

Observations on the prevalence of epidemic fever in Edinburgh and Glasgow; and means suggested for improving the sanitary condition of the poor / [Robert Deuchar].

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ON

THE PREVALENCE OF

EPIDEMIC FEVER

IN

EDINBURGH AND GLASGOW;

AND MEANS SUGGESTED FOR IMPROVING THE SANITARY
CONDITION OF THE POOR.

BY

ROBERT DEUCHAR,

SECRETARY TO THE EDINBURGH FEVER BOARD.

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OBSERVATIONS, &c.

THE subject of Fever is of deep interest to the public; and as it has, during the past year, prevailed to a much greater extent in this city than at any former period, the following statement is submitted with the view of drawing the attention of the authorities to the necessity which exists for additional means being adopted to ameliorate the condition of the suffering poor, and thereby, as far as possible, to check the progress of that contagious fever which is now raging; for, although it has hitherto been chiefly confined to those localities where the poor reside, it is manifest that unless increased exertions are made, it cannot fail ere long to spread itself among the higher classes of the community. Notwithstanding, however, the great increase of fever, it is somewhat satisfactory to state, that there does not appear any just ground for exciting extraordinary alarm in the public mind. The disease, although very general, has been of a mild description, and, it is trusted, that as it has begun to decrease, it will finally disappear at an early period.

Nothing can be more injurious to the prosperity of the city than to permit exaggerated statements to be spread abroad, which are calculated to impress strangers at a distance with the belief that a fearful epidemic is at present raging in Edinburgh, and that it would be unsafe for strangers either to visit or reside among us. Misrepresentations of this kind are exceedingly injurious to trade; but it is trusted that the following statement will satisfy the public, that although there is a call for increased exertions on the part of the authorities, and for additional permanent hospital accommodation, yet there is happily no reason to apprehend that the atmosphere of our city has become less salubrious than it has hitherto been.

Experience has shown that all large towns are liable periodically to be affected with fever, and that after each epidemic has arrived at

a crisis, and spent its force, it has invariably decreased, and soon afterwards almost disappeared. This has been the case in Manchester, Liverpool, and other large towns in England, where fever has in some years been more prevalent than in Edinburgh.

Thus in Liverpool the number of cases treated in the <i>Hospital</i>	
in 1836 was	1700
In Manchester	780
In Edinburgh and Leith	658
In Glasgow, in hospital	3125
... .. out of hospital	6967
	<hr/> 10,092
In Dundee	2673

Since the above period fever has been diminishing in Manchester, and increasing in Glasgow.

In Glasgow the increase of fever has been at times very alarming. Thus, according to Dr Cowan's calculation, the number of cases treated in and out of hospital, during the following years, were estimated as follows:—

1835	6180
1836	10,092
1837	21,800
	<hr/> 38,072

The mind cannot contemplate without horror the amount of human misery which the above so forcibly expresses. And what renders the case still more appalling is the fact, that the rate of mortality from fever increased with the number of cases. Thus in 1835 the rate of mortality was 1 in 15 of those attacked, in 1836 1 in 12, in 1837 1 in 10!

From the Report of the district surgeons for Glasgow in 1843, it appears that the average state of health among the poor of that city has not improved.

Thus in 1842 the number of sick patients who received	
medical relief was	5296
While in 1843 the number was	19,085

Shewing an increase of 13,789

And this vast increase appears to have been caused by	
the present epidemic fever, the number of cases being	12,967
And of typhus	736

Making in all 13,703

Of these no less than 12,397 were treated at *their own houses*, and only 570 were sent to the Royal Infirmary. The mortality in typhus cases had also increased, having been about double the rate of 1842.

The Report referred to concludes as follows:—

“Frightful as this picture is, still it is gratifying to find that something has been done, and is still doing in order to check the ravages of disease, and alleviate the sufferings and privations of our pauper population. About three months ago the district surgeons recommended to the Directors of the Town’s Hospital the propriety of affording to the most necessitous of their pauper patients immediate assistance in the shape of wholesome food, in addition to the ordinary means of relief, to which proposition the Directors at once kindly assented, and placed at their disposal a supply of penny tickets for distribution,—the Directors justly considering that their medical officers were the best qualified, from their personal knowledge of the circumstances of the poor, to discharge this duty in a discriminating and efficient manner.

“This promiscuous charity on the part of the surgeons has amounted weekly to upwards of L.20, and has been the means of imparting relief to thousands of our fellow-creatures whom want and disease had reduced to the extreme of wretchedness.

“As a matter of economy, the advantage of this plan will be apparent from the fact, that if the Directors of the Town’s Hospital had not acted in the liberal manner they did, it is believed that at least a third of the 12,397 cases of fever—viz., 4099 cases—must have been sent to a fever hospital by the district surgeons to keep them from starvation; which, at 15s. per case, (the sum charged for fever cases by the Royal Infirmary), would have amounted to L.3,074, 5s., instead of L.283, 15s. 8d., being the sum actually distributed by the medical officers for the last three months.

