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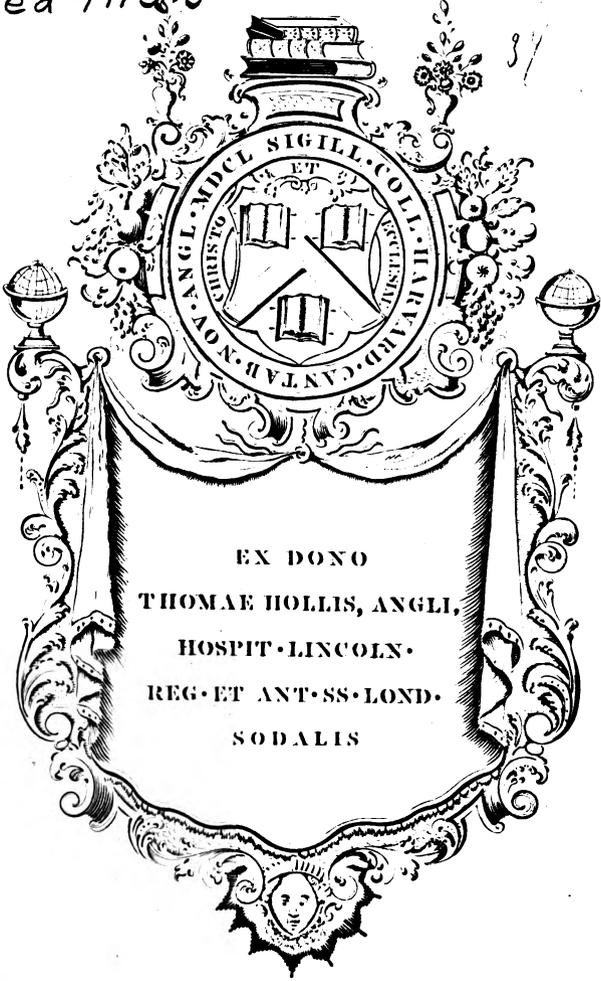
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 THOMAE HOLLIS, ANGLI,
 HOSPIT. LINCOLN.
 REG. ET ANT. SS. LOND.
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REPORT
BY THE
GENERAL BOARD OF HEALTH,
ON THE
MEASURES ADOPTED FOR THE EXECUTION OF THE
NUISANCES REMOVAL AND DISEASES
PREVENTION ACT,
AND THE
PUBLIC HEALTH ACT,
UP TO
JULY 1849.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:
PRINTED BY WILLIAM CLOWES & SONS, STAMFORD STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

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REPORT

Great Britain

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FIRST PROCEEDINGS.

MAY IT PLEASE YOUR MAJESTY,

As the Public Health Act and the Epidemic Diseases Prevention Act, which we, the members of the General Board of Health, were appointed to administer, constituted a new and untrodden field of legislation, we have felt it our duty to render an account of our first proceedings, and of the grounds on which we have asked for amended statutory provisions to carry out the views of the Legislature.

In presenting the following Report we beg leave to express our regret that the pressure of incidental and irregular demands and emergencies for the direction of measures to arrest the spread of Asiatic cholera, have prevented our submitting it earlier for practical consideration during the present session of Parliament. For this delay, and for unavoidable incompleteness in the Report, which may not be supplied by our published Notifications, and for any imperfections in the first exercise of the powers with which we are charged, we would bespeak a gracious consideration.

We deemed it our duty, in carrying into operation the Nuisances Removal and Diseases Prevention Act, to follow out the conclusions to which the Metropolitan Sanitary Commissioners had previously arrived respecting the mode of propagation, the localizing conditions, and the means of checking the spread of epidemic diseases—conclusions derived from the largest experience of such diseases at home and abroad, and which were generally acquiesced in. With reference especially to the pestilence which seemed at that time to be impending, it appeared to us to be established by the evidence which they had presented in their First and Second Reports, that Asiatic cholera differs in no respect from other epidemic diseases either in the circumstances which favour its localization and extension, or in the

classes that are peculiarly predisposed to it, and consequently that the means which experience has proved to be effectual in preventing the origin and spread of the most formidable of these common epidemics, typhus fever, would in the same manner be found effectual in the prevention of cholera.

The evidence also appeared conclusive that the character which, on its first appearance in Europe, was generally thought to be peculiar to cholera, and which gave it its chief terror—the absolute suddenness of its attack—was not true to the extent supposed; but that, on the contrary, with very few exceptions, and those chiefly on its first outbreak in a new locality, it gives distinct warning of its approach in time for the adoption of remedies capable of arresting its progress.

Though, when we entered on our office, cholera had not as yet broken out in any part of the United Kingdom, it appeared to be steadily approaching us from the Continent, advancing precisely in its former track.

The results of the experience of the disease which had been collected from so many sources, exhibiting its progress among populations in different climates and under widely different social conditions, indicated important practical measures of prevention; but it appeared to us to be desirable, before the adoption of any systematic plan of prevention, to ascertain whether the disease presented the same characters as on its former visitation, or, should it have undergone any change, in what respects it had become modified. In order to obtain authentic information on this point, we decided on sending our two Medical Inspectors to Hamburgh and Berlin, the nearest cities on the Continent in which the pestilence was at that time prevailing. They were on their way to Hamburgh, when they were stopped by an outbreak of cholera at Hull, which took place among a Prussian crew who had passed through Hamburgh on their way to England, whither they were coming to navigate a vessel which had been detained in the port of Hull owing to the Danish blockade. It appeared that these sailors had come from a healthy port in the Baltic, and that they had passed only a single night near the town of Hamburgh,

where cholera had been for some time epidemic. The appearance of cholera in the port of Hull excited considerable apprehension, which seemed to be justified by the position of the town on the east coast, in which cholera, in the year 1831, first broke out, namely, at Sunderland. The event appeared to us to be of so threatening a nature as to require a careful inquiry into the circumstances of the case as well as into the state of the town. This was undertaken by Dr. Sutherland and Mr. Grainger, who reported that the general sanitary condition of Hull at that time, as compared to former periods, was favourable; and they gave it as their opinion that, apart from the position of the town, it was in no particular danger of an outbreak of cholera; the correctness of which conclusion was confirmed by the fact that these imported cases did not spread, and that they were not followed by any appearance of the disease among the townspeople.

While engaged with the authorities of the town in advising on such provisions as seemed practicable for preventing the extension of the disease, if fresh cases of it should occur, the attention of the Inspectors was called to the subject of quarantine, and particularly to the cruel position in which certain quarantine regulations, as enforced at Hull, placed passengers and crews coming from infected ports; instances being brought under their notice in which experience had proved that it was impossible to afford to vessels under quarantine medical assistance until all hope of relief had passed away. The peril in which considerable numbers of persons were thus placed, and the loss of life which had actually occurred, induced us to address a special report on this subject to the Privy Council.

Having, as above stated, suggested what precautions seemed available for the town of Hull, the Inspectors were on the point of embarking for Hamburgh, when we received information that an outbreak of cholera had occurred at Sunderland. This circumstance induced us to direct Dr. Sutherland to proceed to that town and Mr. Grainger to go on to Hamburgh. Dr. Sutherland was prevented from joining Mr. Grainger on the

Continent, his presence, after his visit at Sunderland, being urgently required at Edinburgh, and subsequently at other towns in Scotland, where his labours have continued up to a recent period.

Meanwhile, on arriving at Hamburgh, one of the first circumstances which attracted Mr. Grainger's notice was the great severity of the epidemic among the crews of numerous vessels lying in the harbour, a large proportion of the ships being English. He found that the number of English seamen amounted to upwards of 800, among whom, being in a foreign port, and often unable to obtain assistance until they were in a hopeless condition, the mortality was excessive. In order to afford what assistance seemed available, we requested Mr. Grainger to consult with the naval officers, and, with their advice, to draw up instructions for the guidance of the masters and crews of the English traders, to cause proper medicines to be provided at convenient stations in Hamburgh, and to circulate notices of this among the brokers and others connected with shipping, as well as to the captains themselves.

These instructions were widely circulated among merchant seamen in different parts of the United Kingdom by authorities and companies connected with shipping, and, with the sanction of Lord Palmerston, among seamen in foreign ports.

It appeared, in the course of the investigation into the state of the colliers and other English vessels at Hamburgh, that they were in a most defective condition, as to health; that the fore-castle, where the sailors sleep, was unprovided with any means of ventilation, and in fact that the men were, in those wretched berths, exposed to all the evils resulting on shore from filthy, crowded, and ill-ventilated dwellings; and in the instructions issued as above stated, especial attention was directed to the necessity of cleansing and ventilating these vessels, as constituting a much better security against the progress of the epidemic than any quarantine regulations. The evidence as to the greater efficiency of such measures of precaution and pre-

vention have been fully set forth in our Report on Quarantine.

From the observations made on the earlier groups of cases of the disease that occurred on its reappearance in this country, and still more from the information communicated in the reports of Mr. Grainger, as to its character and progress in Hamburgh (see Report in Appendix), it appeared that no essential change had taken place in the nature of the epidemic; but, on the contrary, the further and more recent experience of it afforded decisive confirmation of the views promulgated in the Metropolitan Sanitary Reports, as to the conditions which favour its localization and spread, and as to the general existence of premonitory diarrhœa.

Seeing that, when the mortality from the developed cases of this disease that have occurred in any country comes to be summed up, it is proved to be similar in all climates, and under all modes of treatment, we arrived at the conclusion that it was our duty to regard the impending epidemic less as a disease to be cured by medicine, than as a pestilence to be checked by measures of prevention. But the whole tenor of the evidence presented under the Metropolitan Sanitary Commission, corroborated by that subsequently received by us, led to the conviction that the same measures of prevention were applicable to cholera as to other epidemics, which, though less dreaded, increase the absolute mortality in a higher degree, and are regarded with less terror only because they are slower in their progress, and more constant in their presence. In order therefore to carry out what appeared to us to be the intention of the Legislature, we endeavoured to embody in our Regulations and Orders the results of the most extensive experience with reference to the entire class of epidemic diseases, and to found upon that experience practical measures of prevention. Among the most available and needful measures of this description were those of Cleansing. We therefore called the earnest attention of the Boards of Guardians, the authorities principally charged with the execution of the Nuisances Act, to this subject. In our First,

Notification, bearing date October the 5th, 1848, we represented to them that experience having shown that preventive measures against cholera are also preventive against typhus and other epidemic and endemic diseases, it would be the duty of the Guardians to carry into immediate effect all practical measures of external and internal cleansing, especially in the ill-conditioned districts; and by an Order dated November 9th, 1848, we issued to the Parochial Boards of Scotland regulations requiring the immediate performance of such cleansings, and prescribing the mode in which they should be carried out. See Regulations of the General Board of Health, from I. to VIII.

The seats and subjects of cholera and the seats and subjects of typhus being the same, we issued on the 3rd of November, 1848, among other regulations, a Special Order to the Boards of Guardians (see Regulations IX., X., and XI.) requiring them to desire their clerks to make out from the register of deaths, or from the district medical relief books, and from any public books or other sources, from which information might be obtained within the Union or parish, a list of places where epidemic, endemic, and contagious diseases had of late been frequent. We further requested the Guardians to cause their medical officers forthwith to visit and examine the localities contained in such list, and to certify in writing all such places as they might find in a state dangerous to health, or which needed frequent and effectual cleansing, together with all such nuisances and matters injurious to health as ought to be abated, cleansed, and removed.

This appeared to be an essential preventive regulation, experience having shown that unless express obligations of the nature stated are enforced, extended and effectual cleansings, or other sanitary improvements in the power of the local authorities to effect, are rarely carried into operation. We believed that by the observance of this order the medical officers would be guided at once to the worst-conditioned places, where the inhabitants would be found to be in the greatest danger. This expectation has been realized, for wher-

ever this order has been obeyed, the local authorities have been made cognizant of the most dangerous and filthy localities in their respective districts, and the medical officers have been directed where to search for the diseases which usually precede an outbreak of cholera, and for the premonitory stage of cholera itself.

We apprehend that this was an order founded upon such an extent of experience that no private medical practitioners, and no lay persons, would be justified in neglecting it, even if it were a simple recommendation. Yet upon the visits of the Inspectors to the places in which cholera broke out—which we have shown commonly first came back to the same streets, and even to the same houses, as on its former invasion—it was found that these localities were still in the most filthy condition, that in general no lists had been made out, and that no inspections had taken place. In several conspicuous instances the owners of the ill-conditioned houses, the occupiers of which were the first victims of the disease, were members of the Local Boards by which these defaults were committed.

While directing the attention of the Guardians to the most available means of prevention, we endeavoured to prepare them for the measures which would be necessary if they should unhappily experience a visitation of the disease. Of these, we regarded the organization of the means for detecting the existence of the disease in its premonitory stage as among the most important. This stage being in general of short duration, in some instances not exceeding a few hours, and the symptoms which denote its commencement being commonly so slight as to appear trivial to those who are ignorant of their signification—an impression favoured by the general absence of pain—no dependence could be placed on the information and prompt action of the individuals most in danger. It was necessary that the disease should be sought out in the localities in which it might be present and actively developing itself, though even its existence might be unperceived and unsuspected. The whole tenor of the evidence presented to us showed, that if the medical practitioner waited until the individuals

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affected applied of their own accord for assistance, in large numbers of instances, and especially before the extension and fatality of the disease had excited considerable alarm, his services would not be called for until they could be of no avail. Acting on this experience, we represented to the local authorities in our First Notification, that in case of an outbreak of cholera it would be incumbent on them immediately to provide a sufficient medical staff to enable a daily house-to-house examination to be made of the infected locality.

But former experience, particularly at Edinburgh, where the expedient was first tried during the epidemic of 1832, had shown, that in some of the worst localities and in the most filthy and overcrowded houses in which cholera was actually prevailing, the removal of the inhabitants from their wretched abodes was absolutely necessary; the probability being, that if allowed to remain there they would become the next victims. The opening of Houses of Refuge for the temporary reception of such persons, appeared therefore to be a highly important auxiliary measure of prevention.

The agency for carrying out an efficient system of house-to-house visitation, necessarily involved some expense and trouble; but we came to the conclusion that it would be our duty to enforce the adoption of this system in any case in which it might seem to be required. The first place in which we were called upon to issue an Order to this effect was in the town of Dumfries. Dumfries had suffered more severely from this pestilence on its invasion in 1832, perhaps, than any other town in Great Britain, and knowing that little sanitary improvement had been effected in the interval, and consequently that the inhabitants must be in as great danger as before, we called the attention of the authorities to the special regulations of the Board. To our recommendations the parochial Board paid no regard. The disease, meantime, went on committing its former ravages. Thus within the first 29 days after its outbreak there occurred 269 deaths out of a population of 10,000. No efforts being made on the part of the local authorities to check this great mortality, it appeared to us that this was a

case requiring a stringent enforcement of the regulations of the Board, and we sent one of our medical inspectors (Dr. Sutherland) to organize a plan of house-to-house visitation, to open dispensaries for affording medical assistance by night as well as by day, and to provide houses of refuge for the temporary reception of persons living in filthy and overcrowded rooms where the disease was prevailing, and who, though not yet attacked, were likely to be the next victims. The result of the adoption of these measures was, that on the second day after they were brought into operation the attacks fell from 27, 38, and 23 daily, to 11; on the fifth day they diminished to eight; on the ninth day no new case occurred, and in another week the disease nearly disappeared.

That this remarkable and rapid cessation of the disease was not the consequence of the natural exhaustion and termination of the epidemic is proved by the fact, that the premonitory diarrhœa did not diminish proportionally with the diminution of cholera, but that on the contrary, while cholera steadily decreased, diarrhœa went on and even increased, thus showing the continued action of the epidemic poison upon the system; while the true cause of the diminution of cholera was, that the visitors detected it in its diarrhœal stage, and at once arrested its further progress.

A similar but still more rapid suppression of the disease was effected at the small village of Nordelf, in Norfolk, where, out of a population of 150 souls, there occurred no less than 50 cases of cholera. When Mr. Bowie, whom we requested to go to the assistance of these poor people, arrived at the village, he found it in a state of filth almost unexampled, the people in consternation, the sick without nurses, and the single medical attendant nearly exhausted with fatigue. Mr. Bowie immediately arranged a plan for the daily visitation of every house; obtained additional nurses and medical aid, carried out extensive cleansings, caused the removal of nuisances, and suggested improved means of ventilating the sick chambers. From the time that these measures were brought into operation only four new cases of cholera occurred; but here also the premonitory

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diarrhoea went on ; every case, however, being promptly attended to was prevented from passing into the developed stage, and hence the rapid disappearance of cholera.

The success which thus attend these measures when applied to small populations within the control of a moderate visiting staff, led to their adoption at Glasgow. But here the difficulty was much greater. For the purpose of ordinary medical relief, Glasgow City parish being subdivided into 17 districts, and the Barony parish into six districts, it was deemed expedient to base the preventive measures on the existing system of medical relief rather than to lose time in organizing another machinery. The entire population of the 17 districts of the City parish is, in round numbers, 152,000, and of the six districts of the Barony parish about 127,000. The task was, to arrange an easy and effectual system of daily house-to-house visitation over the whole of the affected localities containing this large and, in the most susceptible districts, shifting and migratory population. The details of the plan will be found in Dr. Sutherland's Report. (See Appendix.) It was briefly this:—

The existing districts being preserved, each district surgeon, in addition to his ordinary duties, was required to undertake the office of superintendent within his district. There were thus in the two parishes 23 district superintendents, and under each of these officers were placed a few advanced medical students or qualified practitioners to visit from house to house. These visitors were provided with medicines to administer on the spot to all persons suffering from premonitory symptoms, a practice which had been found most beneficial in Dumfries and Nordelf. Advantage, as has just been stated, was taken of the circumstance that Glasgow is a University city, to select qualified young men from the more advanced medical students as visitors. The entire working out of the system was placed in the hands of a general superintendant for each parish. General instructions, giving all needful details of the plan, were printed and circulated among the superintendants and visitors. For the City parish there were 40 visitors, and for the Barony parish 28, in all

68 visitors. Dispensaries were opened night and day for all necessitous applicants, and a cholera hospital and houses of refuge were provided. A system of sanitary inspection was likewise introduced, into the large manufactories, by the aid of the Secretary of State for the Home Department, through Mr. Stuart, the Inspector of Factories in Scotland, with the view of detecting and treating immediately all premonitory cases that might occur among the work-people; and in one district in the Barony parish a body of lay-visitors at 2s. 6d. per diem was employed with success.

Dr. Sutherland concludes his account of the arrangements which were made for meeting this outbreak in the following words:—

“ I cannot conclude this part of the Report without expressing my high sense of the great ability and energy with which the visitation system was carried out by the medical officers of the Parochial Boards; and I think it only an act of justice at the same time to express my conviction, that whether we consider the extent of the machinery employed during the late fearful epidemic, or the zeal with which it was sustained by the most active members of both Boards, or the expense cheerfully incurred by them during a period of great pecuniary difficulty in parochial affairs, no provision more munificent was ever made for the relief of a great public calamity, than that carried out by the humane and enlightened citizens of Glasgow.”

At the time when these arrangements were completed, the epidemic had attained its height. On carrying them into operation, the first result obtained, was the discovery of a number of corpses of persons who had died of cholera without having received any medical aid whatsoever; the number discovered amounted to 50, but there is reason to fear that such deaths were still more frequent at an earlier period of the epidemic.

The second result was, the discovery of a great number of cases of fully developed cholera, which were going on wholly without medical assistance. Some of the visitors found as many as 12 of these each day for some days after the visitation commenced, and the visitors concur in stating their belief, that in these instances, neither the individuals nor their friends would have applied for medical relief.

The third result was the discovery of great numbers of premonitory cases in various stages of progress, not only without the application of any means to arrest them, but without the slightest consciousness on the part of the affected persons of the danger they were in. The first return showed the existence of 273 cases of diarrhoea to 68 of cholera; and of these diarrhoeal cases, 35 had the peculiar rice-water appearance which marks the close approach to the fully developed stage; but as the working of the visitation became more complete, the proportion of the premonitory to the developed cases, daily increased. The tables of general returns, reports Dr. Sutherland—

“Show, that throughout the entire districts under visitation, the proportion of the premonitory to the developed cases, amounted to nearly 600 per cent.; in the City districts it was 504 per cent., and in the Barony districts 685 per cent.; but when the districts are taken individually, the proportions are still more striking. They vary from under 200 per cent. to above 2,000 per cent., and in one instance, (Barony district, No. 1.) the premonitory cases amounted to the enormous cypher of 2,379 per cent. of the cholera cases. During particular days in the course of the epidemic a much larger proportion of diarrhoea and other premonitory cases were discovered than during others. This partly arose from the greater comparative success of the visitation, and also partly from the course which the disease happened to take at the particular period. The per centage of premonitory cases on these occasions rose as high as 2,000, 2,800, 3,700, and on one day in the Barony parish, it was 3,850 per cent. of the cholera cases.

“The total number of premonitory cases treated during the continuance of the house-to-house visitation, from December 31st, 1848, to February 26th, 1849 inclusive, was no less than 13,089, and if to this be added, the number of unreported cases already alluded to, it is not improbable, that about 15,000 such cases were brought under treatment by the parochial medical officers and visitors. During the height of the epidemic, indeed, all Glasgow appears to have been affected. The number of cases treated by private practitioners also was very large. One gentleman prescribed for about 1,100 such cases in the denser parts of the city, and many cases of diarrhoea occurring in the better parts of the town, were found to be extremely obstinate in their character. It is to be feared, that among the richer classes, not a few lives were lost by delay in applying for medical aid.”

Dr. Sutherland adds—

“Tables compiled from the returns of Dr. Miller, and the reports of Dr. A. M. Adams, and Dr. J. M. Adams give some interesting and valuable particulars in regard to a large number of these cases. They form as it were, a chart of the disease throughout its entire stages, and exhibit at the same time, in a very satisfactory manner, the results of the treatment pursued. The total number of premonitory cases in these tables, amounts to 1,445, and the total number of cholera cases to 392. Under the former class, examples will be found of nearly every progressive stage of the disease,—from simple diarrhœa without complication to developed cholera,—the cases passing in their progress through important changes by the addition of symptoms increasing in danger while the mortality is also found to increase in a corresponding ratio. Thus in 1,113 cases of simple diarrhœa, the deaths were 6, or 0·538 per cent. In 49 cases of bilious purging without vomiting or cramps, there were no deaths, the number no doubt being too small to give such a result. In bilious purging, with vomiting and cramps, the cases were 43, and the deaths 3 or about 7 per cent.; of rice-water purging there were 280 cases, and 12 deaths, or about 4 per cent. The addition of other symptoms in this peculiar stage of the disease appears to be attended with a great increase of danger. Out of 108 cases, in which the serous character of the stools was accompanied by vomiting, there were no fewer than 42 deaths or nearly 39 per cent., and the addition of cramps to the other symptoms, which occurred in 281 cases, raised the mortality to 149, or 53 per cent. Perhaps no clearer proof could be given of the unity of the disease and its progressive danger.

“The column in the schedules showing the cases that passed from diarrhœa into cholera was not in use from the commencement of the reporting, therefore the exact number cannot be given, but an approximate result has been obtained, and allowing every reasonable latitude for inaccuracies, it is certainly a remarkable fact, and conclusive as to the value of the house-to-house visitation, that out of 13,089 premonitory cases, reported as having been placed under treatment, only 80 are stated to have passed into cholera.”

In one district of Glasgow, out of 596 cases of premonitory diarrhœa which came under treatment, 183 were so far advanced as to have rice-water purging, yet of this whole number only two passed into cholera; or 1 in 298.

Another result of the visitation was to induce great numbers of individuals to apply to the dispensaries that

were opened in the several districts for the relief of bowel complaints ; 6,119 applications are recorded, but there is reason to believe that this number is much below the truth.

