewer was made by the corporation of London in this street, into which, after incredible trouble, the commissioners succeeded in inducing the butchers to open drains from the slaughter-houses and the dwelling around. Even now the blood and filth from the slaughter-houses lie sufficiently long on the surface to produce an offensive odour; but, on account of the excellence of the drainage, the same particles of matter do not lie sufficiently long

putrefy. Fever has been comparatively absent from this neighbourhood ever since the opening of these drains. 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. On the other hand, 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. I have myself very recently attended several families in these courts labouring under the worst forms of spotted fever; but I have neither seen nor heard of a case on the opposite (the south) side of the street; whereas there is hardly any part of Bethnal Green or Whitechapel in which fever has been more prevalent or fatal than in the streets, courts, and alleys which go off from High-street, Whitechapel, continuous with High-street, Aldgate, to which the before-mentioned sewer does not extend. In the streets, courts, and alleys just adverted to, which branch off from the main street of Whitechapel, there is either no drainage at all, or what there is is superficial, and exceedingly imperfect.

5. 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. It is obvious, on inspection, that several of those sources in the two districts in question might be removed at no very great expense. In the mean time, to allow them to remain as they are is to incur very serious expense. The cost to these parishes for the relief of their fever-cases amounts to a large sum. By the returns from the Bethnal Green and Whitechapel Unions, it appears that the extra expense for fever-cases for the quarter ending Lady-day, 1838, is—

	£.	s.	d.
To the Bethnal Green Union	216	19	0
To the Whitechapel Union	400	0	0
	£ 616	19	0

Thus, at the rate of the last quarter, there will be incurred during the present year, for the relief of fever-cases in these two parishes alone, the sum of 2,467*l.* 16*s.* But there can be no end to the expenditure of money in relieving individual cases of fever until the cause that produces the malady is removed; whereas the greater part of the expenditure incurred by the removal of the cause of fever is incurred but once. 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.

6. The advantage of a free circulation of air in and around streets and houses is two-fold; first, it is essential to the act of respiration, when performed in a perfect manner, that the air should impinge on the respiratory organs with a certain degree of force, which condition is fulfilled when respiration is carried on in a large bulk of air, but not when it is performed in a confined space; consequently, in the latter case, a less quantity of air enters the lungs, and its effect in depurating the blood is less complete. Secondly, free currents of air not only prevent the accumulation of the febrile poison, but they promote its intimate admixture with large quantities of pure air; by which if the poison be not actually decomposed, and changed in its chemical properties, it is at least so far diluted as to be rendered innoxious.

Though it might seem a hopeless task to set about ventilating such districts as Bethnal Green and Whitechapel, yet, if the importance of the principle be duly appreciated, and the object be kept steadily in view, much may be accomplished. In some of the worst localities in these districts, at moderate expense, means might be taken to introduce free currents of air, where at present the air is perfectly stagnant and stifling. Some of the improvements recently made in the city of London show to what an extent it is possible to introduce good ventilation into the very heart of the most densely-populated part of the metropolis. Further improvements, at present in contemplation would, if extended to the eastern parts of the city, completely change their condition, both as to drainage and ventilation.

Never before has there been such an opportunity of accomplishing this object on so large and complete a scale, and this opportunity once lost may never be regained. The inhabitants of Bethnal Green and the neighbourhood are duly sensible of the advantages likely to result, not only to themselves but to the public in general, from certain local improvements which are in contemplation, which they regard as not wholly beyond their reach, and which they have taken some steps to secure, as appears by the annexed petition to Parliament, recently presented by one of the members for the Tower Hamlets, Mr. Clay.

If the prayer of these petitioners were granted, some of the most injurious of the nuisances complained of would be swept away at once: as has been already stated, a vast improvement would take place in the condition of these districts, both as to drainage and ventilation—their healthfulness would be proportionately improved; to the parishes themselves the expense of supporting so large an amount of sickness would be saved, while all the evils that result from the extension of the poison to more healthy districts would be at an end.

7. 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. A striking example (to which several others might have been added) is annexed, of the mischief which occasionally results from the want of such authority. In the case the circumstances of which are here related, the mischief was of so flagrant a nature that the magistrates interfered, though they expressly stated that they did so with reluctance; they succeeded in putting down the nuisance, but it is doubted whether they had any legal authority to interfere, or any power to enforce the order they made.

8. From the rapid spread of fever when it once breaks out in the habitations of the poor, and from the utter impossibility of administering to the sick the proper remedies for the disease in their own dwellings, it is necessary to provide in every Union a fever-hospital large enough to admit the average number of fever-cases to be expected within the district. If the fever-cases are sent to the workhouse, fever will sometimes spread among the inmates even in the best-drained, the best-ventilated, and in all respects the best-regulated houses; while it is sure to spread in the crowded, ill-drained, and ill-ventilated condition in which many of the workhouses are at present. If, on the other hand, from the dread of incurring so great a risk, the medical officers are reluctant to send the fever-cases to the workhouse (a feeling which is almost universal), the consequences are, that the sick are left in their own wretched dwellings, where the disease generally assumes an aggravated character, attacks, in many cases, all the members of the family, and spreads from room to room, from house to house, from street to street, and thence to adjacent districts. To prevent evils of such magnitude, the obvious remedy appears to be to establish buildings apart from the workhouse, to which the sick may be sent the first day it is known that they are attacked. This at least is indispensable in densely populated districts, such as Bethnal Green and Whitechapel. In country districts, where ventilation may be so much more perfectly accomplished, and where only a few isolated cases of fever are likely to occur, a large well-ventilated room in the workhouse may be all that is required. In such situations there is little danger that the fever will spread.

9. In the present condition of London and other large cities, one or two hospitals, on however large a scale, for the reception of fever exclusively, would not be sufficient; and no fever-case ought to be admitted into a general hospital: indeed the great hospitals in London always do admit such cases with extreme reluctance. But if the poor receiving parish relief were adequately provided for in hospitals established specially for them in certain districts, then one large hospital, such as the London Fever Hospital, might easily be made, and, such as it is in contemplation to render it, might suffice for the other portions of the community, namely, the industrious classes above seeking for parish relief, domestic servants, shopmen and shopwomen, in the large establishments which now exist in every part of London; and all persons who have the misfortune to be attacked with fever, who are without a home, and without relations or friends.

to nurse them or to see that they are properly attended to. Out of from 700 to 800 or 900 patients, which upon an average annually pass through the wards of the London Fever Hospital, from 250 to 300 are domestic servants; there are also always within its walls a considerable number of persons employed as shopmen and shopwomen; persons of this class are very subject to fever, because many of them come fresh from the country, undergo suddenly a great change in their mode of life; from the pure air of the country, are confined all day long in the impure air of the city, in crowded and ill-ventilated rooms, having little opportunity to take exercise; while for the most part they sleep at night in crowded and ill-ventilated chambers.

On the plan now suggested, namely, the establishment of local fever-hospitals for the parish poor, and one large fever-hospital for the industrious classes, which would in general be amply supported by voluntary contributions, tolerable provision would be made for affording the requisite assistance to the sick, and for preventing the spread of fever.