“The public cannot fail to perceive the immense amount of labour performed this year by the seventeen district surgeons—a duty, the onerous, disagreeable, and dangerous character of which can only be fully estimated by a personal inspection of those wretched hovels of disease and penury which but too plentifully abound in this city. In these dens, (for they deserve no higher appellation), many of which do not exceed from six to seven feet square, whole families were found by the surgeons, (all affected with fever), consisting sometimes of nine individuals, stretched upon the floor, without either bed, bedding, fire, or even a morsel of food but that which was daily distributed to them by the Visiting Surgeon. In consequence of the above arrangements, on the part of the Directors of the Town’s Hospital, however, the state of the diseased poor has been vastly ameliorated.”

The remarks above quoted seem to afford ample evidence that the medical treatment of fever patients at “*their own homes*” however economical at the moment, is a serious evil, and ought instantly

to be corrected, as far as possible, by the public authorities; for it must be obvious that such medical attendance on the poor is not a means calculated to prevent the spread of contagion, which accordingly appears to have had a fearful influence among the inhabitants of those localities where the poor are crowded together. Indeed, it must be palpably evident that nothing less than the removal of the patients to an hospital, and a complete separation effected betwixt the sick and the healthy, can possibly prove a successful check to the increase of fever in Glasgow, or in any other large city. Similar scenes are occasionally seen in this town, but never when the combined exertions of the Fever Board and Royal Infirmary can prevent them.

The description given of the closely confined state of the apartments, and the extreme wretchedness of the poor families who were crowded together, and all of them afflicted with fever, is sufficient of itself to condemn the system of medical superintendence practised in Glasgow. The small amount of relief afforded in money (*viz.* L.283,) appears to be little more than a mockery of charity. There is surely a wide discrepancy betwixt the amount of *necessity* alleged to have existed, and the amount of *relief* alleged to have been afforded. Each of the seventeen district surgeons, it appears, was allowed to distribute about twenty-three shillings per week! How “a vast amelioration” was thus *effected* in the state of so many persons in the condition described, it is rather difficult to conceive.

These observations cannot be considered out of place, for this is not a question of mere local importance, it is a matter which deeply involves the interests of the whole community.

In Edinburgh, matters have been conducted in a very different manner and with better success; for instead of expending a trifling sum in *penny tickets*, the Fever Board has expended about L.10 per week in removing patients to the Hospital, and cleaning houses—while the extra contributions of the public in aid of the Hospital Funds has, during the last few months amounted to above L.6000, in addition to a late contribution for the unemployed, which amounted to L.6400; and the Destitute Sick Society has expended during last year a large amount in supporting the diseased poor and their families.

In addition to these benefits an arrangement has been made with the Managers of the House of Refuge, to receive destitute convalescent patients and maintain them until they are fit for resuming their usual employment.

The state of fever in DUNDEE will be seen from the following table to have been lately as extensive in proportion to the population as it has been in Glasgow.

Year.	Cases.	Deaths.
1833	1188	132
1834	1520	169
1835	1179	131
1836	2673	297
1837	1881	209
1838	1773	197
1839	1593	177
	<hr/>	<hr/>
	11808	1312

Thus, as the Rev. Mr Lewis has observed, in seven years fever has fallen on much more than a tithe of the inhabitants, choosing its victims here, as elsewhere, in the manhood of life, and compelling the citizens of Dundee to pay a tax frightful in the amount of personal sufferings and family bereavements.

Considering the extent of disease which has so generally prevailed in Glasgow, it is not to be wondered at, that with the increased facilities of intercourse betwixt the two cities, the extent of fever in Edinburgh should have also increased from the effects of contagion alone: And our surprise is, that fever has not increased in this city to a much greater extent than has actually occurred. This, no doubt, in a great measure must have been owing to the check which has been given to it by the exercise of those preventive means which have been in daily operation, and the great exertions on the part of the visitors of the Benevolent Societies, and the visiting surgeons of the Public Dispensaries.

The following are the numbers of fever cases treated in the Royal Infirmary and Auxiliary Hospital in Edinburgh, during the last four years.

1840.....	786
1841.....	1187
1842.....	737
1843.....	3533

TABLE showing the number of fever cases admitted to the Hospitals in Edinburgh, per month, from 1840 to 1843.

	1840.	1841.	1842.	1843.	Total.
Jan.	67	148	69	68	352
Feb.	49	131	83	74	337
March	54	95	66	83	298
April	57	77	62	96	292
May	69	99	76	134	378
June	69	91	56	164	380
July	73	118	55	189	435
August	59	83	38	426	606
Sept.	56	78	48	531	713
Oct.	52	85	75	638	850
Nov.	68	99	56	586	809
Dec.	113	83	53	544	793
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	786	1187	737	3533	6243

The mean temperature during the above months was as follows:—

TABLE OF THE TEMPERATURE AND RAIN, FROM 1841 TO 1843.