Another most important result was, that the numbers in the column for developed cases progressively diminished, while those in the column for premonitory cases continued steadily to go on, and sometimes even increased. This was exemplified, perhaps, in a more striking manner in the smaller towns in Scotland ; but it was not the less real in the large population of Glasgow. At Coatbridge, for example, containing a population of 4,000 souls, 3,314 were found affected with premonitory diarrhoea, 665 of which had advanced so near the developed stage as to be affected with rice-water purging, vomiting, and cramps, while the total number of cholera cases amounted only to 164 ; so that the whole population of this place, with the exception of 686 persons, exhibited unequivocal symptoms of being under the influence of the epidemic, and the numbers discovered in the premonitory stage were upwards of 20 times greater than those that ultimately passed into the developed stage ; so few having passed into this stage, because prompt treatment arrested the progress of the malady, and succeeded in stopping by far the greater part even of the 665 cases that were already so far advanced as to have rice-water purging, vomiting, and cramps. A similar result was obtained at Carnbroe, a village near Coatbridge, consisting of a population of 1,200 souls, where the entire village, with the exception of 100 persons, was affected ; where, out of 60 cases of diarrhoea discovered by the first visitation, 55 were found to have rice-water stools, and where, out of this small population, 71 persons died within the first fortnight. In Dumfries, the visitors on the first days of their inspection were overwhelmed with cholera cases ; next they discovered the cholera cases early, and treated them promptly ; then instead of cholera they found rice-water diarrhoea, and in a few days the cholera cases, as has been stated, fell from 38 to none ; while at the same time from 20 to

30 new choleric affections continued to occur. Dr. Sutherland calls attention to the important fact, that this change was found to take place in the districts visited, while in those that were unvisited developed cholera went on, and in large proportion. A similar occurrence was observed in the district of Charlestown, in the town of Paisley. Here a circumscribed population was placed under the visitation system, when the cholera cases amounted to 23 daily; in the course of four days after the visitation was in operation the cases dropped to three, and in a few days more the epidemic disappeared, whilst it went on in other districts.

“ Had it been possible,” says Dr. Sutherland, “ to place the whole population of Glasgow under preventive measures, as was done in the affected districts at Dumfries and Paisley, as speedy a change might have been observed in the statistics of the epidemic. The regulations of the General Board of Health were specially directed against the disease, as it occurred among the necessitous classes, but cholera prevailed almost universally over the whole city, and assumed a character more purely epidemic and less local than it has done in any other part of the country. It selected its victims from all classes, the wealthiest as well as the poorest, and it carried off not a few of the better portion of the working classes whose cases were treated by their own medical advisers.

“ As, therefore, the visitation could be extended only to a comparatively small portion of the affected population, no rapid transference from the cholera to the premonitory column of the schedule could be expected. Persons in the receipt of wages, and not requiring casual aid, could not, with justice, be made chargeable on the parochial authorities any more than the richer portion of the population, although it was generally understood that the line of demarkation should not be rigidly drawn, always bearing in view the fact that the object was to save life.

“ In those districts, however, where the population was most under control, as in Barony District, No. 1 (Parkhead), the result of the preventive measures was most striking. The enormous amount already adverted to of premonitory cases discovered and treated in this district, proves the efficacy of the inspection under which it was placed, and the result on the cholera was the complete breaking up of the disease, leaving entire days during which all the cases appeared in the premonitory schedule only, to which it was indeed confined with only a few exceptions during the whole month of February.

“ Upon the whole, then, though from the nature of the case

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the exact amount of good effected by the preventive methods adopted in Glasgow cannot be ascertained, no mind open to the reception of evidence can doubt that much suffering was prevented, and a large amount of human life preserved."

Examples are given in the Appendix, of the testimony borne by the medical superintendents of the several districts, from their own personal observation, as to the efficacy of this system ; but it may suffice to quote here the statement of Dr. Dempster, the general superintendent of the Barony parish. Having served in India for a period of 23 years, where the troops under his charge frequently suffered from visitations of cholera, Dr. Dempster had had ample opportunities of becoming acquainted with the disease. He states, that the military authorities in India were so well aware of the general prevalence of premonitory diarrhœa, and of the great importance of early attention to this symptom, that besides other stringent measures adopted by them to detect its very first appearance, it was their custom to place sentries over the privies, whose duty it was immediately to report any individual seen to visit them oftener than once during the day.

"The result of this practice," says Dr. Dempster, "was most satisfactory ; and that the measures above stated are absolutely necessary I feel perfectly convinced from having had so frequently to lament the infatuated carelessness of soldiers, and the lower orders in civil life, on several occasions for days together neglecting the premonitory diarrhœa, and not applying for medical aid until the urgent symptoms of cholera had made their appearance, and then only at a period of the disease when treatment proved of little avail.

"My experience of cholera as it occurred in the Barony parish during the late epidemic has only tended to confirm my belief already expressed that to be of service in cholera medical aid must be directed against the premonitory stage, and I feel convinced that the only mode of obtaining this favourable end is by the system of house-to-house visitation as lately introduced in Glasgow. By its means numberless cases of diarrhœa which would otherwise have been totally neglected, were detected, and by suitable treatment promptly arrested ; and in the district where the system of medical or lay visitation was most energetically carried out, and the sanitary measures strictly enforced, the good effects were at once manifested in the daily reports by a great increase of diarrhœa cases with a

proportionate decrease of those of cholera, whilst, at the same time, the proportion of deaths in the latter underwent a considerable diminution, evidently from the visitation system having brought the cases sooner under treatment."

While, however, the preventive measures when carried out with intelligence and energy were attended with such results, yet upon a review of the whole experience of the recent outbreak of cholera in Scotland, it appears to us to be requisite to state, that in this part of the kingdom, where the general sanitary condition is lower than in England, and where, indeed, the condition of the labouring population, particularly in the larger towns, such as Edinburgh, Glasgow, and others, is among the lowest in the empire, there was experienced peculiar difficulty in the practical working of preventive measures; and there is no reasonable ground for the expectation that those measures would, as a system, have been spontaneously adopted in a single town. But we are not at present prepared to enter into a particular statement of the difficulties and obstructions experienced.

The success which attended the preventive measures which have been described as carried out in Glasgow and other towns in Scotland during the winter of 1848 and 1849, led to the recommendation and adoption of similar measures in England and Wales where cholera has more recently broken out, and is still prevailing; the result in general being that the impression made upon the disease is prompt and decisive, in proportion to the intelligence, energy, and perseverance with which these measures are carried into effect.

The general result of the adoption of the practical rules which, after the most careful collection of facts, and the widest experience that the time and circumstances permitted, we deemed it our duty to enforce for the attainment of the objects of the Legislature, may be thus summed up:—

With reference to the lists directed to be made of the places where cases of fever have been of frequent occurrence,—these lists wherever made out, have guided the Guardians and their medical officers, both to the worst places in their respective districts, and to the dwellings of the most susceptible subjects, where the danger was the most imminent, and where the application of

the whole system of preventive measures was the most urgently needed.

With reference to the houses of refuge,—the returns hitherto received have not been sufficiently complete to enable a general summary to be given of the numbers that have been admitted into these asylums, and of the proportion of the individuals residing in them that have been attacked with cholera; but the following is the experience of Glasgow. There were admitted into the two houses of refuge opened in this city: in all 806 persons, out of whom 25 were attacked with cholera, but only seven died. It must be borne in mind, that the whole of these individuals were taken from the most filthy and overcrowded houses and rooms, in which cholera was actually prevailing, and that if they had been allowed to remain there, they would probably have been the next victims. In the houses of refuge they breathed a comparatively pure atmosphere, and they were placed under proper regimen and strict medical inspection; in the mean time their own houses and rooms, and as far as practicable, the localities immediately adjoining, were thoroughly cleansed and purified. No instances are recorded of any of these persons being attacked with cholera on their return to their own homes.

With reference to the house-to-house visitation, taken in conjunction with the district dispensaries, which were open day and night, it may be confidently affirmed that by these arrangements the whole of the poor received prompt medical relief; so that, after these arrangements were completed, no individuals perished without medical assistance. Under the system of house-to-house visitation the disease was discovered at its very commencement, and the working of this system tends to establish among others the following facts:—

1. That, as far as the experiment has been made, the proportion of the diarrhœal to the developed cases ranged from 600 per cent. to 4000 per cent., this difference arising not so much from any real difference in the prevalence of diarrhœa, as from the greater or less completeness and activity of the visitation, by which the existence of diarrhœa was discovered.

2. That, under this system the proportion of diarrhoeal cases which passed into cholera, ranged from 1 in 160 to 1 in 260, and in one instance it was only 1 in 298.

3. That, under this system the mortality of the diarrhoeal cases did not in general exceed 1 in 185, while in one instance, not a single death occurred out of 1,380 cases.

4. That, on the other hand, where diarrhoea was so far neglected, that it was not brought under treatment until the evacuations had become serous, and were accompanied with vomiting and cramps, 53 persons died out of every 100.

The foregoing facts afford data for estimating the amount of the saving of life that has been effected by measures which discovered diarrhoea, and which promptly arrested it, and prevented it from passing on to more advanced stages.

Without doubt, some of these diarrhoeal cases, however neglected, would have been checked by the resisting power of the constitution, and would not have passed into cholera; but experience has taught us that if neglected, great numbers of them do pass into cholera, while, if promptly treated, they are with few exceptions arrested at once. The evidence of this is so decisive, that the gravest responsibility rests on the local authorities of any district in which cholera breaks out, who do not make immediate arrangements for putting into operation the house-to-house visitation.

But, however encouraging the evidence obtained, and of which we have now given examples, of the efficiency of dealing with this disease in its premonitory stages, still we have, as on a due consideration of the subject might have been expected, received evidence that continued exposure to the predisposing and localizing causes in a high degree of intensity, will in numerous instances frustrate any remedial measures. Overcrowding, or continued residence amidst damp, and in an atmosphere loaded with impurities will occasionally counteract all means of prevention. There are some localities from which, as the only security, it is necessary to remove the people.

We represented, in our First Notification, that on account of the intimate connection between the external skin and the internal lining membrane of the bowels, the chief seat of this disorder, the use of warm clothing, and the avoidance of cold and wet were of much importance during the prevalence of the epidemic, precautions which are as necessary in summer as in winter, it being, indeed, particularly important to guard against the comparative coldness and the occasional dampness of the summer evenings and nights. Our recommendations with respect to diet, founded on the peculiarly irritable state of the mucous membrane of the bowels, so general during the epidemic influence, though at first somewhat questioned by authorities whose opinion is entitled to respect, were yet in accordance with the experience presented to us of all countries where this pestilence has extensively prevailed.

Our views on these particulars, as well as on the mode of propagation of the disease, have, with some exceptions, been concurred in, both at home and abroad; and we have the satisfaction of knowing, that practical measures of prevention, based upon them, where they have been energetically carried out, both in this and in other countries, have produced a manifest effect in checking the progress of the pestilence.

When we first proceeded to put in force the powers of the Nuisances Removal and Diseases Prevention Act, we found the parochial bodies, the authorities charged with the local execution of the law, generally unprepared for the exercise of their duties, in some cases entirely ignorant of them, and in others from the dread of expense, very reluctant to perform them.

In the first place in which we were called upon directly to interfere, at Dumfries, the parochial Board allowed a period of 20 days to elapse with a steadily progressive and alarming increase of the disease, without adopting a single efficient measure of precaution. On the first outbreak of the epidemic, indeed, a system of medical relief, apparently well adapted for meeting it, was agreed to; but this was broken up on the following day, by order of the parochial Board, on the alleged

ground of expense. Though the attention of the local authorities had been specially called to our regulations, they had, up to this period, taken no steps with reference to operations of cleansing, to providing a house of refuge, or to organizing a proper system of medical relief. "I arrived in Dumfries," reports Dr. Sutherland, "on the 6th December; up to that time, I believe, that no fewer than 147 persons had already been buried, after having been struck down by the epidemic, and that without an effort to save them, although the power had been placed in the hands of the parochial Board for the express purpose of being exercised. Precious time was wasted in mere petty squabbles; the town has been clothed in mourning in consequence. Not a moment was lost by me. I collected a staff as quickly as possible, arranged the districts, and put everything in motion; but this process required further time, equally precious with that which had been irretrievably lost; and it appears from our returns, that it was not till the 13th of December that any material effect was produced, and by that day 250 people had been consigned to the grave."

The local powers for the execution of the law were found to be extremely defective; the authorities for executing them, commonly not less so; with divided responsibility frequently conflicting, and wanting in the unity requisite to carry out prompt remedial measures, even when tolerable information existed with reference to them.

The separation of local administrative bodies in respect to the execution and control of works; the separation of the works for the water supply from the works for sewerage; the separation of the works for sewerage from those for house drainage, and of the whole from those for surface cleansing; the separation of the surface cleansing from the cleansing of sewers and drains, and even, as is sometimes the case, the separation of the cleansing of the main streets from that of courts and alleys; the separation of these and other services, for the consolidation and combination of which the Legis-

lature has provided in the Public Health Act, have seriously impeded the execution of the Diseases Prevention Act.

The Legislature contemplates the Poor-Law Union in England and Wales with its medical officers, its Union house with its new fever wards, and its provision for medical relief, as the chief local administrative body by which preventive measures could be best carried out; and, in general, it is the most eligible for the purpose. But, in towns, there are also Commissioners of Pavements under Local Acts, who are charged with the duty of surface-cleansing as well as paving, who act independently, and who were frequently found to be unwilling to receive directions from the Boards of Guardians or the medical officers appointed by them. The Municipal Town Councils, have in some instances, the control over the road-ways, and they have also under their direction a body of police, whose services are of great importance, in the execution of orders, especially where it is requisite immediately to carry out combined regulations. Even where there is a fair and liberal desire to co-operate, on the part of these separate authorities, there has been a serious loss of time in the service of notices, and in framing expositions of the grounds of requests from one to the other. Added to these impediments, the separation affords the means of shifting responsibility from the one to the other.

Adopting a large remedial interpretation of the terms of the Act, "for taking measures of precaution with promptitude according to the exigency of the case," we had contemplated the issuing of regulations for carrying these provisions into effect, as we believe, the Legislature would have done, had there been laid before it the special circumstances of the case, by forming Special Boards of Health, composed of members of the Town Councils, of the Boards of Guardians, and of the Paving Boards, who might give united directions to their officers. The law officers, however, were of opinion, that the general terms of the statute could not be so construed as to authorise a combination of the local authorities, with a view to bring their united powers to bear in

the manner we proposed. The regulations were therefore carried out, chiefly by the separate powers of the Boards of Guardians, with the voluntary co-operation of the municipal or other authorities; but, at the best, with the inconveniences of delay from the separate action. Had it been possible to combine the various authorities, as at first contemplated, a far greater unity and efficiency would have been ensured both in England and Scotland.

In the metropolis, the multiplicity of the Paving Boards, some parochial and others not, charged with the duty of surface cleansing, and the removal of refuse, has also been productive of considerable inconvenience, since it has prevented answers being given or directions issued, until these Acts could be sought out and the powers and duties provided under them ascertained.

The following reply from the General Board of Health to an inquiry from the Rev. W. Dodsworth, the incumbent of Christ Church, Regent's-park, as to "what he should do in order to effect the cleansing and draining of his parish," in other words, what was the local law under which the parishioners were living, is illustrative of a very common obstacle to prompt, efficient, and economical local administration.

"The General Board take the opportunity to state, that they have received applications similar to your own from householders, inquiring what steps they may take to obtain the removal of refuse, or to enforce proper cleansing, and what is the actual law and the state of its administration for sanitary purposes within their respective parishes, and what they, as householders, may do for its enforcement or aid. The General Board have been prevented giving early replies, as well as eventually satisfactory ones, by the excessive variety of the provisions of the numerous local Acts by which the objects have been sought to be attained.

"The work of surface cleansing is, in many cases, performed by bodies of various descriptions, under the authority of local Acts. The jurisdiction of the authorities constituted under these Acts are as various as their powers. It is one of the topics of the local inquiries, directed by the Legislature to be instituted under the Public Health Act, to ascertain upon the spot what the local Acts are, what are the bodies constituted

under them, and how the powers so conferred are executed. Unless the General Board itself is informed upon these points, it is unable either to apply its own orders with the particularity which is requisite, or to give such information as that which is now sought.

“The number, condition, and action of the bodies constituted by the local Acts is one object of investigation by the Metropolitan Sanitary Commissioners, and they have been hitherto unable to complete that inquiry.

“There appear to be upwards of 120 local Acts for the more dense portions of the Metropolis, for the management of upwards of 80 distinct local jurisdictions, many of which coincide neither with parish, nor Union, nor police district, nor any other recognized division. When a householder, who gives his address in a particular street, applies to know how he may proceed—if the local Act be sought out, and the provision in relation to the matter in question be also sought out—he cannot always be safely answered, inasmuch as streets are frequently divided, sometimes longitudinally, and paved and cleansed at different times, under different jurisdictions. At present no public maps are known to exist by which the area of the jurisdiction could in any such cases be ascertained correctly.

“In the parish of St. Pancras, where you reside, there are no less than 16 separate Paving Boards, acting under 29 Acts of Parliament, which would require to be consulted before an opinion could be safely pronounced as to what it might be practicable to do for the effectual cleansing of the parish as a whole.

“The General Board of Health can only state in answer to such applications, that the information sought can be obtained by no other means than local inquiry; and they hope that this will be done on behalf of householders, by the Parochial Board acting under the general directions of the Board of Health now issued.”

The following extract from a letter by Mr. Payne, the coroner of the City of London, displays the general consequences of these defects; and the inconveniences and evils here represented will, we hope, be diminished by the consolidations provided for by the Public Health Act—

“The first child was attacked 10 days ago, and died last Sunday; the second was attacked on Tuesday morning last, and died in the afternoon; and the third since then; and two more were very ill from the same cause.

“The father of two of the children had not complained to anybody except his landlord, because he said *he did not know the state of the law*. The medical officer reported it to the

clerk of the Board of Guardians on Saturday last; and Mr. Simon, the Officer of Health, said that no report had been made to the Guardians till Thursday morning last, which he thought a great neglect in the clerk to the Board.

“I found that the police constable, whose attention was drawn to the nuisance on Tuesday, reported it to his sergeant, the sergeant to the inspector, the inspector to the Commissioner of Police, and the latter to the Commissioners of Sewers.

“All this roundabout mode of doing business I deprecated as injudicious, and suggested that it would be desirable if the inmates of the courts and alleys were informed that they might complain *directly* to the Inspector of Nuisances for the district, whose duty it would be in such case to see to it immediately.

“There is every reason to believe that some of these lives would have been saved if the matter had been properly made known in the first instance.”

Theoretically, it is supposed, that all the inhabitants are best acquainted with the state of their local law, and take an interest and part in its administration. Practically, their knowledge of it, in busy towns, is generally found to be such as that displayed in the above extracts; and resistance to local consolidation and simplification arises from the active canvassings of office-bearers, and persons pecuniarily interested in the administration, rather than from any spontaneous desire on the part of the great body of the population. The advantages, for the sake of efficiency and despatch, of uniform local procedure and administrative arrangements, have been pointed out before, but they are strongly re-enforced by the disastrous delays recently experienced.

The law gives to this Board no power to originate prosecutions for neglect or violation of its orders and regulations, and therefore we have no direct control over Guardians, whatever course they may adopt with reference to the orders of the Board, in consequence of which those orders have been, to a considerable extent, deprived of the authority which it was the intention of the Legislature to give to them, and which they must possess to accomplish that object fully.

The Guardians indeed incur a serious responsibility if any fatal consequence should be proved, by the ver-

dict of a coroner's inquest, to result from their unlawful omission of the orders of the General Board of Health; but however important and necessary the investigation may sometimes be, to be able to fix responsibility only by the indirect and uncertain result of a coroner's inquest, appears to be a fundamental defect.

Exemplifications of the impunity with which some Boards of Guardians consider they may disregard orders made under the authority of the Legislature, with the view of carrying out its provisions, have been afforded by the course adopted by the Guardians of the Whitechapel Union, by some of the Boards of Guardians connected with the Tooting children, and, more recently, by the select vestry of the borough of Liverpool.

At a time when deaths had already occurred from cholera, under extremely painful circumstances, and when there was reason to apprehend a serious outbreak of the disease, the Guardians of the Whitechapel Union entered on their Minutes the following resolution:—

“That it is the opinion of the Guardians that, at present, the order of the Board of Health, of the 18th of November last, need not be acted on in this Union.”

It appears that this deliberate act of disregard to the orders of the Board of Health was resolved upon on the same evening when the medical officers of the Union presented to the Guardians a written statement to the effect that malignant cholera had broken out in some parts of the district.

Here is an instance of a Board, composed for the most part of persons engaged in the daily routine of trade, not having in general, it must be presumed, the means of judging from any large observation or experience of the matter on which they decide, deliberately acting on a medical question against the opinion of their own medical officers, and in direct opposition to regulations framed on the largest experience, not only of this country, but of the whole of Europe—regulations so framed for the purpose of carrying out the express provisions of the Legislature.

It further appears, that on the 21st of November the Clerk of this Union having in conformity with the order of the Board of Health, laid before the Guardians returns from the four medical officers, and from some of the registrars of births and deaths, of those places in the Union where epidemic, endemic, and contagious diseases have of late been prevalent, the Guardians came to the following resolution :—

“ That the Clerk forward such particulars to the various Local Boards in the Union, but that the medical officers be *not* called upon to visit the places in question.”

It must be borne in mind that this resolution was adopted by the Guardians at a time when cholera was not only actually prevailing in the district, but was spreading there under circumstances of so painful a nature, as to attract the attention of one of the coroners of Middlesex, Mr. Baker, who, on the 24th of November, addressed a letter of expostulation to them on the neglect of the measures which the circumstances of the time obviously required.

On the 14th of December the coroner again addressed a letter to the Clerk of the Union, in which he says :—

“ My attention as coroner has this day been called to several cases of sudden death in the parish of St. Mary, Whitechapel, of a most awful and appalling character, and I cannot but feel that a very heavy responsibility rests not only upon my own shoulders, but upon those also of the Board of Guardians of the Whitechapel Union, in reference to these and all such cases, it appearing that there have been no less than 16 under the care of the medical officer lately.

“ I have this day been engaged in an inquiry into some of the deaths, more particularly alluded to in that letter, in Hairbrain-court, Rosemary-lane, and have myself viewed this evening the dead bodies of no fewer than three persons, but have been witness also to the most agonizing and appalling situation of others in a dying state in the same locality (within a few yards of the former), who were found by me to be in a state of distress and misery, which could not but be most afflicting to my mind, being surrounded by the most foetid and unwholesome vapours from privies and bad drainage, and filthiness, and much overcrowded; and allow me to say, in such

a state as I could scarcely have deemed it possible to have existed, after the publication of the documents to which I have above alluded."

We believe that the lives of several of the persons who thus perished might have been saved if the Guardians had carried into immediate effect the orders and regulations under the Act, and after a protracted investigation of the circumstances connected with the death of several of those persons, the coroner's inquest brought in a verdict against the Guardians of "Very great neglect."

When we first received information of the outbreak of cholera in the establishment at Tooting for pauper children, containing at that time 1,395 children, we represented to the Guardians the necessity of the immediate removal of every child not actually sick, and explained to them that universal experience has shown that for the suppression of this pestilence, especially where there is overcrowding, dispersion is the first and essential measure, without which all others are comparatively useless. We further stated to them that the urgency of the occasion demanded prompt action on their part, as each hour's delay was adding to the number of children who were dying. Knowing the already overcrowded state of most of the metropolitan workhouses, their deficient ventilation, and their general bad sanitary condition, we pointed out the danger of removing any considerable number of the children to these establishments; we advised that separate houses or rooms should be engaged for their temporary reception, and we cautioned the Guardians against congregating them anywhere in great numbers. Our representations were, for the most part, disregarded. Two of the Boards of Guardians persisted in refusing to remove the children from this poisoned atmosphere; the daily deaths, which ranged for several days together from 14 to 20, produced upon them no practical impression; invaluable time was lost, and when at length the great mortality (no less than 180 perished) induced them to follow the counsel they had so long neglected, it was too late; the poison had embued the system of

the children, and on their removal to the several work-houses (for a large number of them were removed to workhouses, notwithstanding our recommendation that they should not be so), considerably more than 300 became affected either with the choleric diarrhœa, or with cholera itself.

Here was a case where Guardians in a state of ignorance as to the course which the occasion required, refused to be guided by the larger experience which they had no means of acquiring of themselves; and who occasioned by their mismanagement and delay a great loss of life.

Yet more recently the Guardians of the parish of Liverpool appear to have pursued the following course. The affairs connected with the relief of the poor in the parish of Liverpool, are under the control of a Select Vestry, who here exercise the duties ordinarily performed by Guardians. The Select Vestry has nominated out of its own members, "A Medical Relief Committee," to which the direction of what concerns the medical relief is committed; and in order to facilitate the carrying into operation the Act for the Removal of Nuisances and Prevention of Contagious Diseases, a "Joint Committee" has been constituted, consisting of a certain number of members selected from the Health Committee of the Town Council, from the Medical Relief Committee of the Select Vestry, and from the West Derby Board of Guardians; the object of this Joint Committee being to consider the measures necessary to promote the health of the town, and to communicate the results to the other bodies.