10. From what I have observed, I am satisfied that many of the existing work-houses are extremely deficient in space, ventilation, and drainage.

In going over the Whitechapel workhouse I was struck with the statement of the fact, that, out of 104 children (girls) resident in that house, 89 have recently been attacked with fever. On examining the dormitory in which these children sleep, my wonder ceased. In a room 88 feet long, $16\frac{1}{2}$ feet wide, and 7 feet high, with a sloping roof rising to 10 feet, all these 104 children, together with four women who have the charge of them, sleep. The beds are close to each other; in all the beds there are never less than four children, in many, five; the ventilation of the room is most imperfect. Under such circumstances, the breaking out of fever is inevitable.

In another establishment (the Jews' Hospital) not far distant from Whitechapel workhouse, for several years in succession it was found impossible to prevent the breaking out of fever among the young people, until the dormitories were less crowded and more perfectly ventilated. In the boys' dormitory, a room 36 feet by 35, and $12\frac{1}{2}$ feet high, there were formerly 35 single beds; the beds were close to each other; in the roof there were three ventilators of scarcely any use. In the girls' dormitory, about the same size, and ventilated in the same manner, there were 15 double beds. In this state of the rooms fever broke out and spread through the establishment every year, always commencing with the boys, and being always much more prevalent among them. In the boys' dormitory the beds were reduced from 35 to 26, at the same time 10 very large ventilators, communicating freely with the external air, were placed in the ceiling, five on each side; corresponding changes were made in the girls' room. Since that time, a period of at least eight years, fever has never once occurred as an epidemic in this establishment; nor has it ever occurred at all, excepting in two or three isolated cases at distant intervals. All these cases were mild in their character, got well rapidly, and none of them spread.

Reckoning by cubic feet the quantity of air contained in the dormitories of these two houses, I find, on calculation, that the quantity contained in the dormitory of the Jews' Hospital is just four times greater than that contained in the dormitory of the Whitechapel workhouse. When to this is added the advantage of the excellent ventilation now established in the dormitories of the Jews' Hospital, an adequate cause is assigned for the remarkable fact, that in the latter establishment not a single case of fever has occurred among the young people during the prevalence of the present epidemic, whereas, in the former, out of 104 individuals only 15 have escaped.

I was likewise struck with the pale and unhealthy appearance of a number of children in the Whitechapel workhouse, in a room called the Infant Nursery. These children appear to be from two to three years of age; they are 23 in number; they all sleep in one room, and they seldom or never go out of this room, either for air or exercise. Several attempts have been made to send these infants into the country, but a majority of the Board of Guardians has hitherto succeeded in resisting the proposition.

In the Whitechapel workhouse there are two fever-wards; in the lower ward the beds are much too close; two fever patients are placed in each bed; the ventilation is most imperfect; and the room is so close as to be dangerous to

all who enter it, as well as most injurious to the sick. In the upper fever-ward the beds are also much too close, but here the beds are single, and the ventilation is better.

The privies in this workhouse are in a filthy state, and the place altogether is very imperfectly drained: there is not a single bath in the house.

These facts relative to the condition of this workhouse are the more remarkable, because, before I went over the house, it was represented to me as being in all respects in a very excellent state.

In the observations contained in this report I have merely attempted to indicate the main points which appear to me to deserve attention; for the data on which the opinions I have ventured to express are founded, I refer to the annexed account of my personal inspection of the Bethnal Green and Whitechapel districts.

I have, &c.

(Signed) SOUTHWOOD SMITH.

To the Poor Law Commissioners for
England and Wales.

SUPPLEMENT, No. 3.

ACCOUNT of a Personal Inspection of Bethnal Green and Whitechapel, in May, 1838, with a Supplement.

ON commencing an inspection of Bethnal Green, with a view to ascertain the causes of the great and constant prevalence in this district of fever and other diseases produced by malaria, I 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 or 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.

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.

I notice the places about to be described in the order in which I visited them, and I give the account of the prevalence or absence of fever in the several localities as I received it from the lips of the medical officers who have the care of the poor. I record only the prevalence of fever, because the extent of the prevalence of this disease was readily ascertained, and because the extent of its prevalence might be taken as a sure indication of the presence and intensity of malaria.

Pitt-street.—A very narrow street; the houses have no sunk area; the ground floor is extremely damp; there is no drainage: in this street fever is often prevalent, and extends from house to house; it lately broke out in No. 21; extended to No. 20; spread to the houses on the opposite side, and proved very fatal.

Punderson's-gardens.—A long narrow street; the houses have no sunk area and the ground floor 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 mud-bank 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 the street, being separated from it only by a parting 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.

Campden-gardens consist of a number of small ground-floor 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; yet the houses stand in an open space, and have little gardens attached to them, so that, if they were properly built and well-drained, they might be perfectly healthy.

Lamb's-fields.—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 8 to 10 feet wide. Into this part of the ditch the privies of all the houses of a street called North-street open; these privies are completely uncovered, and the soil from them is allowed to accumulate in the open ditch. Nothing can be conceived 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.

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.

In several houses in *Collingwood-street* fever of the most severe and fatal character has been raging for several months. Part of the street called Duke-street is often completely under water. This street consists of about 40 houses. In 12 of them all the members of the families residing in them have been attacked with fever, one after another, and many have died.

Hare-street-fields.—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.

Mape's-street.—Running along the front of Mape's-street, and the back of Southampton-buildings, is a large open sewer, one branch of which also passes for a considerable extent along the backs of the houses in Teal-street. The privies of the houses, placed close to the street, pour their contents into this open sewer. Part of Mape's-street consists of houses of a good description, with gardens neatly cultivated, but all of them terminate at the margin of this open and filthy sewer.

Alfred and Beckwith-rows 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. I entered several of the tenements. In one of them, on the ground floor, I found six persons occupying a very small room, two in bed ill with fever. In the room above this were two more persons in one bed, ill with fever. In this same room a woman was carrying on the process of silk-winding. The window of the room is small, capable, if wide open, of ventilating the room but very imperfectly; yet this window is not only kept permanently closed, but is carefully and firmly pasted all round, so that not the slightest breath of air can enter. On remonstrating against this constant and total exclusion of the air, I was told by the woman at work that they are obliged to stop up the window, to prevent the drying of the silk, which is always weighed out to them when they receive it, and they are expected to return the same weight.

George-gardens.—A range of ground-floor houses, with neat gardens; the

elevation is considerable ; the soil dry, and the place unusually clean. Most of these houses are always tolerably healthy, but, in a few of them fever is continually breaking out ; these latter are smaller than the others ; the ceilings are remarkably low, and the privies are close upon the windows of the dwelling-rooms.

North-street.—On the eastern side of this street, near Collingwood-street, the situation is close ; 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.

Manchester-place consists of a row of houses one story high. At the distance of five feet from the front of the houses is a dead wall, which rises as high as the middle of the first-floor window, so that neither air nor light can get to the sitting or bed-rooms. Fever is frequently prevalent here.