	Mean Tem. Therm. 1841.	Rain.	Mean Tem. Therm. 1842.	Rain.	Mean Tem. Therm. 1843.	Rain.
Jan.	33.000	1.23	35.451	1.01	38.194	1.69
Feb.	38.393	1.64	39.553	1.11	32.732	1.38
Mar.	45.626	60	42.048	3.44	40.033	0.99
Apr.	44.266	1.14	45.033	0.15	44.500	1.87
May	51.741	1.14	51.227	1.45	45.870	2.99
June	52.433	1.56	57.533	0.97	50.970	2.26
July	53.581	3.87	56.742	1.53	56.881	3.59
Aug.	53.887	3.64	59.145	1.36	57.048	1.40
Sep.	54.366	2.63	53.580	1.45	56.150	0.89
Oct.	43.484	4.53	44.010	0.98	44.220	4.20
Nov.	39.100	2.28	39.830	1.63	41.600	2.20
Dec.	39.651	1.96	45.350	1.79	46.790	0.34

It is generally admitted that Edinburgh, from its locality and buildings, is not only one of the most picturesque, but also one of the healthiest cities in the empire. And if we compare it with Glasgow, Dublin, Liverpool, or Manchester during a course of years, it will be found, that the high character it has always maintained has not been undeserved. But a few more epidemic fevers, notwithstanding all the exertions that can be made on the present system to check them, will assuredly deprive our city of all such claims.

It is many years since the medical gentlemen of the Edinburgh Fever Board saw the necessity and importance of effecting a complete separation betwixt the healthy and the sick portions of the poor in times of epidemic fever; as well as the benefit which would arise from cleaning and fumigating the houses of fever patients, and washing their bedclothes when necessary. Accordingly, the Fever Board, from the first, adopted a system by which they have always at their command persons who are daily employed in removing to the Hospital all poor fever patients who are certified as such by the visiting Surgeons of the various dispensaries, or by any medical practitioner; and one of the instructions to the officer is not to allow one hour to elapse after notice has been given, as the Board considers the *instant removal* of patients the principal, if not the only security against the spread of fever. The Board also, when it is considered necessary, and when the families allow it to be done, send women to wash the walls of the houses and also the bed-clothes of the patients, and the rooms are thereafter fumigated, and clean straw is furnished to destitute families.

The following Table shews the annual Number of Fever Patients admitted into Hospitals in Edinburgh, from 1817 to 1839.

	Number of cases.	Houses cleaned.
From Nov. 1817 to Nov. 1819,	2470	985
1820,	620	197
1821,	413	182
1822,	356	166
1823,	248	81
1824,	218	34
1825,	328	74
1826,	696	167
1827,	1837	634
1828,	1862	459
1829,	619	104
From Nov. 1829 to March 1830,	163	20
March 1830 to March 1831,	191	39
1832,	1225	289
1833,	878	236
1834,	690	169
1835,	826	116
1836,	841	114
1837,	972	104
1838,	1994	297
From March 1838 to Jan. 1839,	2242	408

In ordinary years there has been ample hospital accommodation afforded to fever patients: But in 1839, when fever prevailed to a greater extent than usual, and when its malignity seemed to be increasing, (the mortality having gradually risen from one in twenty, to one in fifteen,—one in ten, and, in the above year, to nearly one in six!) the Board took into consideration the necessity of providing additional hospital accommodation. They, accordingly, with the concurrence of the Lord Provost and Council, and the late Lord Advocate (now Lord Murray), raised by public subscription the necessary funds, and they were thus enabled to convert the old Surgeons' Hall into an auxiliary hospital, which has been found well adapted for the purpose intended, and it may be considered as an excellent model of a Fever Hospital, capable of containing above sixty beds. This hospital has now become of great utility, from its admirable construction and conveniences, such as baths, &c.*

The Fever Board, from its commencement to the present time, has thus been the means of sending many thousands of fever patients to the hospital, while so many as 200, 300, 400, and even 600 houses have been cleaned in one year. The number of houses cleaned and fumigated down to December last, being 5813; and during the last year 785 destitute families have been supplied with clean straw-bedding.

* The Auxiliary Hospital was planned by David Cousin, Esq., architect, under the direction of the first medical gentlemen in Edinburgh.

It must be obvious that much good must have resulted from the long-continued operations of the Fever Board, in conjunction with the Destitute Sick Society and Public Dispensaries; and it is believed that, in no other city in the empire has such a regular system been pursued. But while much has been done to prevent the disease extending here as it has done in Glasgow, Dublin, and other towns in Ireland, yet it is to be regretted that all those means have been unable to prevent periodical returns, and, on the whole, a lamentable increase of this devastating malady.

During the last year there has been, as already stated, a considerable increase of fever, the number of cases being about one-third more than in any former year, and this, too, has occurred, notwithstanding that increased exertions have been made to check its progress. Mr Ramsay, the superintendent of the cleaning department, and Dr Tait, surgeon of police, have given great assistance, and by their directions, no less than 2120 apartments have been cleaned and fumigated since September last, besides 1531 passages, and 690 stair-cases.

There can be but one opinion as to the great importance of cleaning the houses of the poor, and the Commissioners of Police deserve the highest praise for their exertions; but unless the patients are regularly *removed to the hospital*, the labour will often prove ineffectual. And it is more than probable that the ravages of the present epidemic would not have been so extensive, had the Managers of the Royal Infirmary not been under the necessity of refusing admission to a considerable number of patients, who were consequently treated at their own houses, as in Glasgow. This unquestionably must have been one cause of the great extension of fever in Edinburgh.