Liverpool has the further advantage of having an Officer of Health who so long since as August 9, 1848, in anticipation of the probable re-appearance of cholera in England, reported to the Health Committee of the Town Council, that in the event of the return of cholera, besides greater activity in the general measures of cleansing, scavenging, supply of water, &c., it would be necessary to make an addition to the parochial medical staff, and to that of the dispensaries, in order that immediate assistance might be given in the early stage

of the disease, and to provide hospitals in different quarters of the town for the accommodation of the destitute, whom it might be inexpedient to treat at their own dwellings. A copy of this Report was sent to the Select Vestry.

The Joint Committee was appointed in the month of October, 1848. One of its earliest steps was to ascertain what measures were proposed by the Select Vestry, to afford medical attendance and medicines in the event of the re-appearance of cholera in Liverpool. In reply to inquiries made on this subject, the Chairman reported at a meeting held on December 12, 1848, that the Select Vestry had made preparations for appointing additional medical officers over and above the permanent staff of 13 employed by the Select Vestry; for providing dispensaries in every district of the parish, with hospitals attached to the same; and for opening of houses of refuge. The impression produced by this statement on the mind of the Officer of Health was, that all the measures requisite to meet an outbreak of cholera were in such a state of forwardness that they could be completed in a few days whenever the necessity arose; and he says that this being his conviction, he took no farther steps at that time.

On the 9th February, 1849, the Select Vestry did open a cholera hospital, and appointed two medical officers to take charge of it; but they chose it in a situation so remote and inconvenient, that the Medical Officer of Health thought it necessary on the 29th of March, to make to the Health Committee the following statement:—

“The Medical Officer of Health begs to represent, that in the event of cholera becoming epidemic in Liverpool, the present cholera hospital in Queen Anne Street, will be found to be placed at an inconvenient distance from the localities where the disease is likely chiefly to prevail,

“On Sunday last, a woman who was removed from Henry Edward Street, in the state of collapse was found to be dead on her arrival at the hospital.”

A copy of this Report was forwarded to the Medical Relief Committee.

On the 5th April, cholera still advancing, and no change having been made in the situation of the hospital, nor any steps, as far as could be ascertained, having been taken to provide a house of refuge, the Joint Committee again requested the Select Vestry to inform them what provision had been made for treating cholera cases among the poor.

On the 30th of April, cholera still advancing, and nothing having as yet been done, the Medical Officer of Health again addressed a letter to the Chairman of the Medical Relief Committee, stating his belief that lives had been lost in consequence of the non-removal of the hospital, and that the opening of a house of refuge was urgently required. To this representation the Officer of Health received a reply from the Chairman, stating, that his letter was read to the Committee and entered on their Minutes, but that it did not appear to change their plans materially. "For myself," he adds, "I may say that I would gladly have been guided by your advice."

By this time the increase of cholera being very alarming, and finding that none of the measures recommended by him were adopted, the Medical Officer of Health next, that is, on the 30th of May, addressed the Joint Committee, calling their attention to the fact of the rapid increase of cholera, and stating that the great majority of the cases still continued to occur in a district remote from the hospital; that immediate steps should be taken to provide hospital accommodation in the locality where the disease prevails; that instances having occurred, in which several persons had been attacked in succession in the same house, a house of refuge ought to be opened without delay, in order that where deemed advisable, the healthy inmates of houses in which cholera appears may be removed for a few days, until the infected dwellings have been thoroughly cleansed and purified; and that as attacks of cholera generally take place in the night, stations should be appointed in the affected districts, where a medical practitioner being in attendance during the night might be ready to give immediate aid when called upon by the poorer inhabitants.

On the following day (June the 1st) the Joint Committee, in consequence of this communication, passed resolutions, recommending the Select Vestry to adopt forthwith the several measures here recommended.

But instead of adopting these measures the Select Vestry merely called upon the regular medical officers of the parish, to give their attention to their patients by night as well as by day; and appointed two additional medical officers for one week, to make a house-to-house visitation in two streets.

The Joint Committee not satisfied with these proceedings of the Medical Relief Committee, on the 7th of June again call the attention of the Select Vestry to their recommendations, and request to be informed what arrangements had been made for carrying them out.

During these discussions and delays, cholera had increased from 16 in the week ending the 19th of May, to 27 on the following week; 67 on the next week; 145 on the week following, and 187 on the week ending the 16th of June.

Though we were not at that time cognizant of the proceedings of the Select Vestry above described, yet, observing the progressive increase of cholera in this populous city, not perceiving any preparations for carrying the regulations under the Act into effect, and being constantly told in the Reports forwarded to us, that with cholera daily extending, there was no appearance of premonitory diarrhœa, an event which, if true, would have been an exception to the experience of every other place, both in this country and in Europe; we directed one of our Medical Inspectors (Mr. Grainger) to obtain authentic information on all the circumstances connected with this dangerous outbreak.

From Mr. Grainger's report, it appears, that no lists such as are required by the regulations of the General Board of Health had been made out; that no adequate medical relief had been provided; that no systematic plan for detecting and treating premonitory diarrhœa had been adopted; that no stations or depôts had been opened, for affording assistance to the poorer classes in the night, and that no houses of refuge,

and no sufficient hospital accommodation had been afforded.

Up to this time the Select Vestry, as well as all the authorities of Liverpool, were ignorant of the existence in any part of the town of any unusual prevalence of bowel complaint, and positively denied the fact, though, for a fortnight previously, at least, these disorders had increased to such an extent in the affected districts, that the inhabitants were in a state of alarm, and one of the witnesses examined said, that for the eight or ten days previously he had had many applications for medicine for bowel complaints, amounting to as many as 20 in a day; while another stated, that in consequence of the great increase of these attacks, he had been detained for some nights preceding till half-past 11 or 12 o'clock at night, though his usual custom was to leave his shop for his residence at half-past nine.

From this and other evidence which we received, we issued on the 18th of June a Special Order requiring the Select Vestry to adopt the several measures which our Inspector represented to be necessary, and in the necessity of which the Officer of Health for Liverpool coincided; the first of which regulations was, that the Board of Guardians forthwith appoint 12 extra medical officers, who should make house-to-house visitations once each day at the least, &c. On the reception of this Order, the Select Vestry thought proper to decide that no extra medical officers should be appointed, as required by our Order, and separated without making any preparation for carrying into effect the other regulations contained in the Order.

The body which thus deliberately violated the law, had neglected the discharge of their duties for at least a period of two months, in spite of repeated warnings by the Officer of Health of their own borough, and the earnest remonstrances of a Committee consisting partly of their own members, and that at a time when between 30 and 40 fresh attacks of cholera were occurring in their city daily; a neglect of duty which is described as inflicting much suffering and sacrifice of life.

We submit that the protection of the poor and helpless from preventible sickness, suffering, and premature dis-

ablement, and death, is a duty of the highest importance, and that negligence or omission in relation to it is a grave offence. The examples we have now recited show that if measures for the prevention of these evils are placed on the footing of mere recommendations no attention will be paid to them. Such evils can be abated only by the exercise of powers adequate to enforce the measures which are required for their suppression. When it is intended that the operations of a law shall be efficient, the power of prosecuting for disobedience, as well as of laying down executive regulations are placed not in separate but the same hands ; and the experience of the working of this Act shows that its provisions cannot be carried out, and consequently that the intentions of the Legislature cannot be realized, unless a power be given to the General Board of Health, similar to that given to other Boards, such as the Lunacy Commission, to originate prosecutions for the neglect or violation of its regulations.

The powers conferred for the prevention of epidemic diseases must, to accomplish their object, necessarily be summary ; but if the orders made by one department can be enforced only by application to another department, delay must be incurred where promptitude is essential. On these grounds, and under the conviction that the object of the Legislature cannot be otherwise attained, we submit that this Board should be entrusted with the power of prosecuting for the neglect of its regulations.

We have shown, in our Report on Quarantine, the extent to which cholera and other epidemic diseases prevail on board of merchant ships, and especially those of the smaller description, so much beyond what we were previously prepared to expect ; the danger to the crew and passengers from the foul condition of these vessels, and particularly from the dirty and unventilated state of the fore-castle and other parts in which the common seamen are lodged ; and the necessity, for the protection of the public health, that these floating dwellings should be placed under the same regulation as the filthy cellars on shore with which the Legislature has endeavoured to deal. We have deemed it our duty

to apply this principle, as far as was practicable, to the case of emigrant and other ships in which cholera has actually broken out, and in the instances in which we have had an opportunity of doing so, with beneficial results.

But the Act does not distinctly give the same jurisdiction over shipping that it does over dwelling houses, and the localities in which they are placed, nor does it make the like provision for abating nuisances in ships, and for preventing the origin and checking the spread of diseases therein.

We submit that the tables of the mortality of seamen which we have adduced, and the melancholy loss of life among passengers which we have shown regularly goes on, justify our former representation that the principle on which the Legislature has decided namely, that of attempting to check the prevalence of disease by laying the foundation of sanitary improvement, should be consistently carried out, and applied to the diseases of all classes of the population, whether on land or at sea.

We have found great difficulty in procuring full returns of cases of cholera, whether from public bodies or private individuals. Such returns have seldom been made, unless the ravages of the disease have been severe, and then not until the disease has made considerable progress. Even in Glasgow, where from the first outbreak, an effort was made to procure full and correct returns, they proved to be so imperfect, that Dr. Sutherland was under the necessity of making a second visit to the city, for the purpose of instituting a re-examination of the whole mortuary and other registers. With few exceptions, the Boards of Guardians and the medical officers have neglected this part of their duty. But it is absolutely necessary for the public information, and for the prompt application of preventive measures, that such returns should be made, and that the power should be given of enforcing them. (See Second Notification, and Appendix to this Report, for the opinion of the General Board of Health on the remuneration due to medical officers for their many and arduous services).

In few places in England, where the preventive measures have been most energetically carried out, has the disease hitherto prevailed as extensively as on its former visitation. Extreme difficulty, however, has been experienced in the practical application of measures for the removal of nuisances of the gravest character, and in affording prompt relief in cases of the most urgent necessity. The Act gives no power over any nuisances, but those of a private nature, and is not intended to deal with the larger evils that constitute public nuisances. The operations of cleansing are limited to those of surface cleansing, and even these, in numerous instances, can only be imperfectly performed, in consequence of the difficulty of obtaining an adequate supply of water, and the want of machinery for its efficient application. The powers given by the Act are limited to works within the control of private individuals, and these are totally inadequate to deal with the enormity of the evils that exist in numerous localities. The masses of filth which have accumulated in some situations, and which are the fertile sources of disease to the neighbourhood, cannot be removed by private exertions, and even where voluntary efforts are made for their removal unless the operation is cautiously and skilfully performed, the mischief is only increased. So many instances had come to our knowledge of positive evil produced by the incautious removal of masses of filth, that we deemed it necessary to give a warning on this subject in our Second Notification, to the following effect:—

“ With reference to the larger works of cleansing, such as the cleaning out of long lines of ditches, or the removal of large masses of decomposing refuse, much mischief has sometimes been occasioned, when the operation has been so ignorantly and unskilfully conducted as to increase the extent of the evaporating surface; as when the contents of foul ditches have been spread out on the banks, and allowed to remain there; and when cesspools have been emptied into drains or sewers having no proper fall, or no run for the discharge of the contents from beneath inhabited houses. Works of this kind should be conducted under the superintendence of a person who possesses some knowledge of the nature of the gases evolved; the atmospheric and other conditions that promote their copious

evolution; their probable effects on susceptible persons; and the mode of diminishing or averting them, either by the proper use of deodorising fluids or by other means. The medical officer who may be expected to be the best informed in these respects, should, therefore, as before stated, be required to take the general superintendence of such operations."

Of the unskilful manner in which the operation of cleansing is sometimes performed, and as a proof that from ignorance of the proper mode of accomplishing this object the very evils may be extended and increased, which it is the intention to prevent, Mr. Bowie, in his examination before the Sanitary Commissioners, gives the following instance:—

"What were the means adopted in your district to improve its cleanliness?—Cleaning the drains, and the surface of the streets.

"Were any means taken to remove the filth?—Yes, but this was done very unskilfully, and under the influence of great alarm. Cesspools were emptied, drains and sewers opened and cleaned out. The contents of the drains and sewers, if not of the cesspools likewise, were accumulated on the streets, and left in small heaps, for the convenience of cartage, opposite houses where patients at the time were laid up with cholera. This matter was highly offensive when first placed on the surface, and produced, in some cases, an intolerable stench; so that I thought the very means taken to lessen the disease, tended to increase the evil. The stench from these heaps being perceptible in the houses of patients labouring under cholera at that very time."

Mr. Grainger, in his examination of the circumstances connected with a sudden and severe outbreak of cholera at Chesham, in November, 1848, after describing a foul ditch in one of the localities in which the disease was most prevalent, says:—

"A few days before my visit it was decided that this ditch should be emptied, and a great quantity of black putrid mud was thrown out on the bank, and there collected into heaps; this was in process of removal when I inspected the place, though the larger portion still remained. In one of the cottages immediately facing this ditch, a poor woman named Price, evidently a most respectable and trustworthy person, was seized with cholera on Tuesday morning, November 21. She informed me that on the Monday morning preceding, on going

into the small yard at the back, immediately adjoining the ditch, the emptying of which was still going on, she was overpowered with the stench and felt immediately sick at the stomach; she was, however, able to go to her work, that of a nurse. On the following Tuesday morning, Mrs. Price on going into her back-yard, was again seized with the same feeling of sickness from the offensive stench. She proceeded to the house where she was engaged as a nurse, but soon became very sick, and was obliged about 10 A. M. to return home, when she was seized with cholera."

From these facts it appears, that the evils above noticed are not confined to large cities and crowded localities; but that they are equally rife in many of the small country towns, and even in villages, which are often resorted to expressly for the sake of health. Thus in the above mentioned small town there is a stream, which, issuing from the chalk hills of the district has, on its approach to the town, all the clearness of similar streams elsewhere; but even before passing into the place itself, is poisoned by the noxious fluids of a tanyard, and subsequently by a number of filthy additions from slaughter-houses, gutters, and cesspools. The stream is thus polluted, and in its onward course among the houses, becomes a source of sickness to the inhabitants; and it was therefore not a matter of surprise, when cholera broke out, that it should have specially located itself in the houses near the above stream, beginning in a place called Water-lane.

Again, the town of West Cowes is one of fashionable resort; and from its position close to the sea, and from the character of its surface, is peculiarly adapted to efficient drainage and cleansing; and yet all the evils springing from filth and neglect, exist here on a small scale, as in the worst parts of London. In one court with eight or nine houses, no privy was provided; all the refuse being thrown into a hole cut in the middle of the court, over and around which the poor people were drying their linen; in another court was a house, against which a midden or cesspool abutted; the foul liquid of which had found its way through the wall, and beneath the flooring of the back kitchen; in other places were slaughter-houses and piggeries, emitting

the most offensive effluvia. That these sources of atmospheric deterioration should exist, without inducing a large amount of preventible sickness, could be expected by no one acquainted with the causes of epidemic diseases. The medical evidence collected by Mr. Grainger, shows that low fever prevails in the bad parts of the town, and other indications of a similar character are not wanting to prove that here, as elsewhere, the health of the inhabitants suffers from the malaria arising from filthy courts and choked up drains.

Of the evil resulting from the incautious removal of large masses of filth, whether in villages or towns, Dr. Sutherland gives the following instance as it occurred at Cardiff under his own observation :—

“ In regard to these cases which have happened near the canal, there are about twenty houses altogether, situated in an airy open position, but surrounded by undrained land, and having the canal in front of them. This canal was unfortunately emptied in order to undergo repairs, and the effluvia, under a hot sun, occasioned most offensive exhalations, which were complained of by all in the neighbourhood. Fortunately there are only the few houses already mentioned, otherwise the effluvia must have produced the most direful consequences; as it is, however, no fewer than ten deaths have taken place in the houses on one side of the canal, and four deaths in a single house on the opposite side. Several of the workmen who reside in the country, and in healthy localities, have been seized at home with symptoms of cholera, but have fortunately recovered. There are a number of loungers constantly about the works, who have also suffered. The whole case is one of so much importance on sanitary grounds that I shall endeavour to get a full report of it for the Board.

* * * * *

“ I have again examined into the alleged connection between the present state of the canal and the violent outbursts of cholera on its banks; and I have to report that the views stated in my letter of yesterday have been amply confirmed by the experience of the last 24 hours.

“ A little after mid-day, yesterday, I told the Sanitary Committee that I considered all the workmen in danger as well as the inhabitants in the vicinity. In the course of the night another of the inhabitants died; and one of the workmen, who was engaged on the works yesterday when I was there, took ill in the afternoon, and died this morning. But this is not

all. When I was on the spot to-day, I saw a crowd of people on the opposite side of the canal; and, on going over, I found that the man who had been engaged in keeping the time of the labourers had just been struck down while standing beside the men. He was then in the cold stage, and was conveyed home in a cart covered with blankets.

“The casualties already among this small population have been greater than I ever heard of elsewhere; and I feel convinced that all are in danger at the present time.

“An intelligent woman described the manner in which she was seized as follows:—The smell from the canal, she said, became intolerable; she was seized with nausea, vomiting, cramps in the bowels, and purging; but she rallied and resisted the disease. In the same house, however, three persons were attacked with cholera, and all died.

“No clearer proof could be given of the connection between bad sanitary conditions and the outbreaks of epidemics; and I will venture to predict that, before the canal works are finished, there will be more victims of cholera.

“About a mile and a-half of the canal is empty, and the bottom and sides are covered with putrid mud. Fortunately the course of the canal is open, and there are very few houses except at the point close to the sea, which is about a mile from the town; and it is at this point that the outbreak has occurred.

“It was stated to me that the canal was run dry on the 26th May, and that the sickness appeared as soon as the mud began to smell.”

Impressed with the importance of making these facts generally known, we addressed a circular to the different canal companies, putting them upon their guard against laying dry the bottom of any portions of their canals, especially in the neighbourhood of human dwellings, at the present time, when in addition to the usual consequences of exposing muddy surfaces to the action of the sun, epidemic disease is prevailing in so many quarters.

The complication of nuisances in particular localities is often so great, that the dispersion of the population until the filth is removed, and the places are properly cleansed, is the easiest and cheapest course.

It is stated in the Third Report of the Sanitary Commissioners that the following approximate estimate has been made by Mr. Phillips, surveyor to the Metropolitan Sewers Commission, in order to convey a con-

ception of the extent of noxious matter requiring removal in the metropolis at large :—

“ At the last census, in 1841, there were 270,859 houses in the metropolis. It is known that there is scarcely a house without a cesspool under it, and that a large number have two, three, four, and more under them, so that the number of such receptacles in the metropolis may be taken at 300,000. The exposed surface of each cesspool measures on an average 9 feet, and the mean depth of the whole is about $6\frac{1}{2}$ feet ; so that each contains $58\frac{1}{2}$ cubic feet of fermenting filth of the most poisonous, noisome, and disgusting nature. The exhaling surface of all the cesspools ($300,000 \times 9$) = 2,700,000 feet, or equal to 62 acres nearly ; and the total quantity of foul matter contained within them ($300,000 \times 58\frac{1}{2}$) = 17,550,000 cubic feet ; or equal to one enormous elongated stagnant cesspool 50 feet in width, 6 feet 6 inches in depth, and extending through London from the Broadway at Hammersmith to Bow Bridge, a length of 10 miles.”

“ This,” say the Metropolitan Sanitary Commissioners, “ there is reason to believe, is an under estimate. The cesspool, however, in general forms but one-fourth of the evaporating surface : the house-drain forms half or two-fourths, and the sewer one ; but, connected as the sewers and house-drains mutually are, and acted upon by the winds and barometric conditions, the miasma from the house-drains and sewers of one district may be carried up to another. We cannot be absolutely certain that part of the stench experienced in the Dean’s Yard may not have been due to the contents of the sewers from the drains of the House of Commons, or at some time from Duck-lane or Pye-street ; and according to the evidence of Mr. Batterbury, who met a strong current of air coming *from* the extended cesspools near the school, the miasma from that place would have been carried through the common sewers, and from them into the streets and houses of other neighbourhoods.”

Among the metropolitan districts, the most seriously visited by cholera at the present time, as it was in 1832, is Bermondsey, where one of the medical officers, the registrar of the district, states that 25 cases of cholera, and 9 deaths have recently occurred in his own practice, all within a few yards of each other, in houses close to a foul tidal ditch. The surveyors of the Metropolitan Sewers state that there are in that single district, 30 miles of such ditches. For evils of such magnitude, the only remedies are the immediate removal of the more susceptible portions of the population, until com-

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bined works, and the larger engineering appliances, such as are provided for by the Public Health Act, can be carried out.

Whilst we represent, as it is our duty to represent, the negligences and omissions which have occasioned sickness and loss of life; yet it is right to present the evidence of the fact, which we believe to be conclusive, that the measures of precaution which have been adopted, that the cleansings which have taken place, and which have been carried to a greater extent than they ever were before, have been attended with proportionate benefits. We state these facts amidst a serious increase of the epidemic. We cannot venture to say what may be the extent of its further visitation; but as far as it has proceeded it has been light as compared with its course in other countries. In St. Petersburg, where little sanitary improvement has been effected, there have been officially reported, during the recent outbreak, nearly 25,000 attacks and 14,000 deaths; but it is believed that there have really been upwards of 20,000 deaths. In Paris, where, as far as we have been able to learn, little warning has been taken of the steady approach of the pestilence, and little preparation made against its invasion, the visitation has been more severe than it was formerly. We have received from the President of the Department of the Public Health of Paris returns, from which it appears that in 1832 the deaths in Paris were 14,503, while in 1848-9 the deaths have been 15,196, and the epidemic has not yet entirely subsided. In Paris, besides bad drainage, there is over-crowding to an extent of which some conception may be formed from the fact, that a population of nearly 1,000,000 of souls is crowded into little more than 40,000 houses; whilst the 2,000,000 of people in London are distributed amongst upwards of 280,000 houses; the average number of persons in each house being in Paris 25, and in London 7. On comparing the mortality in Paris during the recent outbreak of cholera, as stated in the official returns, with the mortality in London during the recent outbreak, as given in the Registrar-General's Returns, it appears, that whereas in Paris, out of a population, say of

10,000 souls, 144 persons have died, in London, out of a population of 10,000 souls, six persons have died.

But that the epidemic force in London is stronger than would be represented by this general result, is we think to be inferred from the severity of the visitation in other parts of the country where there has been an unusual degree of negligence, and where, consequently, the conditions have been more than commonly favourable for the localization of the disease. Under these circumstances the mortality has been as high, and even somewhat higher than at Paris. In some of the towns in Wales, the attacks in proportion to the population have been as 1 in 19, and the deaths in proportion to the attacks, as 1 in $3\frac{1}{2}$. If the mortality of Paris had been at the same rate the deaths would have amounted to 15,261, instead of 15,186.

We cannot but lament, that in the towns and villages of our own country, where the causes tending to localize the disease were the most apparent, we have not been able to do more for their removal or mitigation. The obstacles to even a limited and temporary relief have been already stated. But if, by any means at our disposal, we had been able to diminish those evils to a far greater extent than we have found practicable, the relief thus afforded whatever its amount, would have been only palliative and temporary, and wholly inadequate to meet the permanent yet removable causes of disease which exist in a greater or less degree in every town and village which has been brought under our notice. Until the whole of these removable causes have ceased to exist, the object of the legislature which we are charged with the duty of carrying out as far as may be practicable, will not have been accomplished. These causes can be effectually removed only by the practical application of the principles recognized in the Public Health Act, and the proceedings which we have taken, up to the present time, with reference to the execution of this latter Act, we now propose to describe.

Without derogation of the duty implied by the power, with which we were invested, of directing local

46 *Towns which have petitioned for application of Public*

examinations to be made where the deaths exceed 23 in 1000 of the population, we deemed it the most expedient course, to direct the first labours of the Inspectors upon those places from whence petitions were received, or from whence applications were made to us from Town Councils. In all cases we deemed this last class of applications as equivalent to petitions from the rate-payers, whensoever, the rate of mortality was such as otherwise to indicate the duty of inspection.

The following is a list of the towns and places from whence applications by petition or resolution have been received. The towns which have been visited are thus denoted *; and the † mark denotes those from whence the reports of superintendent inspectors have been received.