Derbyshire-street.—Small ground-floor houses, each divided into two tenements containing two rooms, very similar to those in Campden-gardens. An open gutter runs close to the houses. Fever has been very prevalent in all these houses.

John's-passage and *Granby-row.*—Exactly similar to the above. In the middle of the street is a large gutter, always full of filth, the overflowing of which sometimes renders the place impassable, and the noxious matter is with difficulty kept from flowing into the houses. The street, for the extent of 300 or 400 yards, consists of hovels of the last degree of wretchedness.

St. John-street.—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.

In *Fleet-street*, and the streets and alleys passing off from it, the population is dense, the houses are high, and different families inhabit each flat ; the ventilation is imperfect, and the houses dirty. Fever has lately raged here, and been very destructive.

Shackwell-street.—A close, narrow, densely-populated street, where fever has been extremely prevalent. I went over one of the houses, in every room of which fever has lately existed. The ground-floor consists of one room ; behind this there is a room perfectly dark, about four feet wide and ten feet long, at one extremity of which is the privy. There is no outlet of any kind. Parallel with the privy, in the adjoining room, is the bed. The room above is occupied by four persons, three of whom have been attacked with fever. In this room there is only one bed, and that is on the floor.

I asked a young man, 18 years of age, whom I found in the room, how they managed at night ; he told me that some slept in the bed, and the others upon the chairs. Five persons live in the room above.

Turk-street.—Some time ago, at No. 29, in one room, at one time, all the inmates, consisting of six persons, the father, the mother, and four children, were all ill of fever together.

Mount-court.—A small court, in which fever has prevailed to a dreadful degree. The houses consist of two rooms : one a small dark room on the ground-floor, without any outlet of any kind ; and the other a still smaller bedroom above. At No. 2 seven persons have been attacked in succession ; in No. 3, six ; in the adjoining house, three ; and in the next, one.

Collingwood-court, Mount-street.—In this court, out of seven houses, fever has prevailed in five ; in No. 6, six people have been attacked.

On the north side of Bethnal Green-road the houses are of a better description, and the district is better drained. In this part of the district there is always much less fever.

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 odour of which is most offensive. In the upper part of this street, especially, fever has been extremely prevalent.

Virginia-row.—In the centre of this street there is a similar gutter, into which

potato-parings, the refuse of animal and vegetable matters of all kinds, the dirty water from the washing of clothes and of the houses, are all poured, and there they stagnate and putrefy.

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.

Read-street and Vincent-street.—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."

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 mud-cart, to gather up what becomes so thick as to block up the way.

At the lower end of Orange-street the mass of putrefying matter on each side flows into a stagnant ditch in Wellington-row. In the houses adjacent to this ditch fever is often extremely prevalent.

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.

From a common sewer, which comes from Hackney, and which is covered until it reaches Goldsmith's-place, in the Hackney-road, commences a broad uncovered ditch, which empties itself at about the distance of a quarter of a mile, into a pond called Wellington Pond. This is a piece of stagnant water, which covers at least three acres of ground. It is black and filthy, more especially that part of it into which the above-mentioned ditch directly opens. This pond is surrounded by houses, and the inhabitants complain bitterly of the stench which often arises from it. Several of the residents, of whom I inquired respecting its condition in different states of the weather, assured me that, in the summer especially, when they are suffering greatly from the heat, they dare not open the windows of their houses, on account of the intolerable stench from this pond.

At *Anne's-place* is an open space from Hackney. On the one side of this sewer is a broad public footpath; on the other side, close upon the margin of the sewer, stands a row of houses; little wooden bridges are thrown across the sewer from the footpath to the houses. At the present moment this sewer is loaded with thick, black, stagnant, putrefying matter.

From *Goldsmith's-place* to *Cambridge-heath* there is an excellent under-ground 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.

Cambridge-road is also well drained, and in like manner the inhabitants are healthy; there is here no fever.

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.

James-street, Green-street.—Almost impassable from the quantity of water which is allowed to remain upon the surface. Here there are several nightmen's yards; the soil, collected in great masses, is quite open and exposed. The stench is abominable; the inhabitants in the neighbourhood complain grievously of the nuisance, but know not how to get it removed. The parish authorities were anxious that my attention should be particularly directed towards it. In Digby-street there is another large yard of the same description, the effluvia from which are most offensive. The houses in the immediate vicinity of this filthy yard are of a good description.

I did not think it necessary to carry my examination of Bethnal Green any

further. I annex the Fever Report for this district, for one quarter, ending the 25th of March, 1838, from which it appears that there have been under treatment by the medical officers of the Union 521 cases of fever.

Whitechapel Union.

After this full account of the condition of Bethnal Green, I have thought it unnecessary to enter into a minute description of the state of Whitechapel, because for the most part it would be but a repetition of the same circumstances. The condition of Whitechapel is better known to me than that of Bethnal Green, on account of my having been for many years physician to the Eastern Dispensary, which is situate in Great Alie-street, and which comprehends in its district the whole of the parish of Whitechapel, as well as that of St. George-in-the-East, and a part of Stepney and Limehouse. 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 matters are allowed constantly to remain in the neighbourhood of the houses, and the houses themselves are extremely filthy.

I select the following as examples of the condition of many places in Whitechapel, in which the population is densely crowded.

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, 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.

The fever here has been extremely mortal, and has raged in almost every house.

Johnson's-change, Front and Back.—A cluster of four courts opening into each other; the houses are crowded with inhabitants. Some time ago a cesspool overflowed in one of these courts, and its contents were allowed to remain upon the surface several weeks; after a time 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.

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.

Blue-anchor-yard.—An open gutter in the centre, always full of putrefying matter; abounds with narrow courts, in which the accumulation of filth is excessive, and it is scarcely possible for any air to penetrate. In the whole of this street fever has been extremely prevalent; but in the courts scarcely a house has escaped. At one extremity Blue-anchor-yard, making a sudden curve, terminates in a street called New Martin-street, through which the same gutter runs, or rather stagnates; fever has been in every house in this street, without exception.

The streets on the northern side of Whitechapel, as Essex-street, Castle-street, Castle-alley, Goulson-street, Petticoat-lane, Tewksbury-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.

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.

I annex the Fever Report for this district, for the year ended the 25th March, 1838.

On the 17th April, 1838, Mr. Goodwin indicted a house belonging to a Mr.