The Managers of the Royal Infirmary have exerted themselves to the utmost to afford additional accommodation; and the liberality of the public on this emergency, is ample proof that they deservedly possess the confidence of the community.

The present epidemic however is, as already stated, comparatively mild, and as it has begun to decrease,—it is hoped it will soon disappear. But considering the extent of disease in Glasgow, where so many cases have occurred in *one year* as have been known to exist in this city during a period of *twenty years*, we ought to feel grateful that the visitation has been so slight, and that the mortality has been so limited.

Although much good may be effected by very simple means, yet there is great danger in imagining that fever will be prevented by simply cleaning the apartments of the poor. Were this belief to gain ground, one of the principal causes of the disease, viz. *poverty and destitution*, would not fail to be, in some degree, overlooked.

Much has been written to prove that the different kinds of fever which have periodically appeared in this and other large towns, have been caused *solely* by the filthy state of the habitations of those affected with the disease; or by the proximity of their crowded dwellings to places used as stables, byres, tanpits, or receptacles for manure, &c. These certainly are nuisances which are exceedingly offensive and injurious, and the utmost exertions ought to be used to correct the evil, by promoting both internal and external cleanliness as respects the dwellings of the poor. But experience has shown that *malaria* arising from these sources, does not appear to be the true cause of fever, or the leading cause of its extension among the poor.

The reasons for this opinion are,—

That if fever were caused solely by malaria, as has been maintained, it would not appear and disappear at intervals, and its influence would be more regular; and, besides, it could not fail to be more prevalent, and more virulent during the summer than the winter months; but so far from this being the case, fever always prevails to the greatest extent during winter.

The following Table will show the number of cases per month during a period of nine years.

January,.....	1166	July,.....	631
February,.....	810	August,.....	678
March,.....	845	September,..	784
April,.....	701	October,.....	888
May,.....	749	November,...	1090
June,.....	712	December,...	1176

The same result is observed in other places. Thus, in Glasgow, the numbers in 1838 were,—in

January,.....	502.
August,.....	218.

From the above table, it is obvious, that the number of fever cases has generally attained the maximum amount in those months in which malaria, arising from putrescent matter, least abounds, and consequently is least injurious.

Secondly, If fever were caused by malaria of the above description, it would be found to prevail principally in those localities where the receptacles of filth, manure, &c. are situated; but experience has shewn that this is not the case; for it has been observed that fever has frequently occurred in some of the best aired houses of the town where the poor reside; and that, while it has raged among the destitute inhabitants of the upper stories, the families possessing the

lower flats, (although crowded and ill ventilated), have been free from its influence.

Thirdly, It has frequently been observed that the removal of patients to the Hospital at an early stage of the disease, has prevented it from extending beyond the dwelling where it had first appeared.

The following observations by Professor Alison in a valuable paper published in 1827, (Med. Jour. vol. xxviii.) have been amply confirmed by subsequent experience :

“ I. The very same houses and districts in which a succession of cases of fever is observed in one season, (chiefly in persons holding close intercourse with those already sick,) will remain, during a succession of other seasons, perfectly free from the disease, although inhabited by persons liable to it, although equally crowded, dirty, and ill ventilated, and although the disease be prevalent in other, even neighbouring parts of the town. This continual change of the seat of epidemic fever has always appeared to me nearly incompatible with the idea of its depending on a malaria. I have seen such successions of fever cases at one time or another, certainly in hundreds of places in the town; and I can say positively, not only that there is no one of these in which it prevails every year, but that there is no one from which it has not been absent for a succession of years within my own observation, even when prevailing in the vicinity.

“ The district in which, during the former epidemic, between 1817 and 1820, the greatest number of fever cases occurred to my observation, was a small part of the Cowgate and adjoining closes, 140 yards by 100, in which about 200 cases occurred in less than a twelvemonth. From many inquiries made there, I am certain that that district remained quite free from fever for several years together after that time; and even during the present epidemic I have not been able to hear of more than one house in that district in which fever has appeared, although I know two tenements just on its border, in which it has been very prevalent, and caused several deaths.

“ II. While it appears that there is no part of the town subject to regular or even frequent visitations of fever, experience shows equally clearly that there is no part of it in which, when fever once occurs, a rapid succession of cases may not be observed, provided that frequent and close intercourse be kept up between the healthy and the sick. I have seen this myself under such circumstances in every possible variety of situation in Edinburgh and its vicinity, high and low, damp and dry, or even airy and confined, and often in situations widely different from those in which the malaria that produces intermittent fever is known to be chiefly generated. For example, when a person has fallen ill of fever, and lain some time

in the upper story of one of the common stairs in the High Street, or adjacent closes, I have often seen a succession of other cases on the same flat, sometimes extending to the next below, while the inhabitants of the lower parts of the same tenement, (sometimes of five or six stories,) have continued free from the disease.

“In short, I have seen enough to convince me, that while there is no part of the town in which fever prevails regularly, or very frequently, there is none in which it may not at times spread epidemically.