Alnwick.	† Chelmsford.
* Altrincham.	† Cheltenham.
† Ashby-de-la-Zouch.	* Chipping Wycombe.
* Ashton Keynes.	* Cheshunt.
† Aylesbury.	† Chilvers Coton.
† Bacup.	† Clarbrough (Notts.)
† Bangor.	Coity Lower, Bridgend.
Barnard Castle.	Congleton.
* Beaconsfield.	Corsham.
Berwick-upon-Tweed.	† Coventry.
Beverley.	† Croydon.
† Birmingham.	Darlington.
Bishops Lydiard.	† Dartford.
† Bowden Great.	† Derby.
† Bowden Little.	Doncaster.
† Braintree.	† Dover.
* Brecon.	† Durham.
† Brighton.	† East Retford.
Bromyard.	† Edmonton.
Broughton.	Ely.
* Broxbourne.	† Enfield.
Brynmawr, near Aberga-	Epsom.
venny.	† Eton.
* Bulkington.	* Exmouth.
† Burnham (Somerset).	† Fareham.
Burslem.	Gateshead.
Calne.	† Gloucester.
† Cambridge.	† Godmanchester.
* Cardiff.	† Great Amwell.
Carlisle.	Halsted.
† Carmarthen.	† Harrow Town and Roxeth-
† Chatham.	hamlets.

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| <ul style="list-style-type: none"> Hartlepool. * Hertford. † Hitchin. * Hoddesdon. Holbeach. † Kendal. * Kingston-upon-Hull. † Knighton. † Lancaster. † Launceston. Leamington Priors. † Leicester. Llanely. Long Itchington (Warwick.) † Loughborough. † Luton. * Macclesfield. † Market Harborough. Melcomb Regis. * Merthyr Tydfil. † Mileham (Swaffham.) † Minster in the Isle of Sheppey Morpeth. Nantwich. * Neithrop (Banbury.) Newcastle Lower (Bridgend.) Newmarket. Newport (Mon.) † Newton Abbot. Northallerton. Norwood. † Nuneaton. † Ordsall (Notts.) Ormskirk. * Ottery St. Mary. Padstow (Cornwall.) Penrith. † Penzance. Pilton (Soms.) * Portsmouth. | <ul style="list-style-type: none"> * Preston. Reading. Richmond (Surrey). † Rugby. Rusholme. † Sandgate. Sawtry All Saints, and Sawtry St. Andrews. Sherborne. Sleaford. Stockton-on-Tees, Borough of. Stockton-on-Tees, Town of. * Stoke-upon-Trent. † Stratford-upon-Avon. † St. Thomas, Exeter. † Swaffham. † Swansea. † Taunton. Tenby. * Tewkesbury. Thurmaston (Leicester.) † Totnes. † Tottenham. † Uxbridge. * Waltham Holy Cross. † Ware. † Warwick. † Watford. † West Retford (Notts.) † Whitehaven. † Whitstable. † Wigan. † Windsor, New. † Witham. Woolwich. † Wolverhampton. † Worcester. * Wormley. Wrexham. † York. |
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The inspections have been made under the instructions, a copy of which we have hereto appended, which were as follows:—

“ On proceeding to the town to which your service is directed, you will inquire for the list of places

“ required to be made out by the 9th order under the
“ Epidemic Diseases Prevention Act, where cases of
“ typhus and other epidemic and endemic diseases have
“ most frequently occurred.

“ You will seek the assistance of the clergy and
“ ministers of religion, who may be able to afford va-
“ luable aid in your inquiry, and you will also put
“ yourself in communication with the chief medical
“ officers and the medical practitioners, who, as Union
“ surgeons or otherwise, have probably been led most
“ frequently into the houses and streets where epidemic
“ diseases have prevailed.

“ You will request the Superintendant Registrar of
“ the district to attend your first meeting, with the list
“ of the places of epidemic disease; you will also request
“ the medical officers to attend at the same time, and
“ also a committee or deputation of the petitioners; the
“ Surveyor, Inspector of Nuisances, and the High Con-
“ stable or other chief officer of police, to be in attend-
“ ance upon you; you will read the Registrar-General’s
“ return of the average proportion of deaths from
“ epidemic disease, and also the average rates of infan-
“ tile mortality, and also any other such particulars as
“ may be in your possession from previous returns,
“ with which you will have been furnished, viz.: the
“ answers made to the first Sanitary Inquiry, also the
“ answers made to the inquiries of the Commissioners
“ of Inquiry into the means of Improving the Health
“ of Towns, and state that you are instructed to view
“ the places where epidemic diseases have been most
“ rife, and to judge for yourself as to the condition of
“ the houses, and of what may be done by public
“ measures, and the exercise of the powers by the
“ General Board of Health, for the remedy of the evils
“ in question, and for the advantage of the population.”

The experience of the Inspectors has been, that these directions to the seats of typhus and other epidemic and endemic disease, invariably conducted them to places ill-drained, and surrounded by filth, in which are found the conditions in respect to the removable causes of such disease as were anticipated, and which serve as the

foundation of legislation. In the course of the inspections, and after the character of the seats of epidemic disease had been seen by the mayor or other inhabitants who accompanied the Inspector, it became a frequent observation to the medical officer, on arriving at an ill drained and ill conditioned place, "Here, Sir, you must have fever cases."

The positive amount of sickness, pain, premature death, and misery, from diseases of this class being, as we find it, constant; or with variations from year to year chiefly in the way of excess in particular years; the extent to which the causes of such diseases (whether original or predisposing) appear to be removable, is a source of proportional hope and satisfaction.

The feelings manifested by the inhabitants of these, usually the poorest districts, were, in the first instance, surprise, at the novelty of an official visit of inspection, by an officer acting under the authority of the Government, and then satisfaction; next, complaints as to their condition, and lastly, urgent requests that something might be done for them. They readily threw open their doors, and gave every explanation to the Inspectors.

The extensive manifestation of a sense of their condition by the poorest classes, has afforded important promise of the success of the new works contemplated by the legislature. Had those classes evinced a spirit of resistance to measures of improvement, had they shown a preference for dirt, or an indifference to works of cleansing, their introduction might have been much more difficult; but although the objections to new rates and the pleas of poverty were frequent, as might be expected, yet where there were opportunities of informing them of the real character of the changes contemplated, and asking them whether they were willing to pay rates in return for the advantages promised, there was a fair and generally very hearty expression of good will to do so.

Another uniform and general result of our procedure upon the lists of the localities of epidemic, endemic and contagious disease has been, that the Inspectors' visits of examination have taken Guardians of the Poor and

others to the sources of the greatest chargeability to the poor's rates, which they had then almost for the first time visibly displayed before them. Little notice appears hitherto to have been taken, of the expense of sickness, of frequent funerals, and of premature disablement and mortality. The following are examples of the general tenor of the evidence elicited, in relation to such places.

In the inquiry at the Potteries, Stoke-upon-Trent, it was stated by the Rev. Francis F. Clarke, curate of Hartshill, which comprises part of the parish of Stoke:—

“ Within a part of Stoke-lane, comprising about 60 houses, I have visited as a clergyman 26 cases of fever within the last six months. The surgeons I have seen, have classed all these cases among the typhoid forms of fever. These fevers have attacked alike those who strive to be clean and the dirty: in the houses so visited, there is an almost utter want of sewerage; of this the cleanest people have constantly complained; others seem quite unaware of such a want. I know by the evidence of my own senses that the complaints are well founded; yet within this district drainage would be comparatively easy, as it lays high. It is one of the highest parts of Stoke parish. In the Hand beer-shop, water accumulates after every shower of rain, and has to be bailed out. Immediately behind this house there has been one of the worst cases of fever. Adjoining Mr. Radcliffe's house on the opposite side of the road, is a stagnant ditch always offensive, this ditch was the death of his wife last year. Many privies empty into this ditch, and it is occasionally bailed out and spread upon the land, and is considered valuable as a manure. One side of Steele's-buildings has an open ditch all along the side of them, which is every now and then choked by loads of coal-ashes, left to accumulate until there is filth enough generated to mix with it for the land. More than one tenant in this row has complained to me of the bad smells from the want of sewerage; and the person in the lowest house has repeatedly, during the summer, been obliged to sit outside the doors, the smell within has been so bad. In all parts of the parish, good drainage would be as easy as it could be anywhere. I find that dirt, want, drunkenness, and disease go together. I have no doubt, but that with improved residences, the improvements would lead to improved morals. There are some houses to let in the worst parts of the town, and a friend said it ought to be ‘to burn.’”

As showing the consequences of this state of things to the rate-payers, Mr. Hollins, another witness, said:—

“He had frequently traced a gradual descent to the workhouse, from such property as Mr. Clarke had described, of men whom he had once known, as respectable and comfortable in their position as operatives; unfortunately for themselves and for society they went, through necessity, to live in a house of this class, and he had generally found their hopeless poverty began with six or eight weeks loss of time through fever, and illness caught in such places: then debts were incurred; rent, as a consequence, fell into arrear, goods were distrained, the man became disheartened, and the end was pauperism for himself and family: children once degraded into pauperism, rarely regained their former position among the working people; he had no doubt, but that proper sanitary arrangements would prevent much human misery and degradation, and also be a direct money saving to the parish rate-payers.”

On the inquiry at Dover, the relieving officer, Mr. Davis, stated:—

“That the amount of out-relief for the parishes of St. Mary, St. James, Charlton, Buckland, and Hougham, within the borough of Dover, amounts weekly to 65*l.* 17*s.* 10*d.*; monthly to 263*l.* 11*s.* 4*d.*; annually 3,419*l.* 7*s.* 4*d.* The total annual amount of poor-rate levied upon the above-named parishes for the year ending March 25, 1849, amounted to the sum of 8,828*l.* 12*s.* 4*d.*; from this sum was paid the cost of the in-poor in the workhouse, and likewise a borough rate to the Town Council, as well as the out-relief.

“Of the out-relief, a large proportion goes to Round Tower-street and lane, and the low districts of the pier generally; in the parish of St. Mary, to Barwicks-alley, Paper-alley, the Old Workhouse ground, including Colbran-street, Brook-street, and other similar places in the parish of Charlton, in Buckland to a mass of wretched cottages, called Manger’s-rents.

“The largest proportion of out-relief distributed in the places above-named, is caused by fever, small-pox, and other similar complaints being very prevalent in these localities, caused, I have no doubt, to a very great extent, by the closeness of the buildings and their filthy state from want of proper drains and other sanitary regulations.”

At the same time these inquiries uniformly corroborated the previous statements as to the connection between the physical and moral condition of the population.

The Rev. R. J. Bunch, rector of Emmanuel Church, Loughborough, stated in his evidence at the inquiry—

“I have found that in some parts of my parish the social and moral condition of the inhabitants are more depressed than in other parts; those are generally the dirtiest, the worst drained, and contain the ill-ventilated houses. The physical and moral condition of the people act and re-act upon each other as cause and effect. The dirtiest and worst of the houses are occupied by a class whom I never see at church.”

The Rev. Henry Fearon, rector of All Saints, in the same town, says—

“I think the physical discomfort of some of my people is closely connected with their moral inferiority. Without specifying the localities, I think I have observed moral improvements in particular families, in a very short time, when means of additional personal cleanliness have been given them. Their self-respect has been increased. In very unfavourable localities, I think I have seen the people striving against filth. Those were persons of well constituted minds, who revolt at the condition of the neighbourhood, while others sink down into a state of apathy and indifference. The wish of the people for improvement has been sufficiently shown by their thankfulness for the recent exertions of the town authorities acting under the Nuisances Removal Act.”

From the experience of upwards of 10 years' intimate connection with the poorer classes, continues Mr. Davis—

“I have not the slightest hesitation in affirming that there is a most decided direct connection betwixt confined districts, bad sanitary arrangements, and poverty and vice. In the districts above referred to, the moral state of the inhabitants is most deplorable, as the youth from these places grow to manhood, they become habitual paupers; brought up to no regular employment; grossly ignorant and reckless, their time is spent between the Union work-house and the gaol.

“In conclusion, I can only say, that if the Government wish to prevent the increase of a most debased and vicious population, they will take measures, if not to sweep away these nests of vice and disease already built, at any rate to prevent similar places from being erected in future.”

A further common and important feature observed in these local inspections, has been the discovery, by the chief inhabitants, or those holding leading local position and office, who accompanied the Inspector in his perambulation, how little they themselves knew of

the real condition of their own town, or of those portions of it which are occupied by the majority of the inhabitants.

The places properly designated as "fever nests," the seats of epidemics, it appeared had never been visited by them, and were almost as much unknown to them as any foreign territory which they had never seen.

On these occasions they frequently acknowledged frankly, that they had been, until then, entirely unaware of the condition of the places visited. The Town Clerk of one town, writing to the Inspector, states that they were unaware, until his visit and report, what the condition of their town really was. Mr. Cresy states :—

"In every instance these opinions I found true. Even at Windsor, the benevolent Rev. Mr. Hawtrej observed, he was unconscious of the state of so much filth; for when a clergyman visits the poor, the dirty yard and the privy are seldom exposed to his view. At Gloucester, the mayor and other gentlemen born in the town, acknowledged they were perfectly unconscious of the filthy state of some portions of their city."

The following example is given by Mr. Ranger :—

"In the course of my inquiry, the statement of the medical officer, as regarded the wretched state of the numerous courts, alleys, &c., and the wretched state of the dwellings of the poorer class, for want of proper accommodation, water-supply, &c., were broadly contradicted by one of a deputation from the Boards of Highway Surveyors and Inspectors of Lighting and Watching, whilst another member stated the parish had, on the previous night, passed a vote of confidence in their efficiency and fitness to carry out the necessary measures for improving the sanitary state of the town; but within a few hours, and in the course of my inspection, at which the deputation attended, it was candidly admitted by the very man who had been foremost in denouncing the statement of the medical man, that he had never even seen the places until that day, although a resident in the town for many years, and one of the party on whom the inhabitants had been prevailed to pass a vote of confidence for carrying out drainage, &c."

The local examinations are concurrent in showing that the outward appearance of our towns affords little or no indication of their real internal sanitary condition, and that even small towns in which the chief streets

54 *Chief Opposition from Owners of worst Tenements.*

and thoroughfares, or parts frequented by the higher and middle classes, are clean and well kept and fair to see, are, in other more retired and often immediately contiguous parts, in the worst state of filth.

It is the most favourable presumption that the want of information as to the state of the localities visited by epidemic disease is the general cause of their neglected condition, rather than wilful neglect under a consciousness of what that condition really is. It is proper, further to note that the business of the regular inspection of such districts, undertaken from motives of extraordinary zeal and benevolence, is a laborious one, and requires an extent of time and observation inconsistent with ordinary trading or professional pursuits, or with honorary service.

The reports of the Inspectors as to the condition of the populations of the poorer districts is in accordance with the previous reports of visitors from religious associations.

The perception of the means of prevention, was more clear to our Inspectors, than we might expect it to have been to the inhabitants, who had been accustomed to the present state of things and who had seen nothing of new and improved works, or indeed of any other works than those of their own town.

The chief opposition commonly experienced has been from the owners of the worst-conditioned tenements; often from those where the highest rents were obtained, and most frequently from those where the payment of rates was nevertheless excused.

Much of this lower class of house property is held by persons called owners, as being in the receipt of rents and profits, who have only short interests in the premises, as being, for instance, either life rented in the property, or the holders of short terms of leases. Examples are frequent, under local Acts, of the confiscations of rents, by exactions of large immediate outlays from such owners for permanent works, from which they can derive, at the most, only a short advantage, but frequently no advantage whatever, not even of charging any proportion of the increased

rate upon the tenant, who derived the advantage of an improvement not contemplated at the time he took his house.

These hitherto well-founded apprehensions of unequal and unjust charges require to be carefully provided for on behalf of persons of short interests in this class of property; and justice and sound administrative policy require that securities against waste should be also provided, so that owners of long interests, reversioners, and others now absent, be not charged with contributions to the expense of works of a character not to last or not productive of benefit equivalent to the charge.

The reports of the Inspectors show, almost invariably, that the chief works required will (if properly executed) be largely in reduction of existing direct charges, as for example, that the house-drains and the apparatus, with the water supply, in substitution of the cesspool, will not be half the annual expense of cleansing the latter. Similar works, where there had been any executed under the uncontrolled direction of the local Boards, had, as we shall show, been far from inspiring confidence either in their efficiency, or their economy of construction; while the dread of heavy immediate outlays was frequently sufficient to preclude a fair hearing, or a consideration of the means provided in the Act to avoid them, through facilities for raising money on loan, and by arrangements for repayment by equal annual instalments of principal and interest, proportioned to the benefits conferred, and distributed over periods of time.

The persons interested in the lower class of houses commonly demanded that securities should be given that the expense of the works should not exceed the estimates, and that they should be efficient; and they frequently asked that the inspector, as an engineer, should be made responsible for the works. At Totnes and Launceston, and several other places, this was anxiously expressed; and it was mentioned at Durham and elsewhere as a desirable advantage, even by professional men.

The steps required by the Act, of the local publication of the recommendations of the inspector as to the works proposed to be executed, the provision for sending in and considering objections, denote the intention of the Legislature, that the rate-payers should be satisfied in respect to the fairness and advantage of the future expenditure; and, undoubtedly, the examination of past works continues to confirm the apprehensions expressed, both as to the efficiency of the works, and as to the reasonableness of the expenditure and the justness of the assessments.

The corporations and the local commissions are usually in debt, and frequently unable to account satisfactorily for the past expenditure. The contrasts between the estimates made by the inspectors, upon the improvement in economy, and efficiency of construction, which have followed the investigations under the Metropolitan Sanitary Commission, are so great, when compared with those to which the local authorities have been accustomed, that they have frequently incredulously asserted, that such works cannot be carried out for any such sums as those named in the reports; nor is it to be expected that they would be, unless under such securities as those to which we must subsequently advert.

The entire want of faith in the improvement of the future local expenditure has been one source of the opposition from the owners of the tenements chiefly requiring amendment, for which the highest rents in proportion to any outlay are commonly received. We must, however, repeat, that inasmuch as we believe in every instance the works of amendment proposed will be in reduction of existing charges, and be an improvement to the property; the abolition of cesspools, complete house drainage and cleansing would, by the reduction of damp, be of full money value to the property by the saving of dilapidations; so we have held that every description of property must contribute: but the owners of the description of property which is supposed to be the poorest, namely,

that excused from the payment of all rates on the ground of the poverty of the occupiers, have seen in the imposition of rates for these improvements only a precedent for the rating of that description of property for other purposes, and have been most violent in their opposition. Under the influence of these classes of opponents, poor occupiers, who have expressed their satisfaction at the prospect of amendment, and petitioned for the application of the Public Health Act, have been frequently induced to retract their declarations, and, in some instances, to petition against measures, which, however, were nevertheless measures of pecuniary as well as of sanitary relief.

Inquiries as to the causes of the opposition made to the application of the Act, notwithstanding the proof that the measures proposed would really be improvements of the property, have elicited the fact, that the lower description of property is extensively mortgaged, almost at their marketable value. This condition has been foreseen, and met by the declaration of the general principle, that the improvements contemplated were new additions to the tenements, not contemplated at the time they were taken by the occupier, and as much required and justified an additional rent, as the construction of a new room, or improvements of the premises. It was, therefore, proposed that the improvement rates in respect to new house drains or apparatus, should be paid by the occupiers; but the rents of the worst conditioned tenements are frequently so exorbitantly high, that the owners despair of obtaining anything in addition. These are the cases where the mere pecuniary benefit cannot be made manifest to all the opposing parties.

We have, however, on considering the bearings of the question, been precluded from holding out any expectation that exemption, could be countenanced or recommended by us.

The Legislature has not hitherto, we apprehend, been informed, as to the proportion of the houses of the lower class to the other classes of houses in towns,

or as to the extent or mischief of the practice of exempting them from the payment of their pro rata shares of contribution.

The greatest mischief is to the poorest classes themselves, in the obstruction presented to improvements, which are means to economies, and which as economies, are of the highest importance to those classes.

The first operation of the exemption is to throw considerable additional expense on all the higher class of rate-payers, and to make them pay unduly for works for the advantage of others, and consequently to indispose them to improvements. The occupiers, who generally pay additional rents equal to the amount of the excused rates, are subjected by the consequent opposition to exclusion from the benefit of improvements; whilst the owners themselves when the improvements are frustrated, often lose by bad drainage, damp, dilapidation, and deterioration of property, more than they save in rates.

In illustration of the strength of the motives to opposition arising from the proportions of the houses, commonly excused from contribution, we may mention that the houses at Sheerness rated under 5% are about one-half of the whole of the houses of the town; at Ware, they were 55 per cent. of the total number of houses; at Aylesbury, they were 41 per cent.

If these classes of houses were excused from contribution, for that which to the occupiers of that class of houses would be of the greatest advantage, the general increase of the rates levied upon the occupiers of the other houses, to defray establishment charges must be at—

<u>Aylesbury.</u>		<u>Ware.</u>		<u>Sheerness.</u>
40 per cent.		54 per cent.		56 per cent.

additional rates required to be paid, on account of the exemption of the lower class of tenements.

The following return from Leicester, affords a fair example of the simple proportions of one class of houses to another.

Total Number of Houses of each class in Leicester, as rated to the Poor-rate.		Per cent. of each class to the total number of Houses.	Gross Annual Rental produced from each class of Houses at 5 per Cent.	Proportion per Cent. of each Class to the Total Rental.
Not exceeding	Number.			
£.			£. s. d.	
5	7,322	57.8	1,830 10 0	26.0
10	2,899	22.9	1,449 10 0	20.6
20	1,397	11.0	1,397 0 0	19.8
30	482	3.8	723 0 0	10.3
40	232	1.8	464 0 0	6.6
50	128	1.0	340 0 0	4.8
60	72	0.5	216 0 0	3.1
70	40	0.3	140 0 0	2.0
80	45	0.4	180 0 0	2.5
90	22	0.2	99 0 0	1.4
100	13	0.1	75 0 0	1.1
110	9	0.1	49 10 0	0.7
120	8	0.1	48 0 0	0.7
130	1	..	6 10 0	0.1
140	1	..	7 0 0	0.1
150	..	..	8 0 0	0.1
160	1	..	..	..
170	..	..	..	..
180	1	..	9 0 0	0.1
	12,673	100	7,042 0 0	100

If all houses under 10% were excluded from contribution, and the interest on the whole amount of the fixed capital and establishment charges for the supply of water were charged on the middle and higher classes, or on those inhabiting houses above 20% per annum, then it will be seen that the payment must be in some such proportions as hereunder stated:—

	£20 to 40.	£40 to 60	£60 to 80	£80 to 100	£100 and upwards
	s. d.	s. d.	s. d.	s. d.	s. d.
Weekly charge about	0 8	1 5	1 11½	2 4½	3 0
Instead of	0 5	0 8½	0 11	1 1	1 5½

Out of 814 houses at Fareham and Wallington, 401 houses, or nearly one-half, were found to be excused from rating; and the Inspector reports that the main opposition experienced to the application of the Public Health Act was from the owners of these excused houses.

Strong opposition was anticipated from the Local Boards, which must be superseded, and whose powers must be consolidated with those of the new Boards; and such opposition has been given, but less frequently than was expected. Our Superintendent Inspectors

give concurrent testimony to the effect of the following from Mr. Geo. T. Clark :—

“ I am bound to say, that so far as my investigations have yet proceeded, I have not found the Local Boards or Commissioners in active, and very rarely in passive, opposition; on the contrary, I have found their servants reasonable men, strongly impressed with the faults of the present system, and quite disposed to try a better one. Thus, at Durham, Caermarthen, Swansea, Preston, Wigan, and Worcester, the Commissioners did not oppose, after the inquiry began; and in most cases they have promoted inquiry.”

In some instances, though we are glad to be enabled to state very rarely, measures of relief have been made the subject of local party conflict.

We had, in our instructions to the Inspectors, stated, in the following terms, our view of our own position and functions, in relation to the local proceedings and authorities :—

“ You will bear in mind, as a representative of the
 “ General Board, the general nature of its objects and
 “ position as collected from the tenor and spirit of the
 “ provisions of the Act, first as an agency for the re-
 “ moval of those evils in the repression of which the
 “ public at large have an interest; next as an authority
 “ of appeal and adjudication between rival or conflicting
 “ local interests; thirdly, as a security in the distri-
 “ bution of charges, for the protection of minorities
 “ and absentees against wasteful works, or undue
 “ charges in respect to them; and fourthly, as a means
 “ of communicating to each locality for its guidance, the
 “ principles deduced from the experience of all other
 “ places from which information may be obtainable.”