Hacker, situated in Shepherd's-court, Old Nichol-street, under the following circumstances:—

Shepherd's-court consists of about six houses. It was notorious that fever had prevailed to a great extent in this court; in the house in question several cases of fever had occurred in succession. The house is small, contains four rooms, two on the ground-floor, and two above; each of these rooms was let out to a separate family. On the present occasion, in one of the rooms on the ground-floor there were four persons ill of fever; in the other room on the same floor there were, at the same time, three persons ill of fever; and in one of the upper rooms there were also, at the same time, three persons ill of fever; in the fourth room no one was ill at that time. It appeared that different families had in succession occupied these rooms, and become affected with fever; on the occasion in question all the sick were removed as soon as possible, by the interference of the parish-officers. An order was made by the Board of Guardians to take the case before the magistrates at Worship-street. The magistrates at first refused to interfere; but the medical officer stated that several cases of fever had occurred in succession in this particular house; 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. 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; telling him that he was committing a serious offence in allowing the nuisance to continue. The magistrates further gave the house in charge to the medical officer, authorizing him to see all the rooms properly fumigated, and otherwise thoroughly cleansed; and said that, if any persons entered the house before the medical officer said that the place was fit to be inhabited, they would send an officer to turn them out, or place an officer at the door to prevent their entrance. The landlord became frightened, and allowed the house to be whitewashed, fumigated, and thoroughly cleansed. Since this was done, the rooms have been occupied by a fresh set of people; but no case of fever has occurred.

The previous statements connect, in the clearest manner, the prevalence of fever with poisonous exhalations arising from putrid vegetable and animal matter. This connection has been long known, and the facts on which it is established have been recorded by the original observers in most instructive histories. The accounts to which I allude illustrate, in the most striking manner, the effects of this poison on the human body, from its simultaneous operation on large bodies of men, who immediately before their exposure to it were in sound health; but, as the accounts were written long before the poisonous matter had been obtained in a tangible shape, they assume a new interest now that it may be procured in such a palpable and concrete form as to enable us actually to experiment with it. It may therefore be worth while to cite a few of the most remarkable facts recorded by the older observers, to illustrate the clear manner in which they perceived the existence and operation of this poison.

"In the beginning of June, 1742," says Sir John Pringle, in his *Observations on the Diseases of the Army*, "the British troops began to embark for Flanders. There were in all, of foot and cavalry, about 16,000. The head-quarters were at Ghent. During the summer and autumn the weather was good, the heat moderate, and the country in general healthy. The British officers continued well, but many of the men sickened. Ghent is situated between the high and low division of Flanders: one part of the town, called St. Peter's Hill, is much higher than the rest; and in this the barracks, having drains and free air, were quite dry, so that the soldiers who lay there enjoyed perfect health. But those who were quartered in the lower part of the town (mostly on the ground-floors of waste houses, unprovided with drains, and of course damp) were sickly. The battalion of the 1st Regiment of Guards was a remarkable instance of this difference of quarters; two of the companies lay on St. Peter's Hill, the remaining eight in the lower part of the town, in rooms so very damp, that they could scarce keep their shoes and belts from moulding. In the month of July the sick of this battalion amounted to about 140, of which number only two men belonged to the companies on the Hill, and the rest to those in the lower town.

"In the campaign in 1748 the troops had scarcely been a month in the cantonments when the returns of the sick amounted to 2,000; afterwards the number became much greater: those who were near the marshes suffered by far the most, both in the number and the violence of the symptoms. The Greys, cantoned at Vucht, a village within a league of Bois-le-Duc, surrounded with meadows, either then under water or but lately drained, were the most sickly. For the first fortnight they had no sick, but after continuing five weeks in that situation they returned about 150; after two months, 260, which was about half the regiment; and at the end of the campaign they had in all but 30 men who had never been ill. A regiment at Nieuland, where the meadows had been floated all winter, and were but just drained, returned sometimes above half their number. The Scotch Fusileers at Dinther, though lying at a greater distance from the inundations, yet, being quartered in a low and moist village, had above 300 ill at one time; while a regiment of Dragoons, cantoned only half a league south-west of Vucht, were in a good measure exempted from the distress of their neighbours; such was the advantage, even at that distance from the marshes, of the wind blowing mostly from the dry grounds, and of a situation upon an open heath somewhat higher than the rest.

"When the troops were in Zealand they had not been a fortnight in the cantonments before several of the men, belonging to the regiments which were stationed nearest the inundations, were seized simultaneously with lassitude and inquietude—a sensation of burning heat, intense thirst, frequent nausea, sickness and vomiting, aching of the bones, pain in the back, and violent headache. There were some instances of the head being so suddenly and violently affected that, without any previous complaint, the men ran about in a wild manner, and were believed to be mad, till the solution of the fit by a sweat, and its periodic return, discovered the true nature of their delirium. Most of the men were first taken ill upon their return from forage; the regiment being cantoned close upon the inundations, and many of the quarters being above two leagues from the place where the magazines were kept, the men were obliged to set out about four in the morning, in order to get back before the greatest heat of the day. At this early hour the meadows and marshes on each side of the road were covered with a thick fog, of an offensive smell. The party generally returned before noon; but several of the men, even before they could get back to their quarters, were already in a violent fever—some, in this short space of time, were actually delirious; and the few on their way home were so suddenly taken with a frenzy as to throw themselves from their trusses into the war, imagining they were to swim to their quarters. One man, on reaching home, was suddenly seized with intense headache, got out of his quarters, and ran about the fields like one distracted. Major Prior gives the following account of a malignant fever which attacked the army of the United States, and the cause of which was traced to a large pond near the cantonment. An attempt had been made two or three years before to fill it up, by felling a number of large trees that grew on and near its margin, and by covering the wood thus fallen with earth. This intention had not been fulfilled. In August the weather was extremely hot and uncommonly dry: the water had evaporated considerably, leaving a great quantity of muddy water, with a thick slimy mixture of putrefying vegetables, which emitted a stench almost intolerable. The inhabitants of the village, principally French, and very poor as well as filthy in their mode of living, began to suffer first, and died so rapidly that a general consternation seized the whole settlement. The garrison continued healthy for some days, and we began to console ourselves with the hope that we should escape altogether; we were, however, soon undeceived, and the reason of our exemption heretofore was soon discovered. The wind had blown the air arising from the pond from the camp, but as soon as it shifted to the reverse point, the soldiers began to sicken. In five days half the garrison was on the sick-list, and in ten, half of them were dead. They were generally seized with a chill, followed by headache, pains in the back and limbs, red eyes, constant sickness at stomach, and generally, just before death, with a vomiting of matter like coffee-grounds; they were often yellow before, but always after death. The sick died generally on the seventh, ninth, and eleventh days, though sometimes on the fifth and on the third. As some decisive measures became necessary to save the remainder of the troops, I first thought of changing

my quarters; but, as the station was in every respect more eligible than any other, and had been made so by much labour and expense, I determined to try the experiment of changing the condition of the pond from which the disease was believed to have arisen. A ditch was accordingly cut, what little water remained was conveyed off, and the whole surface covered with fresh earth. The effects of this scheme was soon obvious; not a man was seized with the worst form of the fever after the work was finished, and the sick were not a little benefited, for they generally recovered, though slowly, because the fever became a common remittent, or gradually assumed the intermittent form. A few cases of remitting and intermittent fever occurred occasionally, till frost put an end to it in every form. As soon as the contents of the pond were changed, by cutting the ditch, the cause, whatever it was, seems to have been rendered incapable of communicating the disease in its worst form."