“III. The succession of fever cases in limited districts takes place in some seasons much more rapidly and extensively than in others. But it is certainly a general fact, that it takes place, *cæteris paribus*, always more rapidly and extensively as the intercourse of the healthy with the sick is more close and intimate. Very close intercourse, even in well-aired rooms, is often followed by the effects in question, as appears from the number of nurses, and even of clerks, affected in the hospitals. Frequent and long-continued intercourse in close confined rooms is almost uniformly followed by this result—not in all those who hold such intercourse, but in a large proportion of them, and especially in young persons; and the more airy the rooms of the sick, and the less frequent the intercourse, the fewer instances of successive affection are observed. In the new town of Edinburgh, where almost all the houses are spacious and well-aired, isolated cases of fever are common, and when a succession of cases is observed it rarely extends beyond a few individuals. But in the crowded and ill-aired parts of the old town I can hardly recollect an instance, even during the years when the disease was least generally prevalent, of a patient in fever having lain at home during the whole disease without some other cases speedily following; and in many instances, when the disease has been more prevalent, the succession has extended to ten, twenty, or thirty, within a few yards of the residence of the first patient.

“IV. The efficacy of intercourse with the sick in producing the successions of fever cases has seemed to me to be strikingly exemplified in several instances, in which fever has clearly appeared to be imported into particular districts, by persons whom I knew to have either had the disease themselves, or to have had close intercourse with the sick in other places. Two examples of this kind are I think worthy of being put on record.

“Some years ago, at a time when there was no great number of fever cases in Edinburgh, I met with a case in the son of a shoemaker, who was lying in a room in which his father and two apprentices were at work. I could not prevail on the father to remove his son to the hospital, although I stated the danger of the apprentices

being affected. Within two or three weeks after, I found that the two apprentices were lying ill of fever in their own houses, one of them 200 yards, the other half a mile distant from the workshop, and widely distant from each other. These young men likewise lay at home during the fever, and each of their cases was speedily followed by a succession of others in the inhabitants of the rooms which they occupied, and of those immediately adjoining, who had never been at the workshop. In one of these houses seven, and in the other twelve, were thus affected. Now, on the supposition of the fever being contagious, all this was to be expected, and all corresponded to the predictions which were hazarded on that belief.

“ In the beginning of last winter, a family, consisting of a labourer, his wife, and four children, long out of employment, became affected with fever; the mother first. During her convalescence the father and two sons were sent to the Infirmary, and she and the others were turned out of their house when still very feeble, and found shelter with an acquaintance. When the father and sons left the Hospital the whole family again removed to a third house, considerably distant from the former, taking with them only some *miserable dirty clothing*. After many inquiries I could not find that there had been previously any fever in any of the three places which they thus successively inhabited; but it is certain that many inhabitants of the same floor in which they first lived, (and no others in that neighbourhood,) had fever immediately after them;—that in the little court to which they next removed, thirty cases of fever occurred within a few weeks after they went thither, the inhabitants of the same room with them being the first affected,—and that from the third lodging-house which they occupied in the course of the winter, and within a fortnight after their arrival in it, four patients in fever were received into Queensberry House.

“ It is quite clear, that, if the successions of cases in limited districts depended on a malaria in each, these successions should be equally apt to take place when the first patients were removed, as when they remained at home during their illness. But while it is, as I have already said, exceedingly rare to see a case of fever run its course in any of the crowded districts, without other cases speedily following in the immediate vicinity, nothing is more common than to see single cases not followed by any others, when they are removed to the hospital within a few days from their commencement. What was stated as the result of my experience in the New Town Dispensary during the former epidemic is strictly applicable to all that I have seen in the present:—‘ We should have little difficulty in pointing out above a hundred houses where a single case of fever has occurred, where the patient has been speedily removed and th

place cleaned, and where there has been no recurrence. But we should hardly find five houses in all the closes of the old town in which a patient in fever has lain during the whole, or even during half of his disease, and in which other cases of the disease have not speedily shown themselves.'

"I have stated the results of my own observations on the cause of the propagation of the disease, without any reference to the statements of others; but it were easy to show, indeed it must have occurred to most readers, that they correspond exactly with what has been observed by those authors, whose writings on the subject of contagion are most esteemed in this country."

It has already been noticed, that fever usually prevails more in winter than in summer. This may be easily accounted for. It is in winter that the poor are most exposed to inclement weather, while, at the same time, they are least able, from want of clothing, to defend themselves against cold and wet. Even a healthy person, well clothed, would be injured by being similarly exposed,—how much more must the poor suffer who are both ill fed and scantily clothed, and whose home scarcely affords a shelter from the wind and rain?

Poverty and destitution are intimately connected with the primary cause of fever. Thus, in Glasgow, which has suffered more from fever than any other city in the kingdom, it has been observed, that fever generally extends its fearful ravages during those periods when trade is much depressed, and when the working classes are out of employment. This was the case in 1837, when, in consequence of the cotton spinners' strike, and the secret combinations among the working classes, thousands were suddenly deprived of employment, and consequently of the means of procuring food. During the months of May, June, and July, of that year, no less than 18,500 individuals were daily supplied from soup kitchens, yet notwithstanding of all these exertions, famine and pestilence raged to the fearful extent already described. The fever was principally confined to those districts where the labouring classes resided, and wherever it occurred it soon spread among all the inmates of the family.