We have assumed that it was a primary duty to take care in the imposition of new charges, as far as we might have influence or power, that they were kept down to the lowest amount. In this view, we have had the expense of the labour and work analysed, and have consulted all available experience on the subject. Our Inspectors express their confidence in the practicability of draining and supplying water completely to two or even three towns at an expense, that four or five years ago would have been thought not objectionable for one.

Whilst the provisions for distributing charges over periods of time were absolutely requisite to future improvement, as means of overcoming the obstacles, and preventing the injustice of large immediate outlays for permanent works by persons who would probably derive no benefit whatsoever from them, we beg leave to repeat the exposition of our view of this principle, and the precautions requisite for carrying it out. The necessity of these precautions is further impressed upon us, by the claims of compensation, for worthless works and for interests, which ought never to have been allowed to be created. Out of 50 towns examined by the Commissioners of Inquiry into the means of improving the Health of Towns, they state in respect to works and expenditure for supplies of water, that in only six instances could the arrangements and the supplies be pronounced in any comprehensive sense good (and, consequently, the original expenditure efficient), whilst in 13 they appear to be indifferent, and in 32 so deficient as to be pronounced bad. Yet, for such works heavy compensations are generally claimed. The former expenditure on local works of town drainage, has been found to be, for the greater part, expenditure in worse than waste, in the creation of extended cesspools. Yet, for this past waste, and for the waste which we have reason to apprehend it will be shewn has been renewed even under recent Improvement Acts, there is no real responsibility. We have met with no examples, nor have we heard of any, of pecuniary responsibility, or a really effectual responsibility on the part of the numerous and fluctuating bodies of honorary members, that for the most part have had the management and control of such works as those in question.

If past local works of this description are objectionable on the ground of extravagance, when the expense is defrayed by immediate lessors or by lessors for short periods, what may not be expected from annual fluctuating and irresponsible bodies, if they were allowed free opportunities of shifting burthens from themselves upon absentees?

Improvement rates, or distributed charges being, in fact, mortgage charges, the representatives of occu-

piers, of tenants-at-will, and of persons who have only short interests are placed in an advantageous position when considered as persons who have life interests; who have never been allowed to mortgage the inheritance for improvements. By the statute of the 3 and 4 Victoria, to facilitate the drainage of settled estates, it was provided, that any tenant for life, or the owner of a settled estate who wishes to defray the expense of drainage by money raised upon mortgage, must apply by petition for permission to do so to the Court of Chancery. The Court referred the petition to a Master in Chancery, who called for plans and estimates, and such competent evidence and security, as to satisfy the Court that the works would be of sufficient benefit to the reversioner to justify the charge. By a recent statute the performance of this duty is charged on a special authority, the Enclosure Commissioners.

The Public Health Act provides, that the rates shall not be mortgaged without the consent of the General Board of Health. Considering the legislative provisions for the drainage of settled estates by the owners to be in *pari materia*, we propose to exercise on the same principles, discretionary powers vested in us for the due protection of the several interests involved in the works in question.

For the security then of the several interests involved, namely, for the security of absentees and reversioners, for the protection of minorities, for the prevention of the failure of the objects of the legislature by such unskilful, inefficient, or extravagantly expensive works as have been displayed by recent local examinations, and acting under a sense of the responsible relations above set forth, we propose to adopt as a principle to sanction the mortgage of rates, and the distribution of charges only on conditions such as the following:—

1st. That plans and estimates have been prepared in detail, and submitted for examination to an Inspector.

a. And upon his Report found to be deserving of approval;

b. As being of a nature to last, and of advantage equal to the value of the improvement rate during

the period of years over which the charge is distributed.

To secure this object, it is further proposed to provide as the ground of the consent to the payment of money upon mortgage:—

2ndly. That the works shall be executed upon contracts, on the following conditions:

a. That before they are covered up, or put in operation they shall be examined by the Inspector.

b. That they shall be further examined by him when in action, and be certified by him, to be in conformity to the plans and specifications, and to be of fair probable value, to justify the future annual improvement rates.

c. That they shall be maintained in good action by the contractor for a term of not less than five years.

It is to be observed that the securities we propose are not in substitution of any of such local securities against profuse expenditure as now exist, but are additional securities, supplementary to those local securities which almost every inquiry, and nearly the whole of the Reports on existing works, prove to have been insufficient. The rates of charges paid would be maximum rates. If the Local Boards could obtain the same objects by improved means, or at reduced charges, it would be their duty (and they will have full power) to do so. The selection of the contractors, and the decision upon the contracts will be entirely in their own hands. Whensoever any officers or members of any local Boards, devised improved methods of carrying out the works in question, it will be the duty of the Inspector to take note of them, for the advantage of other places.

Precautions against failures from ignorance and want of skill appear to be more needed, on account of the novelty and speciality of the works, than precautions against waste and failures from direct jobbing. Thus it has been set forth in respect to drainage works in the Report of the Metropolitan Sanitary Commissioners.

“The more the investigation advances, the more it is apparent that the progressive improvement and proper execution of this

class of public works, together with the appliances of hydraulic engineering, cannot be reasonably expected to be dealt with incidentally or collaterally to ordinary occupations, or even to connected professional pursuits, but require a degree of special study, which not only place them beyond the sphere of the discussion of popular administrative bodies, but beyond that of ordinary professional engineering and architectural practice.

“In justification of this conclusion, and to show the evil of the perverted application of names of high general professional authority we might adduce examples of the most defective works which have received their sanction.

“All the improvements which the public have yet obtained in this branch of public works have been the result of the special and undivided practical attention of well qualified paid officers, and it appears to us that further improvement must be sought by the same means, and that one of the chief objects of future administrative arrangements must be to secure, protect, and encourage the zealous undivided attention and efficient labour of such officers.”

In the local works which it is necessary to execute for the sanitary improvement of towns, it is to be recollected that an entirely new system of sewerage must be combined with a new system of house drainage, with a new system of water supply, and with a new system of removing and of applying the refuse of towns to agricultural production. All the improvements in these works are founded on the demonstration of actual trials and established precedents, but the instances are distant and widely scattered, and may be out of the reach of any one engineer or person whom the local authorities could employ, and to these authorities themselves they will generally be utterly unknown.

These difficulties have in several places been clearly perceived by the promoters of the measures of local improvement, who have explicitly stated, that unless the plans for the new works are designed by the Inspectors, there is but little chance of their being designed at all. They have, therefore, applied for their assistance in that stage.

For the security of the works, and the attainment of the objects in question, we are desirous that assistance should be given. In many cases, where the labour of the preliminary investigations have been performed by one officer, who has obtained a clear view of the works

required, and properly digested a plan of the most efficient and economical means of executing them. It would be a mere waste of time and expense, for which the locality must pay, to have the same labour performed a second time, where there is no reasonable chance of obtaining improvements, and a strong probability of engendering non-essential differences and expensive delays. We here refer to the execution of the general system of new works, under the superintendence of the Inspector, in concert with the Local Boards; the detailed superintendence must be given by the Local Surveyor, appointed by the Local Board, for whose competency securities are requisite.

From what has been already stated, as to the peculiar nature of the works to be executed, the reasons will be apparent which preclude the expectation of such works being well executed by Local Boards, consisting of numerous and fluctuating members, if the works be executed by them. It is moreover important that local responsibility, or such responsibility at least as may attach to honorary service, as the loss of credit for inefficient or wasteful expenditure, should not be weakened by being divided amongst a large number. It is a common request that the Local Board should not be made "too numerous."

The provisions of the Act for the elections of guardians for districts which are found to be within the same drainage area as municipal corporations, and for places in which there are no municipal corporations, are objected to as too complex and cumbrous, and multiplying direct elections unnecessarily, as endangering the measure by dividing and weakening any responsibility there may be amongst fluctuating elective bodies, by spreading it over large numbers. Amongst the great body of respectable ratepayers there is usually found also to be an aversion to the multiplication of the number of local elections.

It is frequently represented to us to be unnecessary to encumber a portion of an outlying district with the whole electoral machinery for electing, not the Local Board, but the minority of a Board, the muni-

cipal corporation being already elected. Where the addition made to the outlying district consists of one parish, or the greatest portion of a parish, it is submitted that a discretionary power may be beneficially exercised of constituting the elected Guardians for the time being members of the Local Board.

In several places the Inspectors have received objections as to the proposed composition of the Local Boards, and the necessity of alterations or additions. The common hypothesis of the constitution of the Local Boards and local representative bodies, is that they consist of persons having only common and general public interests; whereas the practical difficulty is to find persons having only such interests, and to secure their attendance and attention for carrying out such general public interests. Practically the closest attention is given by persons with particular, and too frequently adverse, interests. Practically it is found, sometimes, that the Boards, or the majority of them, are comprised of occupiers into whose hands may fall the uncontrolled direction of works which affect their own charges, and of works which affect the properties and opposing interests of owners. In many instances, however, it is found that, in the Local Boards, the interests of the owners of the lowest class of houses, which, as we have seen, most require interference, frequently predominate, and willing co-operation may not be expected through them. In several instances, individuals of predominant local influence, interested in manufactures or processes which are nuisances that affect injuriously the health of the population, have declared that if the Public Health Act were applied, it should be a dead letter. In some instances the smaller owners have announced their intention to get themselves elected to frustrate the operation of the Act. Where the owners of a higher class of property prevail at such a Board, the measures adopted for the enforcement of regulations such as the ejection of the occupiers of cellar dwellings must wear the aspect of the exercise of power by persons of rival interests. Where the new works required are really improvements—as

those contemplated must be, often immediately and visibly, and always eventually, if properly managed, improvements of the property—the owners of one class may be expected not to be zealous in carrying out improvements of rival properties.

Considering the provisions made for the satisfaction of the rate-payers with the application of the Act, we should hesitate to recommend the enforcement of its provisions against the general and deliberate wishes of the inhabitants of any town, when the intended measures were placed fully and fairly before them. But in the face of proved facts of preventible evils under which the great bulk of the population of a town may be suffering, we should be cautious in accepting as the real expression of opinion, declarations against remedies, unless under scrutinies and precautions, such as experience has suggested in relation to the guises assumed by such interests as those above indicated. We should not accept as expositions of the aversion of “the people,” or of the unwillingness of the town, declarations which we know to be got up on ignorant or false representations by the owners of the worst conditioned tenements, in respect to which it may be requisite to adopt compulsory measures, or by local functionaries whose powers it may be necessary to supersede; or by one local party in the mere spirit of opposition against the measure which may happen to have been initiated by persons belonging to another, or to no local party whatsoever.

Unless provision be made for the free and fair action of the more wide and general interests, the causes of disturbed action, which are above indicated, must have their effect. We submit that special provision may be made for laying out the first works, which will not be requisite when the works are completed.

Some of the best supporters of the measures of local improvement in question are the larger owners, whose interests, indeed, are the most permanent, and when closely and strictly examined, are found to be in respect to the proposed works, most in coincidence with those of the poorest class of occupiers. From

some places, proposals have been made that the works should be executed by local Commissions, with enlarged powers, on which this class of owners might be named, or in which a selection might be made from the *ex-officio* Guardians.

From promoters of the application of the Act, who will probably be elected on the Local Boards, we have received representations of the expediency of strong compulsory powers as a means of protecting themselves against the reclamations and active opposition of such adverse parties as those which we have indicated.

We have endeavoured to display the disturbing forces by which the application of the principles and measures sanctioned by the Legislature may be obstructed. We shall proceed, however, with their application, trusting for immediate support from the influence of public opinion, but relying on compulsory powers being given adequate to their enforcement, if it should be found indispensable to the due protection of the poorest and most helpless classes of the population.

Of the future local works which require to be provided for, the sources of water-supply have hitherto presented the greatest difficulties in fixing at once, in every instance, on that source which could confidently be pronounced to be the best.

Hitherto, the more common practice has been, to take as the source of the water-supply, the nearest river, or stream, or collection of water, without much regard to its quality; to erect pumping-engines, and to drive mains through the middle of streets, leaving each occupier to erect tanks, house, or service pipes, and to connect them with the main before laid down.

The general character of the specimens of waters taken from the rivers near to the towns recently examined, has exhibited an excess of hardness and an excess of animal and vegetable, as well as mineral matter in suspension, in chemical solution, or in combination.

River waters may be said to be derived either from deep springs, and subjected therefore to mineral impregnations, or from surface flood water, bringing down

chiefly, animal and vegetable matter, but less of mineral matter.

For the avoidance of the inconvenience and loss, occasioned by river waters of high degrees of hardness, a practice has of late been widely introduced, of taking supplies from surface flood waters. An extent of favourable land is taken as gathering ground, the surface water caught and stored in reservoirs, and from thence distributed to the town. It is considered, that of the usual rainfall, one-third will be available for distribution. Therefore on the accustomed estimated supply of 100 gallons per diem for each house (which is an estimate on an average of houses including inns, breweries, &c.), the quantity of gathering ground requisite for a town of 2,000 houses, supposing the fall to be 30 inches,* will be under 300 acres, or a square mile will suffice as gathering-ground for upwards of 22,000 of population; an acre for the annual supply of about 35 inhabitants.

This mode has chiefly been resorted to, for the supply of the northern towns; the new supplies for Manchester and Liverpool are chiefly derived from surface waters gathered from hilly grounds, of strata of the secondary formations: that for Manchester at 12 miles distance, that for Liverpool at 25 miles distance from the town; the river water near both towns being found to be utterly unsuitable.

Manufacturers who are interested in obtaining soft water, or water with the least mineral impregnations, generally obtain it by the collection of surface waters. But the surface water which has passed through a permeable bed of earth constituting a filter to detain the

* It is reported to us, that the quantity lost by evaporation, vegetation, springs, &c., is almost constant, and will range from 15 to 17 inches annual superficial depth. From a rain-fall of 60 inches, as in the higher parts of Yorkshire, Westmoreland, Derbyshire, and Cheshire; at least 40 inches would be impounded and available. In Bradford, Leeds, Sheffield, and towns similarly situated, where the rain-fall would not exceed 35 inches, we should obtain 15 certain. In Norfolk, Cambridge, Suffolk, &c., with an annual rain-fall of only 24 or 25 inches, not more than 9 inches would be obtained for supply.

animal and vegetable matters, which would have been collected and carried away by the ordinary surface flood water, and is discharged by the drains used for thorough drainage has hitherto been found to be the least impregnated with mineral or animal matter of any water that does not fall on the bare primitive rock. Such water so filtered, is in fact a shallow spring water. The specimens obtained from different districts, and different strata of earth, have hitherto been considerably softer, from one-half to one-third the degrees of hardness of the adjacent river water.

The increased expense, and the domestic inconveniences arising from the quality of hardness in waters, have been fully illustrated in the Reports of the Commissioners of Inquiry into the means of improving the Health of Towns. See in particular the Report of Dr. Lyon Playfair.

Though no provision of the kind is made or commonly practicable in respect to ordinary flood water, which is derived from every surface whether manured or not, yet it is usually contemplated that in respect to the shallow spring water supplies, arrangements might be made for diverting the water derived from any portion of land whilst under dressings of manure.

The most eligible source for the collection either of surface flood water, or of shallow spring or land drainage water, has hitherto required more extensive researches, analyses, and consideration, than under the pressure of numerous and urgent applications, and manifest necessities of measures of immediate relief, it has been practicable for the Superintending Inspectors to give.

In some instances it may be expected that the qualities of the available sources of supply, will only be ascertained after land drainage works have been some time in operation. The immediate necessities of the population will require, temporarily, immediate available river supplies.

In several cases the search and examinations for the best available supplies may be proceeded with, whilst the works for improved drainage and cleansing, and

much of the minor works for interior water distribution are in progress.

It is therefore proposed that power should be given, on the report of the Superintending Inspector, and with the consent of the Local Board, and with proper notices to parties, and compensations, to make provision for the purchase of the rights to waters derived from land drainage or shallow springs, with powers to prevent pollutions, and also to purchase new gathering grounds.

The Inspectors have been required to give their most careful attention to provisions for the prevention of the pollution of rivers, and for the application of the refuse of the town to agricultural productions.

They generally find no engineering difficulties; and in the case of several towns, have reported important facilities for the application of sewer-water on land adjacent to the town.

To what extent such refuse may be taken by farmers near to the towns can only be ascertained after the completion of the arrangements for distribution. *A priori* reasonings from the known fertilizing powers of the manure, and the apparent interests of the farmers to use it, are not invariably to be depended upon. It must indeed be borne in mind, that few of the farmers have witnessed the results of the systematic application of liquid manures. Moreover, much land requires draining for the most successful application of manures in any form, but especially for application in the liquid form. In several towns, however, farmers have come forward and expressed their readiness to receive and pay a fair price for the sewer manure as soon as the new works are completed.

For many places the most eligible course of proceeding appears to be to apply waste or unenclosed commons to the purpose. Many of these are peculiarly eligible for such applications, as being the least productive lands under the ordinary modes of cultivation. For the adaptation of such land the procedure of the commons' enclosure would be requisite. When en-

72 Eligible Fields for the productive application of Refus

closed it is recommended to drain it, and lay down upon it pipes for the distribution of the sewer manure, and then to relet it, prepared for cultivation, with the right to the supply of the manure, on lease, or on such terms as may be eligible, and to apply the surplus after the payment of compensations for common rights and of expenses, to the sanitary improvement of the town in such manner as may be approved

The examples of productiveness obtainable under a competent agricultural direction from an abundant use of the town manures, could not fail of exercising a beneficial influence on the surrounding agriculture of the district.

Such works should be carried out upon approved plans by the local surveyor, under the superintendence of the Inspector.

We would again express our regret, that more has not been accomplished in carrying out the intentions of the Legislature, both with respect to measures of temporary alleviation and works of permanent improvement; but with reference to the measures of alleviation, we believe that, imperfect as those measures may have been, they have yet in numerous instances been the means of preventing and arresting disease, and of saving life; and with reference to the permanent works, that the foundation has been laid for progressive sanitary amendment.

All which we humbly certify to Your Majesty.

(Signed)

CARLISLE.

ASHLEY.

EDWIN CHADWICK.

T. SOUTHWOOD SMITH.

L. S.

APPENDIX.

I. PROCLAMATION BY THE PRIVY COUNCIL, PUTTING IN FORCE THE CONTAGIOUS DISEASES AND NUISANCES REMOVAL ACT.

*At the Council Chamber, Whitehall,
The 28th day of September, 1848.*

By the Lords of Her Majesty's most Honourable Privy
Council.

WHEREAS by an Act passed in the last session of Parliament, intituled "An Act to review and amend an Act of the tenth year of Her present Majesty for the more speedy Removal of certain Nuisances, and the Prevention of Contagious and Epidemic Diseases," after reciting that it is expedient that when any part of the United Kingdom shall appear to be threatened with or affected by any formidable epidemic, endemic, or contagious disease, measures of precaution should be taken with promptitude according to the exigency of the case, it is enacted that in Great Britain the Lords and others of Her Majesty's most Honourable Privy Council, or any three or more of them (the Lord President of the Council, or one of Her Majesty's Principal Secretaries of State being one), may by order or orders to be by them from time to time made, direct that the provisions in the said Act contained for the prevention of epidemic, endemic, and contagious diseases be put in force in Great Britain, or in such parts thereof or in such places therein respectively as in such order or orders respectively may be expressed, and may from time to time as to all or any of the parts or places to which any such order or orders may extend, and in like manner, revoke or renew any such order; and, subject to revocation and renewal as aforesaid, every such order shall be in force six calendar months, or for such shorter period as in such order shall be expressed:

And whereas the United Kingdom appears to be threatened with a formidable epidemic disease, in consequence of the progressive advance of such a disease to the western portion of the Continent of Europe, and a case has arisen for putting in force the provisions of the said Act; Now, therefore, it is hereby ordered by the Lords and others of Her Majesty's most Honourable Privy Council (of whom the Right Honourable Vis-

count Palmerston, one of Her Majesty's Principal Secretaries of State, is one), in pursuance and exercise of the powers so vested in them as aforesaid, that the provisions contained in the said hereinbefore recited Act for the prevention of epidemic, endemic, and contagious diseases, be put in force throughout the whole of Great Britain immediately from and after the date of this Order.

And it is further ordered, that this Order shall continue in force for Six Calendar Months from and after the date hereof.

C. GREVILLE.

II. FIRST NOTIFICATION : IN RESPECT TO THE NUISANCES REMOVAL AND CONTAGIOUS DISEASES PREVENTION ACT.

*General Board of Health, Gwydyr House,
October 5, 1848.*

THE General Board of Health having considered the official accounts which have been received of the course of Asiatic Cholera since the presentation of the Reports of the Metropolitan Sanitary Commissioners, and having consulted medical practitioners of eminence and of special knowledge of the subject, and having compared the tenor of those recent accounts with the observations made respecting the former mode of the propagation of Asiatic Cholera in Europe, have now to represent—

That the experience obtained of this disease during its former invasions of this country in the years one thousand eight hundred and thirty-one and one thousand eight hundred and thirty-two, and the still larger experience acquired during its recent progress through Persia, Egypt, Syria, Russia, Poland, and Prussia, appears to afford ground for the correction of some views formerly entertained concerning it, which have an important bearing on the measures, both of prevention and alleviation, that are expedient to be adopted.

The extent, uniform tenor, and undoubted authority of the evidence obtained from observers of all classes, in different countries and climates, and amidst all varieties of the physical, political, and social conditions of the people, appear to discredit the once prevalent opinion that cholera is in itself contagious; an opinion which, if fallacious, must be mischievous, since it diverts attention from the true source of danger, and the real means of protection, and fixes it on those which are imaginary; creates panic; leads to the neglect and abandonment of the sick; occasions great expense for what is worse than useless; and withdraws attention from that brief but important interval between the commencement and the development of the disease, during which remedial measures are most effective in its cure.

Although it is so far true that certain conditions may favour

its spread from person to person, as when great numbers of the sick are crowded together in close, unventilated apartments, yet this is not to be considered as affecting the general principle of its non-contagious nature ; nor are such conditions likely to occur in this country ; moreover, the preventive measures founded on the theory of contagion, namely, internal quarantine regulations, sanitary cordons, and the isolation of the sick, on which formerly the strongest reliance was placed, have been recently abandoned in all countries where cholera has appeared, from the general experience of their inefficiency.

The evidence also proves, that cholera almost always affords, by premonitory symptoms, warning of its approach, in time for the employment of means capable of arresting its progress. If, indeed, in certain situations, as where there is an unusual concentration of the poison, or in certain individuals who are peculiarly predisposed to the disease, the attack may appear sometimes to be instantaneous, still the general conclusions, that cholera is not in itself contagious, and that it commonly gives distinct warning of its approach, are two great facts well calculated to divest this disease of its chief terrors, and to show the paramount importance of the means of prevention, so much more certain than those of cure.

The proved identity of the causes which promote the origin and spread of epidemic diseases in general, with those that favour the introduction and spread of Asiatic Cholera, appear to indicate the true measures of precaution and prevention against a pestilence which, after an absence of sixteen years, and at a season when other formidable epidemic diseases are unusually prevalent and deadly, menaces a third visitation ; and the General Board of Health would appeal to all classes for their cordial co-operation in carrying into effect the measures which careful consideration has led them to recommend, in the full conviction that the powers given by the Legislature for this purpose, though they may not be fully adequate, and though the time to use them may be short, cannot fail, with such co-operation to be attended with highly beneficial results.

With a view of carrying into operation all available means of precaution against the impending danger, the General Board of Health recommends, that the Guardians of the Poor in England and Wales, and the Parochial Boards for the management of the Poor in Scotland, and their officers, should hold themselves in readiness to execute such directions as the General Board of Health may see fit to issue from time to time, under the provisions of the Act of the 11th and 12th Vict. c. 123, entitled "An Act to renew and amend an Act of the tenth year of Her present Majesty, for the more speedy removal of certain Nuisances and the prevention of Contagious and Epidemic Diseases."

The Guardians of the Poor and the Parochial Boards will probably be required, either by themselves individually or by persons employed or to be specially appointed by them for the purpose, to make examinations from house to house of their several districts, and report to their Boards upon the state of each locality as far as regards the prevalent sickness, and the removable causes upon which it may appear to depend. These visitations from house to house will be especially required in the dangerous districts; and it is to be kept in view, that every district or place is dangerous in which typhus and other epidemic diseases have regularly occurred.