Dr. Macculloch relates an instance of some men aboard a ship, who were seized, while the vessel was five miles from shore, with fatal cholera, the very instant the land-smell first became perceptible. Several of these men, who were unavoidably employed on deck, died of the disease within a few hours; the armourer of the ship who, before he could protect himself from the noxious blast, was accidentally delayed on deck a few minutes to clear an obstruction in the chain-cable, was seized with the malady while in that act, and was dead in a few hours.

Dr. Potter, in a Report on the rise of a yellow fever which he witnessed in a valley in Pennsylvania, which contained numerous ponds of fresh water, and which, from the heat and dryness of the season, emitted a most offensive smell, states that on one occasion he was called to a family residing in a house which stood on a level piece of ground, apparently beyond the reach of noxious exhalation, there being no stagnant water, as was supposed, within a mile of it. Here he found the mother labouring under a bilious remitting fever, which continued 11 days, the daughter, 17 years of age, suffering from a similar fever; two sons, the one between eight and nine, and the other six, ill with dysentery; and the father on the brink of the grave from a most malignant fever. There being no apparent cause for the condition of this afflicted family, the immediate neighbourhood of the house being free from the ordinary sources of malaria, the condition of the house itself was minutely investigated. The cause of the evil was manifest: the present family had resided in the house only about five weeks—immediately preceding their occupation of it a man had died suddenly in it. Dr. Potter himself was seized with nausea and general lassitude immediately on leaving the house after his first visit. On examining the premises it was found that the cellar contained water about two feet deep, which had remained there from the first week in June, the country having been then inundated by torrents of rain. The cellar being useless, the door had been closed, and the only vent for the pestiferous gases was through the floor, which was open in several places. The family being immediately removed, all the sick became convalescent from the time they ceased to breathe the air of the place. The owner of the house hired two men to empty the cellar: these men, having ripped up the floor, and placed a pump in the deepest part of the water, evacuated the cellar to the dregs in one day. On the second day after the execution of this task one of these men was seized with a chilliness, succeeded by an ardent fever, which terminated with the usual symptoms of yellow fever, namely, hemorrhages, yellow skin, and petéchiæ, and proved fatal on the third day from the attack. The day following the seizure of the first, the second man was attacked with similar symptoms, and died on the seventh day of the disease with the black vomit, in addition to the ordinary symptoms of yellow fever.

In assigning the reason why Grand Cairo, in Egypt, is the birthplace and the cradle of the plague, Dr. Mead long ago gave the following account of the locality:—"This city is crowded with vast numbers of inhabitants, who live not only poorly but nastily; the streets are narrow and close; the city itself is situated in a sandy plain, at the foot of a mountain, which keeps off the winds that might refresh the air, consequently the heat is rendered extremely stifling. A great canal passes through the midst of the city, which, at the overflowing of the Nile, is filled with water; on the decrease of the river this canal is gradually dried up, and the people throw into it all manner of filth, carrion, offal, and so on. The

stench which arises from this and the mud together is intolerably offensive; and from this source the plague, constantly springing up every year, preys upon the inhabitants, and is stopped only by the return of the Nile, the overflowing of which washes away this load of filth. In Ethiopia the swarms of locusts are so prodigious, that they sometimes cause a famine by devouring the fruits of the earth, and, when they die, create a pestilence by the putrefaction of their bodies; this putrefaction is greatly increased by the dampness of the climate, which, during the sultry heats of July and August, is often excessive. The effluvia which arise from this immense quantity of putrefying animal substance, with so much heat and moisture, continually generate the plague in its intensest form; and the Egyptians of old were so sensible how much the putrefaction of dead animals contributed towards breeding the plague, that they worshipped the bird ibis for the services it did in devouring great numbers of serpents which they had observed injured by their stench when dead as much as by their bite when alive.

The preceding observations and histories show the operation of the poison on a large scale, and when in a highly intense state; but 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 arrangements of streets, the introduction of the requisite space between streets and houses, the construction of under-ground sewers, the opening of under-ground 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. Our ancestors, who paid little regard to considerations of this kind, have no doubt opposed formidable obstacles to the proper ventilation and drainage of considerable portions of most of our cities and towns; but still, if the importance of the principle had been duly appreciated, much would already have been done to mitigate the evil, and much might still be effected. At all events, seeing that the evil as it exists at present is so vast in extent and so unceasing in its operation, and seeing that it brings such deplorable consequences on that class of the population, more especially, which is the least able to guard against and to resist them, this subject is one which deserves the serious consideration of those who labour for the improvement of the physical condition of the poor, and who are charged with providing in the most effectual and economical manner for their maintenance when, by the prevalence of epidemic and other diseases, they are rendered unable to support themselves.

(Signed) SOUTHWOOD SMITH.

SUPPLEMENT, No. 3.—ANNEX.

ST. MATTHEW, BETHNAL GREEN.—FEVER REPORT.

12th May, 1838.

NUMBER OF FEVER CASES attended by the Medical Officers of this Parish, for one Quarter, ending 25th March, 1838:—

	Cases.
Mr Taylor, out-door surgeon	256
Mr. Goodwin, ditto	136
Mr. Ager, house-surgeon	129
Total	521

One hundred and fifty-seven cases have received out-door relief, amounting to 60*l.* 13*s.*, from the above two numbers.

The cost of in-door cases is at least 5*s.* weekly, averaging 20*s.* for each case before the patient is sufficiently recovered.

Twenty-six cases were admitted into the London Fever Hospital at the cost

of 27*l*. 6*s*. to the parish for the last quarter, in addition to the number above reported.

R. BRUTTON, *Clerk to Board of Guardians.*

For Southwood Smith, Esq.,
&c. &c. &c.

WHITECHAPEL UNION.

19th May, 1838.

NUMBER of CASES attended by the three Medical Officers during the Year ended 25th March, 1838.

	In-door.	Out-door.	Total.
First Quarter, ending Midsummer, 1837 .	632	485	1,117
Second Quarter	424	608	1,032
Third Quarter	489	787	1,276
Fourth Quarter	878	1,009	1,887
During the Year	2,423	2,889	5,312

Of these were,	Cured.	Died.	Under Treatment.	Sent to Hospital.	Total.
Fever	2,134	214	107	82	2,557
Surgical	216	13	43	22	294
Midwifery	80	. .	. .	. .	80
General	2,026	137	237	. .	2,401
	4,456	365	387	104	5,312

The extra expense for fever during the quarter ending Lady-day, 1838, I consider to have been 400*l*.

JOHN SMITH, *Clerk to the Board of Guardians.*

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

The humble Memorial of the Inhabitant Householdors of the Parish of St. Matthew, Bethnal Green, in the county of Middlesex.

Most respectfully sheweth,

That at a highly respectable meeting of owners and rate-payers of the parish, duly convened and held on Wednesday, the 4th of April instant, for the purpose of taking into consideration the measures now in contemplation before your Honourable House on the Metropolitan Improvements Bill, it was the unanimous opinion of such meeting that important benefits would accrue to the public in general if those measures were extended to the eastern suburbs of the metropolis.