But although fever in this city has prevailed most during the winter, its increase generally appears to commence during the harvest months. And when it is considered that during the autumn there is always a great influx of labourers from Ireland and other places, where fever is known to exist, it cannot be doubted that fever is often introduced to this city by these strangers. A large proportion of the patients are labourers, and it is not uncommon to find them designated in the Hospital books as having "come to the

harvest." This class generally sleep in lodging-houses, situated in the poorest districts of the towns through which they pass; and when the extent of disease in Glasgow is considered, it is not to be wondered at that fever should thus be communicated to Edinburgh. The Hospital books show that a great proportion of the cases have occurred in the western districts, where strangers from the west are most likely to take up their residence. The months in which the intercourse with Glasgow is greatest are those of the summer and autumn; and we find that in May 1843, the number of cases rose to 134, and continued rapidly to increase during the succeeding months. The number in October was 638.

It may also be noticed that in 1837 the number of cases in Glasgow exceeded 21,000, and we accordingly find that in 1838 and 1839 fever prevailed in Edinburgh to a greater extent than at any former period.

The following case was considered at the time as supporting this view. A soldier *newly* arrived from Glasgow became a lodger in a house in the Castle Hill, possessed by a man and his wife, and two grown-up daughters. The soldier was immediately seized with fever, and was removed to the barracks. The next affected was one of the daughters, and the mother refused to allow the patient to be removed to the Hospital: she died. Her sister also became ill, and died. The father was the next victim, and yet the obstinate mother would not allow the officer of the Fever Board to interfere. The father died, and his wife was in a very few days thereafter also carried to the grave. The house was thereupon whitewashed and fumigated, and the disease extended no farther.

The above example, while it shows the extreme danger which results from allowing patients to be treated at their own homes, where frequent intercourse among the families cannot be prevented, also affords a melancholy instance of the baneful effects of prejudice and ignorance. Happily for the community few such instances of obstinacy have come under the notice of the Fever Board.

It has been observed that a considerable proportion of fever cases in the Hospital are sailors and others connected with shipping. There can be little doubt that this is greatly owing to the sick being, on board of ships, mixed with the healthy. Out of a certain number of cases in the Hospital the proportions were

Labourers,	.	.	.	.	.	61
Shoemakers,	.	.	.	.	.	82
Sailors,	.	.	.	.	.	18
Other trades very few.						

The clothing of patients is frequently the means of conveying disease from place to place. It is on this account that the bedding, &c.

of the patients is directed to be washed ; and so dangerous an operation has this been, that none of the women thus employed have escaped. The following case lately appeared in the public prints :—

A poor man, Angus M'Millan, residing in the island of Harris, died a few weeks ago of fever caught by infection communicated by a sailor's jacket, purchased from the crew of a foreign vessel. His two children, a young woman 24 years of age, and a youth of 16, both took ill after the decease of their father, and died within a few hours of each other.

It is of importance to notice these facts, as they show that the preventive means to be adopted must not be restricted to simply white-washing the apartments, or to any other particular operation, but must include every operation that has been found by experience to be beneficial, not omitting the most important, viz., the *removal of patients to the Hospital.*

As an example of the above, it may be stated, that some time ago, fever prevailed to a great extent in a recently built tenement in the Cowgate ; but it was confined to the two upper flats, and chiefly to the top storey, which was occupied by poor families ; so many deaths had occurred, that the tenants of the under flats threatened to remove unless measures were taken to remedy the evil. The patients were removed to the Hospital, and the rooms where they resided were closed. The proprietor, as advised by the Fever Board, white-washed the walls and passages, and the apartments were twice fumigated. New tenants thereafter took possession, and the tenement became entirely free from fever.

It is to be regretted that more attention has not been paid to this important subject, and it is deeply to be lamented that so vast an amount of human life is thus annually sacrificed, while it is certain that in numerous instances valuable lives might have been preserved by the adoption of a proper system of superintendence, and by a more extensive application of the preventive means above described.

The Report by Mr Chadwick, published by the Poor Law Commissioners, is valuable in many points ; but it is evidently somewhat partial and defective, in so far as the author has almost entirely overlooked the important subject of Hospital accommodation, and appears to have been satisfied with merely pointing out the utility of cleaning houses, lanes, and passages, and constructing common sewers, as if these were all that is required to remove the causes of fever, and to prevent its extension among the poor.

The lamentable experience of the past ought to lead the public authorities without delay to adopt the most effective means to lessen the amount of disease and suffering which so generally prevails among the working classes in large cities ; and as much may be done to accom-

plish this great and important object, the following suggestions are submitted, with the view of calling attention to the subject.

First, It is manifest that a new poor law is essentially necessary.

Hitherto the burden of supporting the sick poor has principally been borne by the charitable portion of the citizens ; justice now demands, that as all are equally interested, all should contribute their share ; and,

1. A change in the law of residence and settlement is essential, so that each parish may be compelled to support those who in fairness and justice can be regarded as its own poor.

2. The rate of relief to the sick, disabled poor, widows, and orphans, ought to be much more liberal.

The present rate of relief is a disgrace to the country, and the poor are so scantily supplied, that many of them and their children are driven to seek support by prostitution and thieving.