The Boards of Guardians and Parochial Boards will have to put in force, whenever it may appear to be required, those provisions of the Act that relate to nuisances.

Great benefit having been derived from the cleansings that were resorted to on the former visitation of Cholera, and experience having shown that preventive measures against Cholera are also preventive against typhus and other epidemic and endemic diseases, the Boards of Guardians should carry into immediate effect all practical measures of external and internal cleansing of dwellings in the ill-conditioned districts.

The chief predisposing causes of every epidemic, and especially of Cholera, are damp, moisture, filth, animal and vegetable matters in a state of decomposition, and, in general, whatever produces atmospheric impurity; all of which have the effect of lowering the health and vigour of the system, and of increasing the susceptibility to disease, particularly among the young, the aged, and the feeble.

The attacks of Cholera are uniformly found to be most frequent and virulent in low-lying districts, on the banks of rivers, in the neighbourhood of sewer mouths, and wherever there are large collections of refuse, particularly amidst human dwellings. In a recent Proclamation, issued for the protection of the population of the Russian empire, the important influence of these and similar causes has been recognized, and the practical recommendations founded thereon are "to keep the person and the dwelling place clean, to allow of no sinks close to the house, to admit of no poultry or animals within the house, to keep every apartment as airy as possible by ventilation, and to prevent crowding wherever there are sick."

Householders of all classes should be warned, that their first means of safety lies in the removal of dung-heaps and solid and liquid filth of every description from beneath or about their houses and premises. Though persons long familiarized to the presence of such refuse may not perceive its offensiveness, nor believe in its noxious properties, yet all who desire to secure themselves from danger should labour for the entire removal of filth and the thorough cleansing of their premises; which

also the law will require of each person for the protection of his neighbours, as well as for his own safety.

Next to the perfect cleansing of the premises, dryness ought to be carefully promoted, which will of course require the keeping up of sufficient fires, particularly in damp and unhealthy districts, where this means should be resorted to for the sake of ventilation as well as of warmth and dryness.

From information recently obtained from Russia, it appears that in some barracks, and in other places in which large numbers of people are congregated, where these conditions have been attended to in a manner that may be equally practised in private houses, there has been a comparative immunity from the prevailing epidemic, exactly as in this country, where, in public institutions, though as yet by no means perfect in the means of ventilation, there has been an almost entire exemption from epidemics which have ravaged private houses in the very same districts.

But while a certain amount of cleansing can be effected by every householder, each in his own premises, the means of thoroughly purifying the densely populated districts are beyond the power of private individuals.

Accordingly, by the recent Act, 11 & 12 Vict. c. 123, s. 1, in cases of inability, insufficiency, or neglect, the law has charged the cleansing operations upon certain public bodies, namely, "the Town Councils, or any Trustees or Commissioners for the drainage, paving, lighting, or cleansing, or managing, or directing the police, or any other body of a like nature, or any Commissioners of Sewers, or Guardians of the Poor."

By this Act it is provided, that upon notice in writing, signed by two or more inhabitant householders, that any dwelling-house or building is in a filthy and unwholesome condition, or that there are upon such premises any foul and offensive cesspool, drain, gutter, or ditch, or any accumulations of filth, or that swine are so kept as to be a nuisance or injurious to health, the authorities shall examine or cause the premises to be examined; and if upon examination, or upon a medical certificate of two legally qualified practitioners, it appears that the nuisance exists, the public authority shall make complaint before two justices, who are required to make order for the removal of such nuisance. The amended provisions contained in this Act should be early considered, promulgated, and enforced, especially those for the proper cleansing of open and foul ditches near habitations, by the labourers under the direction of Surveyors or Trustees of Highways.

The Union Medical Officers, whose duties take them to the relief of the destitute sick, are necessarily familiar with the places in which disease is most prevalent and fatal, and these

are invariably found to be the dirtiest localities, where, consequently, the cleansing operations are most required; and the Nuisances Removal Act imposes upon the Guardians the duty of directing and enforcing the proper performance of these operations.

In several districts the police, in going their usual rounds, have been employed with great advantage in reporting daily as to the houses, courts, alleys, passages, and streets within their district most in need of cleansing, as to the carelessness or neglect of the scavengers in the performance of their duties, and as to the existence of nuisances of various kinds. The Boards of Guardians, or Special Committees formed out of their body, are therefore recommended to associate themselves with Special Committees of Town Councils, who, by their Watch Committees, have the control of the police, and to engage for these purposes the valuable services of this force.

Highly important services have been rendered by the parochial clergy and other ministers of religion, in association with lay committees, for the purpose of maintaining a system of house-to-house visitation in the more depressed districts; and, wherever it is practicable, the Boards of Guardians are recommended to associate with a special committee of their own number (who for the time may be exempted from ordinary duties) the clergy of the respective parishes, and the ministers of other religious denominations, and to call upon the medical and other union officers to give their aid to this committee.

It is conceived that such Parochial Special Committee would, among other useful purposes, be peculiarly serviceable in communicating information to the poorer classes as to the particular means of prevention within their reach, and as to the urgent necessity, at this season, of personal and household cleanliness, of ventilation, and of a careful and temperate mode of living.

By the Contagious Diseases Prevention Act, the General Board of Health is required to frame rules and regulations to assist and direct the Guardians of the Poor and other local authorities in the performance of the special duties imposed upon them whenever the country is visited or threatened by any formidable epidemic or contagious disease; and accordingly the Board has lost no time in putting itself in communication with the Poor Law Commissioners, with the view of taking all practical precautions against the scourge which is so steadily approaching our shores; and the Board is now engaged in preparing regulations for the more public and general measures of prevention and alleviation, which will be issued and put in execution in the several districts as soon as their particular condition shall have been ascertained.

In the mean time, if notwithstanding every precautionary measure which can be taken, this disease should unhappily

break out in any district, then it will be essential to the safety of the inhabitants that they should be fully impressed with the importance of paying instant attention to the premonitory symptom that announces the commencement of the attack.

This premonitory symptom is looseness of the bowels, which there is reason to regard as universally preceding the setting in of the more dangerous state of the disease. Sometimes, indeed, under the circumstances already described, namely, where the poison exists in unusual intensity, or the constitutional predisposition is unusually great, the first stage may appear to be suppressed, as occasionally happens in violent attacks of other diseases; but in Cholera this event is so rare as to be practically of no account; and in all countries, and under all varieties of conditions in which this disease has been epidemic, the experience as to this point uniformly agrees with what is observed at the present moment at Hamburg.

“In most cases,” writes the British Consul, respecting the epidemic which has just broken out in that city, “the disease has first manifested itself in a slight relaxation of the bowels, which, if promptly attended to, the patient generally recovers; but if the symptoms are neglected, spasmodic attacks ensue, and death follows mostly in from four to six hours.

This looseness of the bowels may be accompanied with some degree of pain, which, however, is generally slight; but in many cases pain is wholly absent; and for some hours, and even days, this bowel-complaint may be so slight as to appear trifling; so that, without a previous knowledge of the importance of the warning, it might easily escape notice altogether.

It must be repeated, however, that whenever Asiatic Cholera is epidemic, the slightest degree of looseness of the bowels ought to be regarded and treated as the commencement of the disease, which at this stage is capable of being arrested by simple means; but, if neglected only for a few hours, may suddenly assume a fatal form.

It will be indispensable, therefore, on the first outbreak of Cholera, that the local authorities should immediately make arrangements for daily house-to-house inspections of the poorer localities in their respective districts; this being the only practical means by which, in the most dangerous situations, and among the most susceptible subjects, the existence of the premonitory symptom can be ascertained in time to administer the proper remedies, so as to arrest the progress of the disorder.

Heads of families, masters of schools and workhouses, proprietors of large establishments and works, such as factories, mines, warehouses, wharfs and docks, should either be their own inspectors, or employ some trustworthy agent to examine daily every person in their employment, and to give at once

the proper remedy, if the premonitory symptom should be present.

Each member of the Visiting Committee should be provided with proper remedies, prepared in appropriate doses for administration on the spot, in every instance in which the premonitory symptom is found to exist; and should report every person so treated as requiring the instant attention of the medical officer.

Dispensaries for bowel-complaints should be established at convenient stations, at which the neighbouring inhabitants may apply for the proper remedies and advice the moment they are attacked by the premonitory symptom.

Experience having shown that the establishment of Cholera hospitals was not successful, the best provision practicable must be made for affording assistance to the individuals who may need it at their own houses; and one of the best modes of effecting this object will probably be the selection of proper persons who may be instructed as nurses in the special services required on this occasion, and paid for devoting their whole time to attendance on the sick at their own habitations, under the direction of the medical officers.

It will also be necessary to engage a sufficient number of medical officers at suitable remuneration, some to devote their whole time by day and night to the service of the dispensaries, and others to attend the sick at their own dwellings.

As, however, cases may occur of extreme destitution in neighbourhoods and houses wholly unfit for the curative treatment of the sick, provision should be made for the reception of such cases, either in the common hospitals, in the union houses, or in separate apartments specially prepared for the purpose, and properly warmed and ventilated.

Medical authorities are agreed that the remedies proper for the premonitory symptom are the same as those found efficacious in common diarrhoea; that the most simple remedies will suffice, if given on the first manifestation of this symptom; and that the following, which are within the reach and management of every one, may be regarded as among the most useful, namely, twenty grains of opiate confection, mixed with two table-spoonfuls of peppermint-water, or with a little weak brandy and water and repeated every three or four hours, or oftener, if the attack is severe, until the looseness of the bowels is stopped; or an ounce of the compound chalk mixture, with ten or fifteen grains of the aromatic confection, and from five to ten drops of laudanum, repeated in the same manner. From half a drachm to a drachm of tincture of catechu may be added to this last, if the attack is severe.

Half these quantities should be given to young persons under fifteen, and still smaller doses to infants.

It is recommended to repeat these remedies night and morning, for some days after the looseness of the bowels has been stopped. But, in all cases, it is desirable, whenever practicable, that even in this earliest stage of the disorder, recourse should be had to medical advice on the spot.

Next in importance to the immediate employment of such remedies is attention to proper diet and clothing. Whenever Asiatic Cholera is epidemic, there is invariably found among great numbers of the inhabitants an extraordinary tendency to irritation of the bowels; and this fact suggests, that every article of food which is known to favour a relaxed state of the bowels should, as far as possible, be avoided—such as every variety of green vegetable, whether cooked or not, as cucumber and salad. It will be important also to abstain from fruit of all kinds, though ripe and even cooked, and whether dried or preserved. The most wholesome articles of vegetable diet are—well-baked, but not new, bread, rice, oatmeal, and good potatoes. Pickles should be avoided. Articles of food and drink which, in ordinary seasons, are generally wholesome, and agree well with the individual constitution, may under this unusual condition, prove highly dangerous. The diet should be solid rather than fluid; and those who have the means of choosing, should live principally on animal food, as affording the most concentrated and invigorating diet; avoiding salted and smoked meats, pork, salted and shell-fish, cider, perry, ginger-beer, lemonade, acid liquors of all descriptions, and ardent spirits. Great moderation, both in food and drink, is absolutely essential to safety, DURING THE WHOLE DURATION OF THE EPIDEMIC PERIOD. One single act of indiscretion has, in many instances, been followed by a speedy and fatal attack. The intervals between the meals should not be long; Cholera being uniformly found to prevail with extraordinary intensity among the classes that observe the protracted fasts common in Eastern and some European countries.

The practical importance of these cautions might be illustrated by striking examples. Dr. Adair Crawford states, that in Russia the most intense of all the attacks were those that followed a hearty meal, taken immediately after a protracted fast. In our own country, during its former visitation, the most frequent and deadly attacks were observed to be those that took place in the middle of the night, a few hours after a heavy supper. The three fatal cases that have just occurred to sailors who had been at Hamburgh, and who were brought sick to Hull, turned out on inquiry to have followed very shortly after the men had eaten a large quantity of plums, and had drunk freely of sour beer; and the two still more recent fatal cases on board the ship “*Volant*,” of Sunderland, both occurred in drunkards, who persisted in the practice of intoxication,

notwithstanding the earnest warnings that were given them against the dangers of intemperance.

On account of the intimate connexion between the external skin and the internal lining membrane of the bowels, warm clothing is of great importance. The wearing of flannel next the skin is therefore advisable. Recent experience on the Continent seems to show, that it was useful to wear in the day-time a flannel bandage round the body, and this may become necessary in our own country during the damp and cold weather of the approaching season.

Particular attention should be paid to keeping the feet warm and dry; changing the clothes immediately after exposure to wet; and maintaining the sitting and bed-rooms well aired, dry, and warm.

It may be necessary to add a caution against the use of cold purgative medicines, such as salts, particularly Glauber salts, Epsom salts, and Seidlitz powders, which taken *in any quantity*, in such a season, are dangerous. Drastic purgatives of all kinds should be avoided, such as senna, colocynth, and aloes, except under special medical direction.

If, notwithstanding these precautionary measures, a person is seized suddenly with cold, giddiness, nausea, vomiting, and cramps, under circumstances in which instant medical assistance cannot be procured, the concurrent testimony of the most experienced medical authority shows that the proper course is to get as soon as possible into a warm bed; to apply warmth by means of heated flannel, or bottles filled with hot water, or bags of heated camomile flowers, sand, bran, or salt, to the feet and along the spine; to have the extremities diligently rubbed; to apply a large poultice of mustard and vinegar over the region of the stomach, keeping it on fifteen or twenty minutes; and to take every half hour a tea-spoonful of sal volatile in a little hot water, or a dessert spoonful of brandy in a little hot water, or a wine-glass of hot wine whey, made by pouring a wine-glass of sherry into a tumbler of hot milk: in a word, to do everything practicable to procure a warm, general perspiration until the arrival of the medical attendant, whose immediate care, under such circumstances, is indispensable.

It has not been deemed necessary or proper to give instructions for the treatment of the advanced stage, from the confident expectation that the proposed arrangements will supply medical attendance to all cases that may reach that condition, by which means the specific symptoms of each individual case will receive their appropriate treatment.

Though the season of danger may demand some extraordinary exertion and sacrifice on the part of all classes, yet this period will probably not be protracted, since, on the former visitation of cholera, it seldom remained in any place which it attacked

longer than a few months, and rarely more than a few weeks; while it may be reasonably expected that the improvements effected with a view to check its progress will be equally efficacious in shortening its duration; and that these improvements will not be temporary like the occasion that called for them, but will be attended with lasting benefit.

In conclusion, the General Board of Health would again urge the consideration, that whatever is preventive of cholera is equally preventive of typhus and of every other epidemic and constantly recurring disease; and would earnestly call the attention of all classes to the striking and consoling fact that, formidable as this malady is in its intense form and developed stage, there is no disease against which it is in our power to take such effectual precaution, both as collective communities and private individuals, by vigilant attention to it in its first or premonitory stage, and by the removal of those agencies which are known to promote the spread of all epidemic diseases. Though, therefore, the issues of events are not in our hands, there is ground for hope and even confidence in the sustained and resolute employment of the means of protection which experience and science have now placed within our reach.

By order of the General Board of Health,

HENRY AUSTIN, *Secretary.*

III. REGULATIONS OF THE GENERAL BOARD OF HEALTH.

To the Guardians of the Poor of the several Unions and Parishes named in the Schedules hereunto annexed;

To the Councils and other Governing Bodies of Cities and Boroughs, Commissioners under Local Acts, the Surveyors of Highways, their Deputies and Assistants, the Trustees, County Surveyors and others, by Law intrusted with the Care and Management of the Streets and Public Ways and Places within the said Unions and Parishes;

To the Owner and Occupiers of Houses, Dwellings, Churches, Buildings, and Places of Assembly within the said Unions and Parishes, and others having the Care and Ordering thereof;

And to all to whom it may concern.

WHEREAS by the provisions of the "Nuisances Removal and Diseases Prevention Act, 1848," for the prevention of epidemic, endemic, and contagious diseases, and by virtue of an order of the Lords of Her Majesty's Most Honourable Privy Council, bearing date the 28th day of September, 1848, directing that

the said provisions of the said Act be put in force throughout the whole of Great Britain, We, the General Board of Health, are authorized to issue such directions and regulations as the said Board shall think fit for the prevention (as far as possible) or mitigation of epidemic, endemic, or contagious diseases; and whereas by the said Act it is provided that the directions and regulations to be issued as aforesaid shall extend to all parts or places in which the said provisions of the said Act shall for the time being be in force, under the order of Her Majesty's Privy Council, unless such directions or regulations shall be expressly confined to some of such parts or places, and then to such parts or places as in such directions and regulations shall be specified.

Now in exercise of the authority vested in us as aforesaid, we, the General Board of Health, do issue the directions and regulations hereinafter contained, to extend to all parts and places within the several unions and parishes named in the schedules hereunto annexed, and to all extra-parochial places adjoining to such unions and parishes, viz. :—

I. We direct that all councils and other governing bodies of cities and boroughs, commissioners under local acts, surveyors, and district or assistant surveyors of highways, trustees, county surveyors, and others, by law intrusted with the cure and management of the streets, and public ways, and places within the parts or places to which these directions and regulations extend, shall once at least in every twenty-four hours effectually cleanse all such of the streets, rows, lanes, mews, courts, alleys, and passages, and public ways and places, under their respective care and management, as by the medical officer of the guardians, or others authorized to superintend the execution of this direction and regulation, shall be certified in writing to be in a state dangerous to health, or to require frequent and effectual cleansing by way of precaution against disease, and shall remove all filth, ordure, and nuisances therefrom.

II. And where any such streets, rows, lanes, mews, courts, alleys, and any passages, public ways, or places, to which any houses or tenements adjoin, which have not been intrusted by law to the care or management of any council, commissioners, surveyors, trustees, or others, have been certified in writing, by such medical officer as aforesaid, to be in a state dangerous to health, or to require such frequent and effectual cleansing, we direct that every occupier of a house or tenement so adjoining shall keep or cause to be kept sufficiently cleansed, at least once in every twenty-four hours, such part of the street, row, lane, mews, court, alley, or passage, way, or place as adjoins the house or tenement occupied by him.

And we direct that all such works of cleansing and removal of filth, ordure, and nuisances as are required by these directions

and regulations shall be done in such manner by effectual washing or otherwise, and with the use of such fluids or substances for preventing the escape of noxious effluvia during the operation as the medical officer of the guardians or others authorized to superintend the execution of these directions and regulations shall think necessary and shall direct.

III. We do hereby authorize and require the guardians of the said unions and parishes, by themselves or by their officers or persons employed under them in the administration of the laws for the relief of the poor, or by officers or persons specially appointed in this behalf, to superintend and see to the execution of the foregoing directions and regulations within their respective unions and parishes, and in any extra-parochial places adjoining thereto respectively.

IV. And, further, where it shall appear that by want or neglect of the council of any city, or borough, commissioners, surveyors, trustees, or others intrusted with the care and management as aforesaid, or by reason of poverty of the occupiers or otherwise, there may be any default or delay in the cleansing of or removing nuisances from any street, row, lane, mews, court, alley, passage, or public way, or place certified as aforesaid, within any of the said unions and parishes, or any extra-parochial place adjoining thereto, we authorize and require the guardians of such union or parish to cause such street, row, lane, mews, court, alley, passage, way, or place to be effectually cleansed, and all nuisances to be removed therefrom, and to do all acts, matters, and things necessary for that purpose.

V. We also direct as follows:—

That,

When and so often as any dwelling-house in any part or place to which these directions and regulations extend is in such a filthy and unwholesome condition as to be a nuisance to, or injurious to the health of any person; or

Where upon any premises, or any part or place as aforesaid, there is any foul and offensive drain, ditch, gutter, privy, cesspool or ashpit, or any drain, ditch, gutter, privy, cesspool or ashpit, kept or constructed so as to be a nuisance to or injurious to the health of any person; or

Where upon any such premises swine or any accumulation of dung, manure, offal, filth, refuse, or other matter or thing is kept so as to be a nuisance to or injurious to the health of any person; or

Where upon any such premises (being a building used wholly or in part as a dwelling-house), or being premises underneath any such building, any animal is kept so as to be a nuisance or injurious to the health of any person;

In each of the above-recited cases the owner or occupier, and persons having the care or ordering of such dwelling-house,

or of the premises where the nuisance or matter injurious to health may be, shall cleanse, whitewash, or otherwise purify, as the case may require, such dwelling-house or building; or abate or remove the nuisance or matter injurious to health as aforesaid; with all reasonable speed after the publication of these our directions and regulations, or after the nuisance or matter injurious to health shall have arisen.

VI. In case, by reason of poverty or otherwise, the occupier of any such dwelling-house or premises is unable to perform any works required by these directions or regulations, such occupier shall give notice of such his inability to the guardians of the union or parish comprising the place wherein the premises shall be situated.

VII. We authorize and require the guardians aforesaid, by themselves or by officers by them authorized in this behalf,

To see to the execution of the directions hereinbefore contained for the cleansing and purifying of dwelling-houses, and for the abatement and removal of nuisances and matters injurious to health, in every case in which there shall not be a council or other governing body of a city or borough, or commissioners having jurisdiction for the removal of nuisances, or where such council, governing body, or commissioners shall not cause to be effectually executed such directions; and for that purpose

To visit, from time to time, or cause to be visited, the several dwellings and places where there may be ground for believing that necessity will arise for executing such directions.

VIII. And in every case in which, from the poverty of occupiers or otherwise, there may be default or delay in the cleansing or purifying of any such dwelling-house, or in the abatement or removal of any such nuisance or matter injurious to health, and the medical officer, or other person duly authorized as aforesaid, shall certify that the same requires immediate attention,

We authorize and require such guardians to cause such dwelling-houses to be cleansed and purified, and such drain, ditch, watercourse, or gutter, to be frequently and effectually cleansed, and such nuisance or matter injurious to health to be abated and removed respectively, and to do all acts and provide all matters and things necessary for that purpose.

IX. And we do further authorize and require the guardians to direct their clerk to make out from the register of deaths, or from the district medical relief books, and from any public books or other sources from which information may be obtained within the union or parish, a list of places where epidemic, endemic, and contagious diseases have of late been frequent.

X. And we authorize and require such guardians to cause the medical officers employed by them, or specially appointed for the purpose, to visit the places, of which a list shall be made out as aforesaid, and all such neighbouring and other places within such union, as shall appear to such medical officers (from being under like circumstances with the places included in such list or otherwise) to require visitation or examination.

XI. And each such medical officer shall, where it may be necessary, certify in writing to the board of guardians, and to the surveyors, trustees, occupiers, or others required to execute these directions and regulations, all such places as are in a state dangerous to health, or need frequent and effectual cleansing by way of preservation against disease, and such dwelling-houses as are in a filthy and unwholesome condition, and all such nuisances and matters injurious to health as ought to be abated, cleansed, and removed under these regulations.

XII. And each such medical officer shall forthwith, upon any case of Cholera, or of typhus, or other epidemic, endemic, and contagious diseases becoming known to him within the parish, union, or district under his visitation, report the same to the board of guardians.

XIII. And we do hereby authorize and direct the said guardians, where it may appear needful, to appoint such additional medical officers, and also to appoint such other officers as may be necessary to execute and superintend the execution of these regulations, and to publish and circulate, by printed hand bills or other means, notices of the provisions of the said Act for the prevention of nuisances, and of our regulations and instructions, or of such part of any of them as it may appear desirable to make publicly known.

XIV. And we hereby direct that in these directions and regulations, the words "guardians of the poor" shall mean the guardians, directors, wardens, governors, or other like officers having the management of the poor for any union, parish, or place, where the matter requiring the cognizance of any such officers arises; and the word "parish" shall include every place where the relief of the poor is administered by a board of guardians for such place.