That your memorialists, acting under such impression, would respectfully venture to submit to your Honourable House, that in this important district of Bethnal Green certain beneficial improvements could be carried into execution at a comparatively inconsiderable expense; and, when it is considered that in this parish alone there are upwards of 70,000 inhabitants, it will doubtless appear to your Honourable House that even on the score of public policy certain streets and ways should be widened or otherwise improved, regard being thus especially had to the health and comfort of such a vast and densely-congregated portion of human beings.

The subject, indeed, has created deep complaints that fevers have been engendered and contagion spread in this district, during a period of awful epidemic, when the

cholera raged in a frightfully appalling degree, and when adequate sewers and drainage might probably have assuaged the scourge and saved the lives of many individuals. Your memorialists conceive that on the latter ground alone no argument is wanting to satisfy your Honourable House of the vast importance of opening certain lines of road, and thus giving facilities for making additional sewers and drainage accordingly; but your memorialists venture to take a much wider range, with regard to public benefit, than of merely confining their views to local interests or private and parochial advantage.

Your memorialists would now respectfully submit to your Honourable House, that, if Parliament in its wisdom were to extend the metropolitan improvements to the eastern suburbs of London, they would not only conduce to the health of the inhabitants, but it would form a chain of highly important connexion, regard being had to trade and commerce, as will appear by reference to the map of London, in the following way:—

Firstly, your memorialists submit a direct street should be formed from the London-docks to Hackney-road, commencing at or near London Dock-gate, in a direct line, crossing Whitechapel, near Essex-street or George-yard, and passing the front of Spitalfields Church, continuing on Red Lion-street, crossing Quaker-street, Phoenix-street, Anchor-street, Church-street, Nichol-street, and Castle-street, into Hackney-road (at the end of Crabtree-row), being the road to Cambridge.

Secondly, a direct road from Cannon-street-road to Great Cambridge-street, in Hackney-road (commencing with and opening at Baker's-row), which is nearly opposite New-road, Whitechapel-road, proceeding from Baker's-row to Charles-street, along Charles-street, Wellington-street, White-street, crossing the centre of Bethnal Green-road, into Squirries street, open and continue north end of that street into Hackney-road, opposite Great Cambridge-street; thus a road would be opened from the Thames Tunnel and Docks, by the Commercial-road, to Kingsland Turnpike and Dalston, over Haggerstone Bridge, or by the new road now making from Great Cambridge-street.

Thirdly, a road from Old-street to Bow, to connect the Great Eastern with the Northern and Western roads, and the projected improvements to the Sessions-house, Clerkenwell; commence a new street from Old-street to Featherstone-street, along that street to the City-road, upon Tabernacle-walk, to and along Leonard-street, continuing the same across the Curtain road to Shoreditch, crossing Shoreditch, along Church-street, up Bethnal Green-road to Bethnal Green: improve Green-street to Twig Folly Bridge, and from thence in a direct line to Bow.

Your memorialists humbly venture to think that there never could arise a better or more favourable opportunity than the present for Parliament in its wisdom to legislate generally and equitably on a subject of such paramount and even vital importance to the community. Your Honourable House will not fail to look at the commercial situation and increasing consequence of the eastern suburbs of London; and it naturally occurs to your memorialists to make this observation, that if a great public tax be imposed on the metropolis generally, some benefit should be conceded to those parishes who contribute largely to such impost, if it can be fairly and reasonably shown that a commensurate public advantage could ultimately be accomplished, and such undoubtedly appears would be the case on the present occasion, with reference to the Tower Hamlets.

Your memorialists, being thus appointed to carry into effect, as far as possible, the wishes of the inhabitants at large, beg humbly to request of your Honourable House, that this parish of Bethnal Green in particular may be incorporated or scheduled in the intended Metropolis Improvement Bill, now under the consideration of Parliament, or that your Honourable House will be pleased to give your memorialists the benefit of this petition in such other manner as your Honourable House, in its wisdom, shall deem most advisable and expedient, under existing circumstances.

And your memorialists, as in duty bound, will ever pray, &c.

FROM THE FIFTH ANNUAL REPORT

OF THE

POOR LAW COMMISSIONERS:

APPENDIX (C.) No. II.

REPORT ON the PREVALENCE of FEVER in Twenty Metropolitan Unions or Parishes, during the Year ended the 20th March, 1838. By SOUTHWOOD SMITH, M.D., Physician to the London Fever Hospital.

To the Poor Law Commissioners.

Gentlemen,

London, 36, New Broad-street, 29th April, 1839.

YOUR attention during the last year having been directed to the general prevalence of fever in London, and more especially in certain of the metropolitan Unions, Drs. Arnott and Kay, and myself, were appointed to make inquiries of the medical officers of the London Unions concerning the "prevalence of certain physical causes of fever in the metropolis," as well as personally to inspect some of the districts which were known to us, from the records of the London Fever Hospital, to be the constant seats of fever. The results of our inquiries, and of our personal inspections, were communicated to you, and published in the Supplement to your last Report.—(See Supplement Nos. 1, 2, and 3, of the Fourth Report, 1838.) Though we were at that time able to obtain the exact number of fever-cases which had occurred during one year in each of the three districts which we personally inspected, yet we had no means of ascertaining the number of fever-cases in the other metropolitan Unions, and consequently the actual amount of fever among persons who had received parochial relief in London was still unknown. As it seemed desirable to ascertain what that amount really was, and 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, a circular was addressed 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. They were requested to arrange the cases of fever under four classes, namely, intermittent fever, synochus, typhus, and scarlatina; to distinguish between the males and females, and between the out and in-door patients; and to state the number attacked, cured, and dead, under these four forms of fever, between the ages of 0 and 5, 5 and 10, 10 and 20, 20 and 30, 30 and 40, 40 and 50, 50 and 60, 60 and 70, 70 and 80, 80 and 90, and 90 years and upwards.

Although scarlatina is usually arranged by medical authors under another class of diseases, namely, that termed the exanthemata, or the febrile rashes, yet I have included it under continued fever, because, from a long study of the phenomena of the disease during life, and an extended examination after death of the morbid changes produced by it in the internal organs, I am satisfied that it differs in no essential character from continued fever.

The answers to the several inquiries contained in the circular addressed to the medical officers of the metropolitan Unions appear to have been made with care; and from these returns I am enabled to present the following general results and statements.

The population of 20 metropolitan Unions, together with the number of paupers in each; the number of paupers in each Union attacked with fever; the proportion attacked under each form of fever; and the proportion under each form attacked, cured, and dead, are presented in one view in the following Table—
(p. 50):—

From this Table it appears that the total number of persons in the metropolitan district who received parochial relief, including in-door and out-door relief, during the year ended 25th March, 1838, was 77,186. 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

From the preceding Table it also appears that the prevalence of fever in the several districts bore still less relation to the number of paupers than the number of paupers to the general population. Thus, in Bermondsey, the number of paupers being 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. 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 Hackney and Holborn, the number of paupers being nearly the same, the number of fever cases in Holborn was nearly double. In Lambeth the number of paupers are more than double those of 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 are nearly one-eighth less. In Stepney, as compared with Bethnal Green, the pauper population is in the proportion of 8,596 to 3,632; while the fever cases are in the proportion of 1,348 to 1,209; showing that the comparative number of fever-cases in Stepney is only one-half that of the neighbouring Union of Bethnal Green. 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. On the other hand, in Camberwell, the number of paupers being 1,158, only 309 less than those of St. George the Martyr, the fever cases were no more than 238; but in Wandsworth and Clapham, and in the Strand, while the number of paupers in both Unions exceeded those of St. George the Martyr, the fever cases were in Wandsworth and Clapham 234, and in the Strand 231.