3. There ought to be a board of managers for every city, elected in the same manner as the board of police, and in each district there should be a local board with a surgeon attached, the representative at the general board being chairman at the local board. The general board would thus possess all the united experience of the local boards.

Thus, while the general board would take charge of the assessment and other public matters, the local boards would exercise a strict superintendence and control over the objects of the charity. New applications for relief would be duly reported on, and paupers from other places would be restored to their parishes.

The local boards ought also to have the power of inspecting all houses under a certain amount of rent, and of ordering the *proprietors*, (not the occupants), to repair and clean them periodically, or when certified to be necessary, or otherwise to prohibit them from being let. Internal cleanliness in the dwellings of the poor would thus in a great measure be secured. The poor pay higher rents in proportion to the accommodation they enjoy, than are paid by the wealthy. And many of the proprietors of small houses are in the practice of extorting weekly from their miserable tenants an amount far above what the real value of the wretched hovels warrants. Small houses for the poor sometimes show a return of from twenty to thirty per cent. It is therefore robbing the public, when their money is expended in cleaning these hovels ; and it is feared that any improvement thus effected just goes to increase the rents extorted by these proprietors, many of whom are so sordid, that they would extract from a perishing family their last sixpence, before they would stop up a breach in the wall or roof, or mend a pane of glass, by which the lives of the miserable inmates might have been preserved.

The poor ought to be lodged as well as fed, and experience has shown that houses could be erected and let to them at a much cheaper rate than is generally paid. Regulations of the above description have in some instances received the sanction of the Legislature, but they were rendered inept by fixing the duty of cleaning on the poor occupant, whereas the proprietor ought to have been the party so bound. The regulations were also clogged with legal forms, whereas the most summary mode of proceeding ought to have been established. See Report of the Poor Law Commissioners for 1842, p. 340.

4. A plentiful supply of water ought to be provided for the poor gratis, and baths erected at the public expense.

Benevolent societies have hitherto done much to supply the deficiency of parochial superintendence, but these have sometimes increased the evils they were intended to cure. For experience has shown, that in proportion as the amount of good accomplished by these societies has been extended, the demand for relief has also as rapidly increased; and this increase of pauperism has been caused by the influx of strangers who come to participate in the bounty dispensed by these charities. This has long been a sore evil, and can only be remedied by a new poor law, making the claim of relief and rate of allowance afforded uniform over the country.

Were these and other regulations for a similar purpose adopted, a general improvement in the condition of the poor would soon be effected, and benevolent societies would then have full scope for their labours, and while imposition would in a great measure be prevented, the true objects of charity would not fail to obtain relief.

Secondly, The Police act ought to be enlarged so as to enforce external cleanliness and drainage where necessary.

Thirdly, Fever hospitals should be erected in various districts, and fever boards instituted in every city where none exist.

The observations contained in the preceding pages, showing the benefits which must have arisen from the removing patients to the hospital, were intended to bear upon this point. And with the fearful example of Glasgow before us, where so many patients are treated "*at their own homes*," it is impossible to deny that the removal of patients to an hospital under proper regulations, is the only certain means of checking the increase of fever, which is so evidently promoted by the crowded state of the dwellings of the poor.

The health and safety of all classes, therefore, in a great measure depend on the existence of proper hospital accommodation, and the miserable condition of the numerous suffering poor calls loudly for relief.

Edinburgh requires two or three additional hospitals to be erected in convenient localities. The expense of three plain substantial buildings, similar to the Auxiliary Hospital in Surgeon Square, would be small in comparison to the heavy tax which the want of sufficient hospital accommodation is certain to entail on the inhabitants of a city.

The public may be here reminded that there are several bequests by charitable individuals for this purpose, which have never been carried into effect; one of these is described in the trust-settlements to be for the "sick and hurt," but because a "sick" fever patient is not according to the opinion of lawyers also "*hurt*," the trustees think they have no power to apply the fund for a sick fever hospital. But be this as it may, if additional hospital accommodation be not provided, no one can tell the extent of disease which in consequence may periodically spread among the working classes.

Fourthly, In connection with the hospitals, district surgeons should be appointed, whose official duty it should be to visit the sick poor, and take measures for the instant removal of fever patients, and to direct their houses to be cleaned and fumigated when necessary. The expense of maintaining the hospitals would fall to be paid out of the assessment.

Lastly, As it has been shown, that the working classes and their families are the principal sufferers from fever, it is their duty to exert themselves, and to adopt measures calculated to improve their condition.

SOCIETIES ought therefore to be instituted among the working classes for the purpose of affording better and cheaper houses than those which they now occupy.

Houses for the working classes generally yield from *ten* to *fifteen* per cent. But if Saving Societies were instituted to purchase houses to be let to the shareholders and others, under proper regulations, and the shares made transferable without stamp-duty, an immense benefit would be secured to the working classes. For, *first*, comfortable houses, at a moderate rent, could be provided in proper localities; and, *secondly*, the profits would be returned in the shape of dividends on the capital stock. The saving of the working man would thus be greatly increased, and as these societies would be regulated by statute, they might be rendered more beneficial than Savings' Banks.