SCHEDULE I., containing the Names of the Unions to which the present Directions and Regulations apply :—

Aberaeron	Bishop's Stortford	Chepstow
Abergavenny	Blaby	Chertsey
Aberystwith	Blackburn	Chester
Abingdon	Blandford	Chesterfield
Albana, St.	Blean	Chester-le-Street
Alcester	Blofield	Chester-ton
Alderbury	Blything	Chichester
Alnwick	Bodmin	Chippenharn
Alresford	Bolton	Chipping Norton
Alton	Bootle	Chipping Sodbury
Altrincham	Bosmere and Claydon	Chorley
Amersham	Boston	Chorlton
Amesbury	Boughton, Great	Christchurch
Amphill	Bourn	Church Stretton
Andover	Brackley	Cirencester
Anglesey	Bradfield	Cleobury Mortimer
Asaph, St.	Bradford (Wilts)	Clifton
Ashbourne	Bradford (York)	Clitheroe
Ashby-de-la-Zouch	Braintree	Clun
Ashford, East	Brampton	Clutton
Ashford, West	Brecknock	Cockermouth
Ashton-under-Lyne	Brentford	Colchester
Aston	Bridge	Columb, St., Major
Atcham	Bridgend and Cowbridge	Congleton
Atherstone	Bridgwater	Conway
Auckland	Bridgnorth	Cookham
Austel, St.	Bridlington	Corwen
Axbridge	Bridport	Cosford
Axminster	Bristol	Coventry
Aylesbury	Brixworth	Cranbrook
Aylesford, North	Bromley	Crediton
Aylsham,	Bromsgrove	Crickhowell
	Bromyard	Cricklade and Wootton
Bakewell	Buckingham	Bassett
Bala	Builth	Croydon
Banbury	Buntingford	Cuckfield
Bangor and Beaumaris	Burnley	
Barnet	Burton-upon-Trent	Darlington
Barnstaple	Bury	Dartford
Barrow-upon-Soar	Bury St. Edmunds	Daventry
Basford		Depwade
Basingstoke	Caistor	Derby
Bath	Calne	Devizes
Battle	Cambridg	Dewsbury
Beaminster	Camelford	Docking
Bedale	Canterbury	Dolgelly
Bedford	Cardiff	Doncaster
Bedminster	Cardigan	Dorchester
Belford	Carlisle	Dore
Bellingham	Carmarthen	Dorking
Belper	Carnarvon	Dover
Berkhampstead	Castle Ward	Downham
Berwick-upon-Tweed	Catherington	Drayton
Beverley	Caxton and Arrington	Driffild
Bicester	Cerne	Droitwich
Bideford	Chailey	Droxford
Brierley, North	Chapel-en-le-Frith	Dulverton
Biggleswade	Chard	Dunmow
Billericay	Cheadle	Durham
Billesdon	Chelmsford	Dursley,
Bingham	Cheltenham	

Easington	Hastings	Lewisham
Easingwold	Hatfield	Lexden and Winstree
Eastbourne	Havant	Leyburn
East Grinstead	Haverfordwest	Lichfield
Easthampstead	Hay	Lincoln
East Retford	Hayfield	Linton
Eastry	Headington	Liskeard
East Ward	Helmsley Blackmoor	Llandilo Fawr
Eccleshall Bierlow	Helston	Llandoverly
Edmonton	Hemel Hempstead	Llanelly
Elham	Hendon	Llanfyllin
Ellesmere	Henley	Llanrwst
Ely	Henstead	Llodon and Clavering
Epping	Hereford	London, City of
Epsom	Hertford	London, East
Erpingham	Hexham	London, West
Eton	Highworth and Swindon	Longtown
Evesham	Hinckley	Loughborough
Exeter	Hitchin	Louth
	Holbeach	Ludlow
Faith, St.	Holborn	Luton
Falmouth	Hollingbourn	Lutterworth
Fareham	Holsworthy	Lymington
Faringdon	Holywell	
Farnham	Honiton	Macclesfield
Faversham	Hoo	Machynlleth
Festiniog	Horncastle	Madeley
Flegg, East and West	Horsham	Maidstone
Foleshill	Houghton-le-Spring	Maldon
Fordingbridge	Howden	Malling
Forehoe	Hoxne	Malmsbury
Freebridge Lynn	Huddersfield	Malton
Frome	Hungerford	Manchester
Fulham	Huntingdon	Mansfield
Fylde, The	Hursley	Market Bosworth
		Market Harborough
Gainsborough	Ipswich	Marlborough
Garstang	Ives, St.	Martley
German's, St.		Medway
Giles, St., in the Fields, and St. George, Blooms- bury	Keighley	Melksham
Glandford Brigg	Kendal	Melton Mowbray
Glendale	Kettering	Mere
Glossop	Keynsham	Meriden
Gloucester	Kidderminster	Merthyr-Tidvil
Godstone	Kingsbridge	Midhurst
Goole	Kingsclere	Mildenhall
Grantham	King's Lynn	Milton
Gravesend and Milton	King's Norton	Mitford and Launditch
Greenwich	Kingston-upon-Thames	Monmouth
Guildford	Kington	Montgomery and Pool
Guiltecross	Kirby Moorside	Morpeth
Guisborough	Knighton	Mutford and Lothingland
Hackney	Lampeter	Nantwich
Hailsham	Lancaster	Narberth
Halifax	Lanchester	Neath
Halsted	Langport	Neots, St.
Haltwhistle	Launceston	Newark
Hambleton	Ledbury	Newbury
Hardingstone	Leek	Newcastle-in-Emlyn
Hartismere	Leicester	Newcastle-under-Lyme
Hartly Wintney	Leigh	Newent
Haslingden	Leighton Buzzard	New Forest
	Leominster	Newhaven
	Lewes	Newmarket

Newport (Monmouth)
 Newport (Salop)
 Newport Pagnell
 Newton Abbot
 Newtown and Llanidloes
 Northallerton
 Northampton
 Northleach
 Northwich
 North Witchford
 Norwich
 Nottingham
 Nuneaton

Oakham
 Okehampton
 Olave's, St.
 Oldham
 Ongar
 Ormskirk
 Orsett
 Oswestry
 Oundle
 Oxford

Pateley Bridge
 Patrington
 Pembroke
 Penkridge
 Penrith
 Penzance
 Pershore
 Peterborough
 Petersfield
 Petworth
 Pewsey
 Pickering
 Plomesgate
 Plymouth
 Plympton, St. Mary
 Pocklington
 Pont-y-Pool
 Poole
 Poplar
 Portsea Island
 Potterspurty
 Prescott
 Presteigne
 Preston
 Pwllheli

Radford
 Reading
 Redruth
 Reeth
 Reigate
 Rhayadar
 Richmond (Surrey)
 Richmond (York)
 Ringwood
 Risbridge
 Rochdale
 Rochford
 Romford
 Romney Marsh

Romsey
 Ross
 Rothbury
 Rotherham
 Royston
 Rugby
 Runcorn
 Ruthin
 Rye

Saffron Walden
 St. Margaret and St. John
 the Evangelist, West-
 minster
 Salisbury, otherwise New
 Sarum
 Salford
 Samford
 Saviour's, St.
 Scarborough
 Sculcoates
 Sedbergh
 Sedgefield
 Seisdon
 Selby
 Settle
 Sevenoaks
 Shaftesbury
 Shardlow
 Sheffield
 Sheppey
 Shepton Mallet
 Sherborne
 Shifnal
 Shipston-upon-Stour
 Shrewsbury
 Skipton
 Skirlaugh
 Sleaford
 Solihull
 Southam
 Southampton
 South Molton
 South Shields
 South Stoneham
 Southwell
 Spalding
 Spilsby
 Stafford
 Staines
 Stamford
 Stepney
 Steyning
 Stockbridge
 Stockport
 Stockton
 Stokesley
 Stone
 Stourbridge
 Stow
 Stow-on-the-Wold
 Strand
 Stratford-upon-Avon
 Stratton
 Stroud

Sturminster
 Sudbury
 Swaffham
 Swansea

 Tamworth
 Taunton
 Tavistock
 Teesdale
 Tenbury
 Tendring
 Tenterden
 Tetbury
 Tewkesbury
 Thakeham
 Thame
 Thanet, Isle of
 Thetford
 Thingoe
 Thirsk
 Thomas, St.
 Thornbury
 Thorne
 Thrapston
 Ticehurst
 Tisbury
 Tiverton
 Todmorden
 Tonbridge
 Torrington
 Totnes
 Towcester
 Tregaron
 Truro
 Tunstead and Happing
 Tynemouth

 Uckfield
 Ulverstone
 Uppingham
 Upton-upon-Severn
 Uttoxeter
 Uxbridge

 Wakefield
 Wallingford
 Walsal
 Walsingham
 Wandsworth and Clap-
 ham
 Wangford
 Wantage
 Ware
 Wareham and Purbeck
 Warminster
 Warrington
 Warwick
 Watford
 Wayland
 Weardale
 Wellinborough
 Wellington (Salop)
 Wellington (Somerset)
 Wells
 Welwyn

Wem	Whitchurch (South-	Wisbeach
Weobly	ampton)	Witham
Westbourne	Whitechapel	Witney
West Bromwich	Whitehaven	Woburn
Westbury-upon-Severn	Wigan	Wokingham
Westbury and Whorwells-	Wight, Isle of	Wolstanton and Burslem
down	Wigton	Woodbridge
West Derby	Willton	Woodstock
West Firle	Wilton	Worcester
West Ham	Wimborne and Crauborne	Worksop
West Hampnett	Wincanton	Wortley
West Ward	Winchcombe	Wrexham
Weymouth	Winchester, New	Wycombe
Wheatenhurst	Windsor	
Whitby	Winslow	Yeovil
	Wirrall	

SCHEDULE II., containing the Names of the Parishes to which the present Directions and Regulations apply:—

Alston with Garrigill	St. Giles, Camberwell	St. Mary Magdalen, Ber-
Birmingham	St. James, Clerkenwell	mondsey
Brighthelmstoue	St. James, Westminster	St. Mary, Newington
East Stonehouse	St. Leonard, Shoreditch	St. Mary, Rotherhithe
Great Yarmouth	St. Luke, Chelsea	St. Matthew, Bethnal
Leeds	St. Luke, Middlesex	Green
Liverpool	St. Martin in the Fields	St. Pancras
Paddington	St. Mary Abbots, Ken-	Stoke Damerell
St. George, Hanover	sington	Stoke-upon-Trent
Square	St. Mary, Islington	Whitchurch (Salop)
St. George the Martyr,	St. Mary-le-Bone	Whittlesea, St. Mary and
Southwark	St. Mary, Lambeth	St. Andrew.
St. George in the East		

Given under our Hands and under the Seal of the General Board of Health this Third Day of November One thousand eight hundred and forty-eight.

CARLISLE.

EDWIN CHADWICK.

T. SOUTHWOOD SMITH.

To the Guardians of the Poor of the several Unions named in the Schedules hereunto annexed;

To the Councils and other Governing Bodies of Cities and Boroughs, Commissioners under Local Acts, the Surveyors of Highways, their Deputies and Assistants, the Trustees, County Surveyors, and others by law intrusted with the Care and Management of the Streets and Public Ways and Places within the said Unions;

To the Owners and Occupiers of Houses, Dwellings, Churches, Buildings, and Places of Assembly within the said Unions, and others having the Care and Ordering thereof;

And to all to whom it may concern.

WHEREAS by the provisions of the "Nuisances Removal and Diseases Prevention Act," 1848, for the prevention of epi-

demic, endemic, and contagious diseases, and by virtue of an order of the Lords of Her Majesty's Most Honourable Privy Council, bearing date the 28th day of September, 1848, directing that the said provisions of the said Act be put in force throughout the whole of Great Britain, we the General Board of Health are authorized to issue such directions and regulations as the said Board shall think fit for the prevention (as far as possible) or mitigation of epidemic, endemic, or contagious diseases; and whereas by the said Act it is provided that the directions and regulations to be issued as aforesaid shall extend to all parts or places in which the said provisions of the said Act shall for the time being be in force, under the order of Her Majesty's Privy Council, unless such directions or regulations shall be expressly confined to some of such parts or places, and then to such parts or places as in such directions and regulations shall be specified:

Now in exercise of the authority vested in us as aforesaid, we the General Board of Health do issue the directions and regulations hereinafter contained to extend to all parts and places within the several Unions named in the Schedules hereunto annexed, and to all extra-parochial places adjoining to such unions, viz.:—

I. We direct that all Councils and other governing bodies of cities and boroughs, commissioners under local acts, surveyors, and district or assistant surveyors of highways, trustees, county surveyors, and others, by law intrusted with the care and management of the streets and public ways, and places within the parts or places to which these directions and regulations extend, shall once at least in every twenty-four hours effectually cleanse all such of the streets, rows, lanes, mews, courts, alleys, and passages, and public ways and places under their respective care and management, as by the medical officer of the guardians, or others authorized to superintend the execution of this direction and regulation shall be certified in writing to be in a state dangerous to health, or to require frequent and effectual cleansing by way of precaution against disease; and shall remove all filth, ordure, and nuisances therefrom.

II. And where any such streets, rows, lanes, mews, courts, alleys, and any passages, public ways or places, to, which any houses or tenements adjoin, which have not been intrusted by law to the care or management of any council, commissioners, surveyors, trustees, or others, have been certified in writing, by such medical officer as aforesaid, to be in a state dangerous to health, or to require such frequent and effectual cleansing, we direct that every occupier of a house or tenement so adjoining shall keep or cause to be kept sufficiently cleansed, at least once in every twenty-four hours, such part of the street, row,

lane, mews, court, alley, or passage, way, or place as adjoins the house or tenement occupied by him.

And we direct that all such works of cleansing and removal of filth, ordure, and nuisances as are required by these directions and regulations, shall be done in such manner by effectual washing or otherwise, and with the use of such fluids or substances for preventing the escape of noxious effluvia during the operation as the medical officer of the guardians or others authorized to superintend the execution of these directions and regulations shall think necessary and shall direct.

III. We do hereby authorize and require the said guardians by themselves or by their officers or persons employed under them in the administration of the laws for the relief of the poor, or by officers or persons specially appointed in this behalf, to superintend and see to the execution of the foregoing directions and regulations within their respective unions, and in any extra-parochial places adjoining thereto respectively.

IV. And further, where it shall appear that by want or neglect of the council of any city or borough, commissioners, surveyors, trustees, or others intrusted with the care and management as aforesaid, or by reason of poverty of the occupiers or otherwise, there may be any default or delay in the cleansing of or removing nuisances from any street, row, lane, mews, court, alley, passage, or public way, or place certified as aforesaid, within any of the said unions, or any extra-parochial place adjoining thereto, we authorise and require the guardians of such union to cause such street, row, lane, mews, court, alley, passage, way, or place to be effectually cleansed, and all nuisances to be removed therefrom, and to do all acts, matters, and things necessary for that purpose.

V. We also direct as follows:—

That,

When, and so often as any dwelling-house in any part or place to which these directions and regulations extend, is in such a filthy and unwholesome condition as to be a nuisance to or injurious to the health of any person; or

Where upon any premises, or any part or place as aforesaid, there is any foul and offensive drain, ditch, gutter, privy, cesspool, or ashpit, or any drain, ditch, gutter, privy, cesspool, or ashpit kept or constructed so as to be a nuisance to or injurious to the health of any person; or

Where upon any such premises swine or any accumulation of dung, manure, offal, filth, refuse, or other matter or thing is kept, so as to be a nuisance to or injurious to the health of any person; or

Where upon any such premises (being a building used

wholly or in part as a dwelling-house), or being premises underneath any such building, any animal is kept so as to be a nuisance or injurious to the health of any person,

In each of the above-recited cases, the owner or occupier, and persons having the care or ordering of such dwelling-house, or of the premises where the nuisance or matter injurious to health may be, shall cleanse, whitewash, or otherwise purify as the case may require, such dwelling-house or building; or abate or remove the nuisance or matter injurious to health as aforesaid, with all reasonable speed after the publication of these our directions and regulations, or after the nuisance or matter injurious to health shall have arisen.

VI. In case, by reason of poverty or otherwise, the occupier of any such dwelling-house or premises is unable to perform any works required by these directions or regulations, such occupier shall give notice of such his inability to the guardians of the union, comprising the place wherein the premises shall be situated.

VII. We authorize and require the guardians, aforesaid by themselves or by officers by them authorized in this behalf,

To see to the execution of the directions hereinbefore contained for the cleansing and purifying of dwelling-houses, and for the abatement and removal of nuisances and matters injurious to health, in every case in which there shall not be a council or other governing body of a city or borough, or commissioners having jurisdiction for the removal of nuisances, or where such council, governing body, or commissioners shall not cause to be effectually executed such directions; and for that purpose—

To visit from time to time, or cause to be visited, the several dwellings and places where there may be ground for believing that necessity will arise for executing such directions.

VIII. And in every case in which, from the poverty of occupiers or otherwise, there may be default or delay in the cleansing or purifying of any such dwelling-house, or in the abatement or removal of any such nuisance or matter injurious to health, and the medical officer or other person duly authorized as aforesaid, shall certify that the same requires immediate attention; and in every case in which from want of co-operation of the owners or occupiers there is any default or delay in cleansing any such drain, ditch, watercourse, or gutter into which several dwellings or tenements may drain;

We authorize and require such guardians to cause such dwelling-houses to be cleansed and purified, and such drain, ditch, watercourse, or gutter to be frequently and effectually

cleansed, and such nuisance or matter injurious to health to be abated and removed respectively, and to do all acts and provide all matters and things necessary for that purpose.

IX. And we do further authorize and require the guardians to direct their clerk to make out from the register of deaths, or from the district medical relief books, and from any public books or other sources from which information may be obtained within the union, a list of places where epidemic, endemic, and contagious diseases have of late been frequent.

X. And we authorize and require such guardians to cause the medical officers employed by them, or specially appointed for the purpose, to visit the places, of which a list shall be made out as aforesaid, and all such neighbouring and other places within such union, as shall appear to such medical officers (from being under like circumstances with the places included in such list or otherwise) to require visitation or examination ;

XI. And each such medical officer shall, where it may be necessary, certify in writing to the board of guardians, and to the surveyors, trustees, occupiers, or others required to execute these directions and regulations, all such places as are in a state dangerous to health, or need frequent and effectual cleansing by way of preservation against disease, and such dwelling-houses as are in a filthy and unwholesome condition, and all such nuisances and matters injurious to health as ought to be abated, cleansed, and removed under these regulations.

XII. And each such medical officer shall forthwith, upon any case of Cholera, or of typhus, or other epidemic, endemic, and contagious diseases becoming known to him within the parish, union, or district under his visitation, report the same to the board of guardians.

XIII. And where it shall be certified to the guardians by their medical officer or officers, or where it shall otherwise sufficiently appear to such guardians that extraordinary medical aid is required for persons attacked or threatened by Cholera or epidemic, endemic, or contagious disease, we authorize and require such guardians to provide sufficient medical aid, and, in suitable places, such medicines as may be required within their respective unions for necessitous persons attacked by Cholera or by premonitory symptoms, and to make arrangements for the distribution of notices, stating the places where aid and medicines shall have been provided.

XIV. Whereas it has heretofore been found impracticable to ensure proper treatment in their own houses to many of the poorer classes, we authorize and require the said guardians, where it shall appear that such extraordinary aid is required, to provide suitable rooms or places, capable of accommodating necessitous cases, to which persons attacked by Cholera, who cannot be properly treated in their own houses, may be conveyed.

XV. And we also authorize and require the said guardians, where it shall appear needful, to provide rooms or places of refuge, to which may be removed the families of such necessitous persons as have been attacked with Cholera, and also such necessitous persons living under the same roof with, or in the vicinity of, persons so attacked, as the medical officers acting under the authority of the said guardians may deem it necessary to remove; and the houses, rooms, or dwellings from which persons may have been so removed to the houses of refuge, shall be cleansed and purified by the owners or persons having the care or ordering thereof, or, in their default, by the said guardians.

XVI. And on the occurrence of any case of Cholera or other epidemic, endemic, or contagious disease, in any room occupied by one family or more, we hereby authorize and require the medical officer to remove, or cause to be removed, either the patient, or so many of the occupants of such room as he shall consider would, unless removed, tend to prevent the recovery of the patient, or endanger the spreading of the disease.

XVII. And in case of death by Cholera, or any other epidemic, endemic, or contagious disease, we hereby authorize and require the last medical attendant upon the person of the deceased, or in case of there having been no medical attendant, the housekeeper or person present at the death, or who is in charge of the body, forthwith to notify the fact of the death to the medical officer of the district who is charged with the execution of these orders for the prevention of the spread of such disease.

And we do hereby authorize such medical officer to give such directions as may appear to him to be needful, in respect to the care, removal, and the time of interment of the body for preventing the communication or spread of disease.

And we hereby authorize and require all persons to give such information or such assistance to such medical officer, and to be otherwise aiding him as he may need in the execution of these orders.

XVIII. And in the event of the fatal termination of any case of Cholera, or of epidemic, endemic, or contagious disease, in any room occupied as a living or sleeping-room by one family, or more, or by numerous persons, we hereby authorize and require the medical officer to remove, or cause to be removed as speedily as may be, either the corpse or the persons occupying such rooms, until the corpse can be conveniently removed and properly interred.

XIX. And we do authorize and direct the said guardians to make arrangements for obtaining daily lists of persons attacked by Cholera or other epidemic diseases within their respective unions, with the particulars of their cases and treat-

ment, and for communicating the same daily to the General Board of Health.

XX. And we do hereby authorize and direct the said guardians, where it may appear needful, to appoint such additional medical officers, and also to appoint such other officers as may be necessary to execute and superintend the execution of these regulations, and to publish and circulate, by printed hand bills or other means, notices of the provisions of the said Act for the prevention of nuisances, and of our regulations and instructions, or of such part of any of them as it may appear desirable to make publicly known.

SCHEDULE to which this order relates.

Blandford
Dudley
Gateshead

Kingston-upon-Hull
Newcastle-upon-Tyne
Sunderland

Wolverhampton
York

Given under our Hands and under the Seal of the General Board of Health this Third Day of November One thousand eight hundred and forty-eight.

CARLISLE.
EDWIN CHADWICK.
T. SOUTHWOOD SMITH.

IV. SECOND NOTIFICATION OF THE GENERAL BOARD OF HEALTH IN RESPECT TO INSTRUCTIONS ON THE ORDERS AND REGULATIONS ISSUED UNDER THE AUTHORITY OF THE NUISANCES REMOVAL AND DISEASES PREVENTION ACT.

*General Board of Health, Gwydyr House,
31st October, 1848.*

THE special object of those provisions of the Act 11 and 12 Vict. c. 123, which are brought into operation by the Order in Council, appears to the General Board of Health to be that measures of precaution may be taken "with promptitude, according to the exigency of the case."

It was clearly within the view of Parliament, that other and more summary measures for cleansing and the removal of nuisances than those contained in the first and second sections of the Act might be required, when the provisions for the prevention of epidemic and contagious diseases should be called into operation; and it has appeared to the Board to be requisite that the duties which in ordinary times devolve upon the owners and occupiers of dwellings, where an order of justices

has been obtained, should, under the threatened visitation of pestilence, be performed by the owners or occupiers, without the previous complaint and adjudication; and when the poverty of the occupier or any other cause may delay the cleansing or the removal of the nuisance, that the guardians should at once perform the necessary work.

Among the results of the Sanitary inquiry, one of the most important was that which established the identity of the track of Cholera with the track of typhus and other epidemic diseases; and as some who will be called upon to carry into effect the orders and regulations of the General Board of Health, may not have read the statements on this point contained in the Reports of the Sanitary Commissioners, it may be desirable to display the nature of the evidence on which this conclusion and the general course of action deduced from it are founded, and to show not only what are the true measures of prevention, but where those measures should be specially applied.

“It is now universally known,” say the Commissioners, “that in the metropolis, as in every town and city, the places in which typhus is to be found, from which it is rarely if ever absent, and which it occasionally decimates, are the neglected and filthy parts of it; the parts unvisited by the scavenger; the parts which are without sewers, or which, if provided with sewers, are without drains into them; or which, if they have both sewers and house drains, are without a due and regulated supply of water for washing away their filth, and for the purposes of surface-cleansing, and domestic use. The track of typhus is everywhere marked by the extent of this domain of filth;” and in illustration of the fact that, in 1832, this was equally the domain of Cholera, the following, among other instances, are given.

“Cholera,” says Mr. Bowie, “first appeared in those localities in which typhus was accustomed to prevail, taking the place of typhus, affecting the same persons, and being influenced by the same circumstances.”

“Cholera raged,” says Dr. Murdoch, describing the manner in which it spread in Rotherhithe, “in the filthy places in which typhus fever is always prevalent; and were cholera again to reappear, it would follow the law of typhus and typhoid fever, and first visit such neighbourhoods.”

Of Southwark, Mr. Leadham says, “This was certainly one of the districts the most severely visited by Cholera in the metropolis. The disease prevailed chiefly in the filthy dens which we have about us in the courts and alleys. The Cholera track and the typhus track in this district were identical.”

Mr. Hooper, describing such places as Three Tun Court, where there are 150 inhabitants with only one privy, and that without a covering, the fluid soil running down the court in

front of all the houses, says, "These are the constant abodes of fever, and these are the places where Cholera prevailed."