These comparisons afford striking illustrations of the fact already established by the records of the Fever Hospital, that the main sources of fever in London are certain districts, of which the principal are, Whitechapel, Lambeth, Stepney, St. George the Martyr, Bethnal Green, Holborn, and St. George-in-the-East. Out of the total number of fever cases in the metropolitan Unions (13,972), these parishes alone afforded 9,228 cases.

The causes of the constant and extensive prevalence of fever in these districts have been shown in the reports already alluded to, contained in the supplements to your Fourth Report. The description there given of the condition of certain localities in these districts is appalling: but it is utterly impossible for any description to convey to the mind an adequate conception of the filthy and poisonous state of these places. It can be understood only by an actual inspection of them.

With regard to the four primary forms of fever, that termed intermittent, commonly known under the name of *ague*, is characterized by the periodical return and disappearance of the febrile paroxysms. This form of disease, which in past ages was everywhere so prevalent (though always peculiarly prevalent in certain situations) as to have constituted perhaps the predominant species of fever, is now so rare a disease, that, out of 77,186 persons belonging to the class the most likely to be attacked by it, there occurred only 402 cases of it; and its proportion to the other forms of fever was as 402 to 13,972. On the other hand, another form of fever, which in past ages was also exceedingly prevalent and mortal, namely, that termed *remittent*, which differs from *ague* in the periodical remission, instead of the periodical disappearance of the febrile paroxysms (and which is still very prevalent in many other countries), now so seldom occurs in London, that not a single case of it is mentioned.

The form of fever which the present returns show to have been most extensively prevalent in London during the last year, and which is known from the records of the London Fever Hospital to have been so for a long series of years, is that termed *synochus*. This disease is 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 it is further denominated *common continued fever*, because it is the ordinary fever of the country. It is distinguished from *typhus* 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 this form of fever, the internal organs, the brain, the lungs, and the intestines, the organs which chiefly suffer in fever, are much less diseased than they are in typhus. By the present returns it appears that, of the total number of fever cases that occurred in the metropolitan Unions (13,972), there were of synochus 7,017, that is, more than one-half.

Next in prevalence to synochus is the much more formidable malady called typhus, which 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. Of this, the severest form of fever known in this country, there occurred in all 5,692 cases.

The last form of fever, that called scarlatina, characterized by the scarlet rash, which, in the early stage of the disease, covers the whole body, is far less constant, both in its comparative prevalence and in its severity, than the two last species. During the last year scarlatina has been comparatively infrequent; for there occurred in all only 861 cases of it, not much exceeding double the number of agues.

In regard to the mortality of fever during the year ended the 20th of March, 1838, it appears, from the preceding Table, that out of 13,972 attacks there were 1,281 deaths; consequently, the average mortality was somewhat more than 1 in 11. Considering the unusual severity during this year of the great majority even of the cases of synochus, and the very large proportion of typhus, this cannot be regarded as a high rate of mortality. In the London Fever Hospital, in the most favourable seasons, the rate of mortality is seldom as low as this; but during the last year the mortality in this hospital has been unusually great. Out of the total number of admissions into the hospital during the year 1838, namely, 1,044, there were 260 deaths: an average mortality of 1 in 4, or 7 in 29. But it must be borne in mind that, in general, only the worst cases that occur in the metropolis, and in many of the metropolitan Unions, are sent to this hospital, and that even these are seldom sent until the patients are in the last stage of the disease. Thus, in the Report of the London Fever Hospital for 1839, just published, it is stated that, out of the total number who died during the last year, 112 lived only one week after their admission; that in some instances the patient expired before a bed was prepared; and that in five instances, when the vehicle in which the patient had been removed from his dwelling arrived at the gate of the hospital, life was found to be extinct. Fortunately, in the metropolitan Unions, the cases of fever are commonly placed under medical care in the early period of the disease; and the advantage of prompt attention to the sick is shown in a striking manner by the comparatively large proportion of the cured to the dead.

As might be expected from the difference in their natures, the mortality is widely different in the different species of fever. Thus, in intermittent fever, out of 402 attacks, there were 25 deaths, or 1 in 16. This form of fever prevailed chiefly in the following Unions:

Name of Union.	Attacks.	Deaths.
Poplar	80	..
Whitechapel	68	1
Kensington	51	14
Camberwell	31	..
Wandsworth and Clapham .	31	..
Holborn	26	6

In synochus, out of 7,017 attacks, there were 344 deaths—less than 1 in 20. This species of fever was the most prevalent and mortal in the following Unions:—

Name of Union.	Attacks.	Deaths.
Lambeth	918	74
Bethnal Green	876	60
Whitechapel	745	20
St. George the Martyr	784	21
Stepney	694	47
Bermondsey	463	12

In typhus, out of 5,692 attacks, there were 836 deaths: consequently this species of fever was three-fold more mortal than synochus. This form of the disease prevailed chiefly in the following Unions: viz.—

Name of Union.	Attacks.	Deaths.
Whitechapel	1,505	178
St. George-in-the-East	535	45
Lambeth	503	63
Stepney	469	98
Bethnal Green	303	69
Poplar	258	15
Greenwich	261	60
Holborn	224	15
St. George the Martyr	463	52

In scarlatina, out of 861 attacks, there were 76 deaths, or 1 in 11, a very high rate of mortality for scarlet fever, which is, in ordinary seasons, much less fatal than synochus. Occasionally, however, it is more fatal even than typhus, and approaches nearer to the nature of plague than any other disease with which we are acquainted. Though not very prevalent in London during the last year, scarlet fever was more than commonly severe, which is testified as well by these returns as by the records of the London Fever Hospital. This form of fever prevailed chiefly in the following Unions: viz.—

Name of Union.	Attacks.	Deaths.
Lambeth	222	14
Stepney	168	16
Whitechapel	87	15
Poplar	57	..
Kensington	47	2
Hackney	42	2
Camberwell	32	..
Rotherhithe	30	4

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, seven Unions only yielded 4,002 cases, viz.—

Name of Union.	Typhus.
Whitechapel	1,505
Lambeth	503
Stepney	469
St. George the Martyr	463
Bethnal Green	303
Holborn	224
St. George-in-the-East	535
Total	4,002

While, 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. In like manner, out of the total number of cases of scarlatina (861), there occurred in three Unions only, 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 three places.