It is the duty of the legislature to favour all schemes which have for their object the amelioration of the condition of the industrious workmen, and to encourage them in thus uniting to promote their own welfare. The legislature has already granted exemption from

stamp-duty on life policies for small sums, and there is no doubt that societies of the description proposed would obtain a similar exemption.

This subject is of deep importance to the working classes. For it has been shown, that in seven years fever has fallen on more than a *tithe* of the inhabitants of Dundee,—“choosing its victims there, as elsewhere, in the manhood of life, and compelling the citizens to pay a tax frightful in the amount of personal sufferings and family bereavements.” According to Dr Southwood Smith, we learn, “that fully one-half of the cases of fever occur in the prime of life, when men are most useful either to their families or to society.” Fever has thus compelled every *tenth* man in Dundee during the period stated, to lose the wages of six weeks’ labour, and to suffer all the languor, sickness, and oppression of six weeks’ fever, without taking into account the number of bereaved widows and orphans it has left as permanent burdens on the community.

The loss sustained by Dundee on this account, has been estimated at no less than L.25,096 per annum; and, if so, what must be the annual amount of loss, and the extent of human misery and suffering which are caused by fever in Glasgow, where, in one year, not less than *twenty-one* thousand persons, or *one-tenth* of the population, has been subjected to this direful scourge?

Such being the claims of the working classes, it is high time for those in authority to bestir themselves—and instead of spending their valuable time in wrangling about matters, many of which are confessedly of trifling importance either to themselves or the public, it is respectfully submitted, that it is their duty, without delay, to take into consideration the sanitary condition of the community over which they preside; it is not enough that on pressing occasions soup kitchens are opened to supply the famishing poor, or that subscriptions are exacted to aid the unemployed; to accomplish any permanent benefit, it is necessary that a well regulated system of operation be organized and kept in *continual* exercise, that disease may be daily and hourly kept in check, as far at least as it is in the power of human means to effect these objects. Hitherto it is to be regretted that no proper system of *Medical Police* has been established throughout Scotland. And even in Edinburgh, where this has been attempted by the joint efforts of the leading medical gentlemen of the city, and the Committee of the Destitute Sick Society, which resulted in the establishment of the Fever Board, it will scarcely be believed that, on various occasions when it was attempted to introduce into the Police statute a clause, empowering the Commissioners to grant a sum in aid of the Board, the Commissioners uniformly rejected the application, on the ground that it was a

matter for *private charity*, and not connected with the Police of the city. And it was not until the writer of these remarks, on the occasion of the passing of the present Police Bill, at a personal interview with the Commissioners, urged the propriety of the measure, as a most important branch of Police duty, that he succeeded in getting a clause inserted empowering the Commissioners to grant L.100 per annum for this purpose. With this small sum, joined to a few occasional subscriptions, the Fever Board has continued the system of operation above described, which has, without doubt, been of considerable service to the community. Much, however, remains to be accomplished, and it is the duty of the authorities to provide the means. This is not a matter which ought to be left to private charity; it is unquestionably a subject of deep public importance; and as all are personally interested, all ought to contribute their just proportion of the expense.

The Rev. Mr Lewis has well observed :—

“ The poor, we are told, we shall always have with us, and so with disease and death. Yet the evils, both of poverty and disease, come in very different measures to different communities. As there is a poverty that is self-inflicted, and may be self-removed, so there is a certain amount of disease and annual mortality in every city that is self-inflicted; and the community that does not strive, by every available means, to reduce its disease and mortality bills to the lowest sum of human suffering, and the lowest rate of annual mortality, is as guilty of suicide as the individual who takes with his own hands the life God has given, and hurries unbidden into the presence of his Judge. The fever bills of the Scottish towns, contrasted with those of the English commercial towns, declare too plainly that man has not yet done his part in Dundee to avert this scourge of society; and, while fever is undoubtedly to be regarded as the visitation of God, it is also to be regarded as the visitation of God for the sin of neglecting a population fallen in character and habits.”

If the expressions we have quoted so justly apply to the state of Dundee, what might be said of the other towns? Has there, we may ask, been no dereliction of duty on the part of the authorities in Glasgow, who have been living in the midst of a state of disease, suffering, and death so appalling, the extent of which no language can describe? Surely a fearful responsibility rests on the Magistrates of our large towns, who, by every hour's delay in using the best preventive means in their power, are unthinkingly the cause of some hapless fellow-mortal—perhaps the father of a numerous family—being consigned to an untimely tomb.

We have purposely referred to Glasgow, because the Report formerly quoted, shows the baneful effects of limiting sanitary opera-

tions to visiting the patients at their own houses—and the paltry benefit which their saving system has dispensed. “As a matter of economy,” they state the expenditure of L.283, 15s. 9d. in penny tickets among 12,397 cases of fever, has saved the hospital L.3074, 5s. 9d.! But look at the result, and it will be admitted that the system has been more the means of spreading contagion than of checking its influence; and we repeat, that if the loss to Dundee by a similar neglect has been estimated at L.25,096 per annum, what must have been the loss, in a commercial point of view, to Glasgow, during the last few years? We sincerely hope that the lamentable experience of the past will lead to the adoption of a better system—for this is not a question of merely local importance, it involves the interests of every member of the community.