I have shown elsewhere,* from a large experience, that fever is more prevalent among females than males, but less fatal in the former than the latter, and that this disease occurs far more frequently at certain ages than at others. The results of the present returns afford a confirmation of these observations. Thus, of the total number attacked with fever, there were males 6,215, females 7,757: but of these there were cured, males 5,614, females 7,077: so in synochus, out of 7,017, the total number attacked, there were, males 2,979, females 4,038; but of these there were cured, males 2,850, females 3,823. In typhus, out of the total number attacked, 5,692, there were, males 2,641, females 3,051; but of these there were cured, males 2,206, females 2,650.

The following Table exhibits a general summary of the total number attacked, under the different species of fever, from the first year of life to 90 years of age and upwards. It is clear that these returns have been made for the earlier periods of life, that is, from the 1st year to 10, on the principle of including under the general term fever all the diseases of infancy and childhood attended with feverish symptoms. Idiopathic fever, that is, primary and essential fever, in contradistinction to fever coming on in the course of some other disease, and thence called secondary or symptomatic, is a very rare disease in infancy and childhood; and, when it does occur at these periods of life, it is less fatal than at more advanced ages; indeed it has been demonstrated that the mortality of fever increases with a steady and rapid progression as age advances. Reckoning from the age of 10, this Table shows, in conformity with previous observations, that the ages at which fever chiefly prevails are from 20 to 50; thus, from the age of 20 to 90 and upwards, there occurred, in all, 10,593 cases; but out of these there occurred, within the ages of 20 and 50, 8,199. To enter into further details respecting the curious and highly interesting results afforded by this Table would be out of place here.

There is no disease which brings so much affliction into a poor man's family as fever. From the ages which the opposite Table shows to be peculiarly predisposed to this malady, it is obvious that it most 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 prevalent and fatal disease. They show that, out of the total number of persons in London who received parochial relief during the last year, more than one-fifth were the subjects of 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 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.

GENERAL SUMMARY of the Number of PAUPERS attacked with FEVER in Twenty Metropolitan Unions or Parishes during the year ended 25th March, 1838, distinguishing the Ages as specified beneath.

Between the Ages specified.	INTERMITTENT FEVER.							SYNOCHUS.						
	Males.		Females.		Total.			Males.		Females.		Total.		
	Cured.	Dead.	Cured.	Dead.	Cured.	Dead.	Attacked.	Cured.	Dead.	Cured.	Dead.	Cured.	Dead.	Attacked.
Years.														
0—5	9	..	14	1	23	1	24	532	32	497	29	1,029	61	1,090
5—10	18	..	29	2	47	2	49	451	10	473	17	924	27	951
10—20	35	..	33	..	68	..	68	481	8	674	23	1,155	31	1,186
20—30	30	..	26	..	56	..	56	413	16	603	19	1,016	35	1,051
30—40	26	..	31	1	57	1	58	332	19	554	26	886	45	931
40—50	31	1	18	..	49	1	50	273	13	378	26	651	39	690
50—60	14	2	28	8	42	10	52	134	10	246	21	380	31	411
60—70	11	2	10	4	21	6	27	105	12	172	23	277	35	312
70—80	5	..	3	1	8	1	9	91	6	139	23	230	29	259
80—90	2	..	3	3	5	3	8	35	3	74	6	109	9	118
90 and upwards)	..	..	1	..	1	..	1	3	..	13	2	16	2	18
Totals .	181	5	196	20	377	25	402	2,850	129	3,823	215	6,673	344	7,017

Between the Ages specified.	TYPHUS.							SCARLATINA.						
	Males.		Females.		Total.			Males.		Females.		Total.		
	Cured.	Dead.	Cured.	Dead.	Cured.	Dead.	Attacked.	Cured.	Dead.	Cured.	Dead.	Cured.	Dead.	Attacked.
Years.														
0—5	130	19	119	28	249	47	296	138	11	151	18	289	29	318
5—10	200	26	180	12	380	38	418	115	8	98	12	213	20	233
10—20	453	38	500	44	953	82	1,035	67	2	77	5	144	7	151
20—30	509	47	529	41	1,038	88	1,126	36	2	37	2	73	4	77
30—40	328	61	524	47	852	108	960	7	2	21	2	28	4	32
40—50	267	73	278	80	545	153	698	12	2	16	..	28	2	30
50—60	143	51	226	53	369	104	473	1	..	4	..	5	..	5
60—70	96	61	138	52	234	113	347	1	2	..	1	1	3	4
70—80	43	42	111	34	154	76	230	..	3	4	3	4	6	10
80—90	37	16	44	9	81	25	106	..	..	..	1	..	1	1
90 and upwards)	..	1	1	1	1	2	3	..	..	..	..	..	..	..
Totals .	2,206	435	2,650	401	4,856	836	5,692	377	32	408	44	785	76	861

Between the Ages specified.	TOTALS.						
	Males.		Females.		TOTAL.		
	Cured.	Dead.	Cured.	Dead.	Cured.	Dead.	Attacked.
Years.							
0—5	809	62	781	76	1,590	138	1728
5—10	784	44	780	43	1,564	87	1651
10—20	1,036	48	1,284	72	2,320	120	2440
20—30	988	65	1,195	62	2,183	127	2310
30—40	693	82	1,130	76	1,823	158	1981
40—50	583	89	690	106	1,273	195	1468
50—60	292	63	504	82	796	145	941
60—70	213	77	320	80	533	157	690
70—80	139	51	257	61	396	112	508
80—90	74	19	121	19	195	38	233
90 and upwards)	3	1	15	3	18	4	22
Totals .	5,614	601	7,077	680	12,691	1,281	13,972

as long as those dreadful sources of fever which encompass the habitations of the poor are allowed to remain. They would 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.

While systematic efforts, on a large scale, have been made to widen the streets, to remove obstructions to the circulation of free currents of air, to extend and perfect the drainage and sewerage, and to prevent the accumulation of putrefying vegetable and animal substances in the places in which the wealthier classes reside, nothing whatever has been done to improve the condition of the districts inhabited by the poor. These neglected places are out of view, and are not thought of; their condition is known only to the parish-officers and the medical men whose duties oblige them to visit the inhabitants to relieve their necessities and to attend their sick; and even these services are not to be performed without danger. Such is the filthy, close, and crowded state of the houses, and the poisonous condition of the localities in which the greater part of the houses are situated, from the total want of drainage, and the masses of putrefying matters of all sorts which are allowed to remain and accumulate indefinitely, that, during the last year, in several of the parishes, both relieving officers and medical men lost their lives in consequence of the brief stay in these places which they were obliged to make in the performance of their duties. Yet in these pestilential places 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 1,300 have died. 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. 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 greater distance and ultimately to the most remote streets and the great squares. There can be no security against the constant recurrence of this calamity but the adoption of measures adequate to diminish very materially, if not entirely to prevent, the generation of the febrile poison in every district. This might be done to a large extent 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 under-ground sewers, with effectual surface-drainage into them; and by the immediate removal of refuse animal and vegetable matters by an efficient body of scavengers. The expenditure necessary to the adoption and maintenance of these measures of prevention would ultimately amount to less than the cost of the disease now constantly engendered. The most pestilential of these places, when once put into a wholesome condition, could 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.

I am, &c.

(Signed)

SOUTHWOOD SMITH