"The localities in which typhus is constantly present," says Mr. Wagstaff, "are the very localities in which Cholera chiefly raged. I have at the present moment many cases of fever in the very places in which Cholera was most prevalent."

Observations carefully made of the condition of the localities in which Asiatic Cholera has again broken out in the metropolis, afford a striking corroboration of the evidence which, in 1832, established the identity of its track with that of fever.

The places in which the pestilence is now numbering its first victims, are the very spots which are known to be the filthiest in their respective districts, and to be the constant seat of typhus and other epidemic diseases. In tracing the individual cases reported to the General Board of Health, the medical inquirers, who, under the direction of the Board, have made a special investigation of the circumstances connected with the earliest attacks of the disease during its present visitation, have been led not only to the streets, courts, and alleys, but sometimes even to the very houses that are notorious as "fever nests."

As early as the middle of September, the attention of the Board was called to a case which proved fatal in eight hours, with the characteristic symptoms of Asiatic Cholera prominently marked. On examining the surgeon, Mr. William Mutrie Fairbrother, 64, London Road, Southwark, who attended the case, it appeared, that though the street and house in which the individual lived was not more filthy than the neighbouring streets and houses, yet that the whole district is in a wretched condition as to want of drainage and cleanliness. After describing the symptoms which induced him to believe that this man died of Asiatic Cholera in its intense form, Mr. Fairbrother gives the following evidence:—"I wish particularly to call your attention to another case of Cholera which has come under my care in the same neighbourhood—the case of a woman, who was in extreme danger many hours, being speechless, pulseless, and affected with severer cramp than I had ever before witnessed. This woman lived within ten yards of an open ditch, in a horrible condition, in one of a row of houses called Pleasant Place, from which typhus is never absent in any part of the year; and I have at this time two very bad cases of this disease within thirty yards of this same ditch. Close to my own residence, there is a court within a court, from which, ever since I have resided here, I have never known typhus fever absent. A family still residing in one of the houses of this court has lost four children by typhus fever within the last nine months; and the inhabitants of the place in general are very unhealthy. I may add, that diarrhœa has

recently been general both among children and adults; small-pox, also, has been prevalent; scarlatina has been raging, and I have never witnessed so severe a form of this disease, which has proved unusually and very rapidly fatal, and great numbers who have struggled through the stage of fever have died of the dropsy that has supervened upon it. In one district, in the immediate neighbourhood of Uxbridge Street, Newington Causeway, there is scarcely a child in any house that has escaped an attack of this disease. In one of the houses, the father, mother, and child, that is to say, the whole of the family, were all attacked with it on the same day. Close to the houses thus affected, there is an open drain in a most filthy condition, concealed from the view of the passers-by by a wooden paling. On looking over this paling, which I have sometimes done, to see the condition of the drain, I have been seized with the feeling of suffocation, and have been unable to bear the odour arising from it for a moment."

One of the assistant surveyors of the Metropolitan Sewers Commission, Mr. Donaldson, being officially engaged at Lambeth on the 28th and 29th September, was informed of the prevalence and malignity of fever, and particularly scarlet fever, in several houses in Fore Street, and in King's Head Court, Lower Fore Street. "Four cases," he states, "were children under twelve years of age. The mother of two of them, residing in house No. 23, showed me one of her children, a girl apparently of six or seven years of age, just recovering from fever, and she said, "the doctor had remarked to her, that there seemed to be something particular about that immediate neighbourhood, as the fever was worse there than anywhere else." In the First Report of the Metropolitan Sanitary Commission, Mr. Wagstaffe, examined October, 1847, gives the following evidence:—"I have myself passed through two feet of water to get to the houses, being obliged to walk along the planks, the doorways of the houses at the time of high tide in Fore Street, Lambeth, being blocked up with boards and plaster to prevent the water from getting into the dwellings. I have often seen the soil from the cesspools swimming about in the water. Whenever typhus is prevalent in the metropolis, it is invariably found in these localities, and common fever is very apt, in these places, to assume a typhoid type. This is the case at the present time with several cases now under my care. Scarlet fever, measles, and small-pox also are very apt to become malignant here under certain atmospheric conditions. These localities, in which typhus is constantly present, are the very localities in which Cholera chiefly raged; and if Cholera were again to re-appear, these would be the places which it would first visit, and in which it would be most prevalent and fatal." Accordingly, on the 1st October, 1848, two days after Mr.

Donaldson's visit, the occurrence of a fatal case of Asiatic Cholera is reported on this very spot, namely in Lower Fore Street (No. 26.); a few days later another fatal case occurred in the same house; on the 4th October a third fatal case occurred at No. 29, in the same street, and a fourth in that same house on the same day.

About the same time, namely, on the 30th September, four fatal cases of Cholera occurred in rapid succession in White Horse Court, Chelsea; "one of the most filthy localities," says Mr. Keen, who attended the cases, "in the neighbourhood. The water foul; the drains all untrapped; the privies common to all the inhabitants;" "and at the entrance to the court," says Dr. Parkes, "there are large dunghills where offal is thrown, and the effluvia from these and the drains are most offensive."

Two fatal cases of Cholera have occurred in a court in Pitt Street, Old Kent Road, to which the officers had previously called the attention of the Sewers Commission, on account of its inhabitants having lately suffered severely from scarlet fever. "In three of the houses," says Dr. Parkes, who was requested to make an examination of the place, "every child, and one of the adults, have been ill with it; one child has died of dropsy following scarlatina, and this sequence has indeed been almost universal. All the inhabitants to whom I spoke complained of the place being unhealthy on account of the damp, and the effluvia from the cesspools; both adults and children have a pallid, sickly hue."

The first decided case of Cholera in the city of London, which occurred as early as the 2nd of October, at No. 2, Harp Court, broke out close to one of the alleys which was reported some time ago to the Sanitary Commissioners as an example of the wretched condition of the habitations of the poorer classes; the court itself being described by Dr. Parkes as one of the dirtiest and most miserable places in the district of St. Bride's.

Mr. Bowie states, that the cases of Cholera recently attended by him have occurred in the usual abodes of fever, and in the very places in which Cholera formerly prevailed; and that the merchant vessels and colliers in the river, in which it has broken out, have been moored close to the openings of sewer mouths, while the ships themselves have been dirty and unventilated.

Where the chief conditions of disease are present, they operate alike in the village, the town, and the city. In the early part of October four rapidly fatal cases occurred in the town of Uxbridge, three marked by the unequivocal characters of Asiatic Cholera, and the fourth with symptoms nearly approaching it. One of these persons, attacked on the 5th of October, lived in a house notoriously insalubrious, in which three cases of malignant fever had already proved fatal; and so convinced was the

surgeon who attended these fever cases, that this spot presented all the conditions favourable to the origin and spread of epidemic disease, that he publicly stated his belief, that if Cholera should visit Uxbridge, the first case would occur in this house—a prediction which has unfortunately been but too speedily verified.” “Since I inspected the house,” says Dr. Parkes, “another case of Cholera has been reported as having occurred in it.”

The conditions under which the pestilence is extending in Scotland are exactly similar. Closeness and filth are there also the cradle of the disease, and numerous instances have already occurred in which two, three, or even more persons have been either at the same time or in rapid succession seized in the same locality, and even in the same house.

The filthiest parts of Edinburgh are the Grass Market and West Port, and the closes and wynds running out of them, where tan-yards, manure manufactories, stables, piggeries, and all kinds of nameless abominations are permitted to exist in the closest proximity to human habitations. Next in order stands the Cowgate, with the various closes and wynds adjacent, and also the wynds of the High Street and Canongate. In Leith there is a similar district, composed of a collection of narrow filthy wynds, crowded by a wretched population. These are the perennial abodes of the epidemic diseases that affect Edinburgh and Leith, and to these localities chiefly the cholera of 1832 confined its ravages. Since that visitation they have been often scourged by typhus fever and other epidemics; and here, with a few exceptionable cases in equally bad localities, Cholera has now again found its first, and hitherto, indeed, its only victims. There are instances in which it has returned to the very same house which it ravaged on its former visitation. The first case of Cholera which occurred in Leith in 1832, was in a house in a narrow, filthy cul-de-sac behind King Street; and the spot where it broke out in Leith, for the first time at the beginning of the present month, was in the same lane, in a wretched lodging-house, a few feet from the dwelling whence it formerly commenced its career. Four cases of Cholera have already occurred in that house.

This evidence as to the influence of certain conditions of place, on the first outbreak and the rapid spread of Cholera and other epidemic diseases, appears to indicate courses of action of primary importance with reference to the objects both of prevention and mitigation.

Operations of cleansing, both external and internal, are the primary means of prevention; and the places where the first measures of cleansing should be carried into effect are indicated in the registers of death, in the case books of the medical officers, and in the list of the relieving officers, which show the streets,

courts, alleys, and the very houses in which sickness from epidemic disease has been prevalent, in many instances pauperising the inhabitants, and in all increasing the necessity for parochial relief.

From these sources, therefore, as full a list as may be practicable should be made out of the places in which the measures of cleansing are the most urgently needed, and those lists should be completed by the aid of the reports of the physicians and surgeons having charge of dispensaries and hospitals.

As these lists are completed, copies of them should be forwarded as directories to the parochial clergy and other members of the district committees, who will aid the local authorities in their examination from house to house of these epidemic localities. Not only should the particular houses in which epidemic disease has been prevalent be examined, but also the adjacent houses, which will generally be found to be in the like unhealthy condition.

The police force under the direction of the watch committees of the town councils, have been usefully employed in seeing that the cleansing operations are regularly and completely performed, in conveying information, and in aiding local investigation; but the general direction of the measures of cleansing should be charged upon the medical officer, whose duty it will be to see that the owners and occupiers promptly carry those measures into effect. If, however, on account of sickness or poverty, or any other cause, the medical officer see reason to apprehend neglect or delay in the execution of those measures, then he must immediately report such cases to the board of guardians, or to persons authorized by them to act in this behalf, who should forthwith direct able-bodied paupers to perform the work.

Where circumstances will not admit of the employment of able-bodied paupers, or where the assistance of paupers would be less efficient than the services of persons accustomed to the work, a sufficient number of men should be engaged for the special purpose of lime-washing and purifying the houses and apartments that may stand in need of such cleansing. Ample experience has shown the efficiency and economy with which operations of this kind may be carried on. By the aid of two men, and with no other implements than a common pail and a painter's whitewashing brush, Mr. Ramsay, inspector of the Edinburgh cleansing committee, has shown that a second or third rate tenement, containing two or three apartments, may be effectually lime-washed at an expense not exceeding from 9*d.* to 1*s.* per tenement. "The solution of lime in water," says Mr. Ramsay, "is very quickly applied, and when the workmen become accustomed to it, which they soon do, they put the inmates to very little trouble, and do not

occasion the usual splashing about of the material, the fear of which creates an aversion to the operation, in the minds of indolent and infirm persons, not always to be overcome. When one or two houses have been cleansed and lime-washed, many of the neighbours, gratified with the fresh smell of the lime, and its light and agreeable effect on the black and dirty walls, apply to have their houses also washed; and others, seeing with how little inconvenience to themselves it is accomplished, and its agreeable effects, on their permission being asked, very rarely refuse."

Fumigation with chlorine gas, under the eye of a medical man, this being a process which cannot be safely conducted except under medical inspection, is performed at an expense of less than twopence for each room.

All the streets, courts, and alleys, the atmosphere of which is shown to be in a state of pollution by the presence of epidemic disease, should be thoroughly scoured out daily, and the dung-heaps of mews and stables also should be removed daily.

Where water is not laid on at high pressure, but can be otherwise obtained, the most efficient means of cleansing will be by the use of a small fire or garden-engine; but wherever water is laid on at high pressure, advantage should be taken of the hose and jet, which removes the dirt from the carriage-way much more effectually than the street-sweeping machine; gives to the pavement the appearance of having been as thoroughly cleansed as the stone steps in front of private houses; and when properly applied in close and dirty courts and alleys, rapidly carries off the filth, destroys offensive smells, and by suddenly changing the temperature and so causing a current of air, produces a sense of coolness and refreshment.

Cesspools may be cleansed in one-third of the usual time, and one-third of the usual cost, by means of a two-handled pump and hose, wherever there is a sewer within reach into which the contents may be discharged.

With reference to the larger works of cleansing, such as the cleaning out of long lines of ditches, or the removal of large masses of decomposing refuse, much mischief has sometimes been occasioned, when the operation has been so ignorantly and unskilfully conducted as to increase the extent of the evaporating surface; as, when the contents of foul ditches have been spread out on the banks and allowed to remain there; and when cesspools have been emptied into drains or sewers having no proper fall, or no run for the discharge of the contents from beneath inhabited houses. Works of this kind should be conducted under the superintendence of a person who possesses some knowledge of the nature of the gases evolved; the atmospheric and other conditions that promote their copious evolution; their probable effect on susceptible persons; and the

mode of diminishing or averting them, either by the proper use of deodorising fluids, or by other means. The medical officer who may be expected to be the best informed in these respects should therefore be required to take the general superintendence of such operations.

The removal or distribution of large masses of decomposing refuse cannot be expected to be effected without some danger; on the other hand there is a certainty of evil, if such matter is allowed to remain permanently near human habitations, while the risk from the act of removal, if it be tolerably well conducted, is but slight, and at all events can only be temporary.

In following the track of fever, the inquirer will soon be led to the low lodging-houses, in which the conditions most favourable to the generation and spread of every form of epidemic disease will be found to be the most intense and constant. The over-crowding and the neglect of ventilation produce, in these places, an insufferable closeness, which cannot be endured by a person unaccustomed to the pestilential atmosphere. "At night," says Dr. Duncan, "the floor of these dark and miserable abodes, often the bare earth, is covered with straw, and there the lodgers, all who can afford to pay a penny for the accommodation, arrange themselves as best they may, until scarcely a single available inch of space is left unoccupied; and in this way as many as thirty human beings or more are sometimes packed together, each inhaling the poison which his neighbour generates." Even in lodging-houses of a somewhat better class, "the beds and bedding," says Dr. Howard, "are seldom washed or changed, and are generally in the most filthy condition; even if a bed has been occupied by a fever patient who has died, it is often immediately used by fresh lodgers." "In one room containing seven beds," says Dr. Lyon Playfair, "each occupied by two persons, I found a young sailor of about twenty-five years of age, suffering from synochus (common continued fever); his sister, a girl of twenty, occupied the same bed. In another house, I found a little girl suffering from scarlatina, and in the same bed slept her father; and, as the keeper of the house said, "any other lodger that might come:" so literally true is it, that keepers of these lodging-houses are, as Dr. Ferrier calls them, "keepers of fever-beds." And, in some places, these "fever-beds" produce on a large scale their natural results. "The lodging-houses," says Dr. Cowan of Glasgow, "are the media through which the newly-arrived immigrants find their way to the fever hospital; and it is remarkable how many of the inmates of that hospital coming from lodging-houses have not been six months in the city."

Under the authority conferred upon the guardians, their medical officer may enter these lodging-houses and require them to be duly ventilated and cleansed, and where he finds a

dangerous over-crowding, he may order the parties to be removed.*

Having thus denoted, more fully than they were enabled to do in their first notification, some of the most important measures of prevention, the General Board of Health would now advert to the measures of alleviation that may be found available, should the disease, which has broken out nearly at the same time in many widely distant parts of the country, unhappily prevail as an epidemic.

The importance of the precaution already given in the first notification, as to the urgent necessity of the earliest attention to the premonitory symptom, is confirmed by every day's experience. Opportunities have been recently afforded for carefully observing the circumstances connected with the first outbreak of this disease, both in this country and abroad, and the clear result of such observation is, that some of its earliest victims are seized without warning, but that this is the case with comparatively few. In the great majority of instances, even in the early days of its invasion, and almost universally after the violence of its first blow has been spent, distinct warning of its approach is given. That warning, as has been explained, is a relaxed state of the bowels; and whoever has that complaint, in however slight a degree, should, during the present season of danger, place himself immediately under medical care. The medicines recommended in the first notification were intended to be placed in the custody of the heads of families, the masters of schools and workhouses, the owners or agents of large establishments, clergymen, and other intelligent persons, for administra-

* Indian experience as to the influence of over-crowding in promoting the spread of Cholera is in perfect accordance with our own. "The disease commits its greatest ravages," says Mr. J. Kellie, surgeon, 4th battalion, artillery, "in crowded ill-ventilated barracks, bazaars, densely populated towns, particularly such as are surrounded by walls, preventing the ingress of pure air; and in that portion of them where carbonic acid gas is, by the decomposition of animal and vegetable refuse, being evolved, crowded school-rooms, the inhabitants of a portion of a barrack in the vicinity of an open drain, native huts into which there is but one opening, and that closed at night, whole families are frequently swept away from their exposure to this existing cause; but when Cholera appears in a family occupying a superior station in life, and in whose house pure air always exists, the disease is almost invariably confined to the individual first attacked, and which in most instances is to be attributed to an accidental exposure to a poisoned atmosphere beyond the walls of his own dwelling." "Cholera," continues Mr. Kellie, "is a usual attendant at native festivals, where crowds of people are collected. At Juggernaut it is an annual visitant." "The town of Pooree," writes Dr. Cumberland, "contains 35,000 inhabitants, and the number of pilgrims sometimes amount to 150,000. The inhabitants are usually quite healthy before the occurrence of the festival, which takes place in June or July, but immediately on the arrival of the pilgrims, and when the lodging-houses are literally crammed with inmates, Cholera suddenly breaks out, and in the space of a few days hundreds are cut off by it. This is not an occasional or accidental occurrence; it is an invariable one; and the disease which had thus been generated as suddenly disappears on the dispersion of the crowd, a few isolated cases only occurring for two or three days after the departure of the pilgrims." See Reports on Asiatic Cholera in Regiments of the Madras Army, by Mr. Samuel Rogers.

tion only at times and under circumstances when medical assistance could not be promptly procured. With such a disease as Cholera impending, a due regard to his own safety and to the safety of those who are naturally dependent on his care, should induce every one to avail himself without delay of the best assistance within his reach. And for those who cannot afford to pay for medical attendance, or who would not be likely to incur the expense of it, for a complaint, apparently so trifling, Dispensaries must be opened in convenient situations, with proper medical attendance, if practicable, day and night, where medical advice and medicine may be procured.

It is of the utmost importance that the local authorities and others should be satisfied as to the measures which it will be expedient to adopt promptly and thoroughly, when, notwithstanding all the means of precaution and prevention that may have been taken, this disease actually breaks out in any place.

The main object of the recital of much of the preceding evidence has been to fix attention on the influence of place in promoting the spread of this pestilence; but the conditions of place which so powerfully predispose to it, in the great majority of instances, cannot be immediately changed. Under circumstances in which no material improvement can be at once effected in the house or locality, the most simple and effectual remedy would be, removal from the neighbourhood, and temporary change of habitation; and where, as is commonly the case, the susceptibility is increased by errors in diet, the security would be increased by an immediate change to a suitable regimen.

Hitherto the proportion of attacks to the population has nowhere in this country been so large as to render it impracticable, or even difficult, to make provision for the temporary removal of such indigent persons as have appeared to be in imminent danger; and it is a subject deserving consideration, whether, instead of the indiscriminate removal of the sick, it would not be more effectual, as well as less expensive, while provision is made for the proper treatment of the sick, to take some care of those who, in all probability, will be the next victims of the disease, though the blow may not yet have actually fallen on them.

As an extensive trial of this plan of removal was made in Edinburgh during the prevalence of the pestilence in that city in 1832, the General Board of Health have endeavoured to ascertain the result of that experience. On consulting Professor Dr. W. Pultney Alison, who took a principal part in this matter, he has made the following statement:—"As the system of taking the inmates of the houses, and in cases of much crowding, the next door neighbours of Cholera patients into houses prepared for their reception, called houses of refuge, and keeping them there in comfort and under observa-

tion, at least until their rooms had been thoroughly fumigated and cleansed, appeared to work well, it was continued whenever the prejudices of the people did not violently oppose it, so long as the Cholera continued to show itself distinctly in Edinburgh. In most places, after the first day or two of successive cases occurring in one stair or close, the people were very glad to avail themselves of it, and almost all the places where any considerable succession of fatal cases occurred, were places where the people refused to avail themselves of this method of protection. After the Cholera was first seen in Edinburgh on the 27th Jan. 1832, eighteen houses or rooms in which it had appeared were evacuated before the 5th April, after the death or the removal to hospital of the persons who had taken the disease; and their inhabitants, in number 105, all of whom had had close intercourse with the sick, were placed in houses of refuge, from periods varying from a week to a fortnight, during which time the rooms they had left were fumigated and thoroughly cleansed. In nine of these cases, one individual only had been affected when this operation was commenced; in four, two had been affected; in four, three; and in one, four had been affected. *In no one of these instances was there a single fresh case in any of the adjoining rooms.* There were several attacks and five deaths in the persons thus received into the houses of refuge; but there was no case of any person who had been in these houses and returned home, being subsequently affected. I remember perfectly, that in a small district round the college and the infirmary, of which I took a personal charge, the Cholera broke out seven times, at different points; that we had the inhabitants of the rooms in which it appeared, and in some instances of the rooms immediately adjoining, placed in houses of refuge directly, and that we saw no more of it at any of those places. Of course we cannot speak with absolute confidence as to what would have been the course of the disease in Edinburgh and its neighbourhood at that time, if no such measure had been adopted; but I think we had such evidence of its probable efficiency as fully justifies our wishing to try the same system again here, and recommend it to others."

On the general experience before cited, so strongly corroborated by the particular experience of Edinburgh, and with the advice of the Edinburgh College of Physicians, the General Board of Health have authorised the re-adoption of this measure in Scotland, and have deemed it their duty to confer by their regulations the requisite authority for carrying it into effect in England, in all cases where occasion may appear to require it, as one important means of meeting the present visitation.

But while the General Board of Health have thought it

needful to make this provision for the greater security of the poor and destitute, they cannot too earnestly impress upon those in better circumstances, and who can consult their own safety, the importance on the first outbreak of this disease of immediate removal from a low, damp, dirty, and confined situation, to one that is high, dry, and open; and of the adoption at the same time of a careful regimen.

Though the General Board of Health have expressed their decided conviction that Cholera is not contagious, in the common sense of that term, yet neither they nor those who coincide in their opinion consider that there is no danger in over-crowding, or that the disease is not "catching"* in ill-ventilated and ill-conditioned places. The Metropolitan Sanitary Commissioners have observed:—"The result of recent inquiries has been, a progressive approach to the conclusion, that the injurious effects produced by the exhalations from the living body, whether in health or disease, are confined within much narrower limits than was formerly supposed. The rapidity and completeness with which such exhalations are diluted and rendered innocuous by free admixture with pure atmospheric air is now better understood than at any former period. Concentrated in confined and crowded apartments, they exercise a most injurious influence on the progress of disease in the sick; concentrated still more, they affect the healthy, and under circumstances in which ventilation is neglected, or cannot be sufficiently applied and maintained, first the nurses, then the members of the family who may have been only occasionally in the sick chamber, and last of all the medical attendants suffer; at the same time, casual visitors are liable to be attacked, in proportion to the concentration of the poison and the weakness and susceptibility of the constitution; and persons so attacked and going to ill-conditioned and confined places, may form new centres of disease."

It is in the belief that such facts should be regarded as true lessons of experience that the General Board of Health attach

* By the use of the term "catching," the witnesses referred to were not understood to represent that, in their opinion, Cholera is ever communicable from person to person; but merely that the respiration of an atmosphere corrupted by over-crowding, is one among other circumstances, powerfully predisposing an individual to the attack of whatever disease may happen to be epidemic; scarlatina, if scarlatina be epidemic; typhus, if typhus be epidemic; influenza, if influenza be epidemic; and Cholera, if Cholera be epidemic. The meaning of these witnesses appears to be expressed in the following passage:—"I do not believe," says Mr. Kellie, "Cholera to be contagious under any circumstances; but I do believe that when the pestilence has been attracted to a town or camp, the atmosphere becomes tainted, and all who come within its influence are liable to be attacked. A cholera patient may be brought from an infected spot into one where a pure atmosphere exists, with perfect safety; he will rarely communicate the disease to other persons, even when subjected to the most intimate exposures. But it becomes infectious in the mass, and it spreads by infection, wherever the poison is assisted in its operation by the presence of those peculiar states which are acknowledged to predispose the body to disease."

great importance to the prevention of over-crowding, to the removal of the weak and susceptible from the vitiated air of the apartments of the sick, and to the maintenance in sick chambers of the freest ventilation.

Many cases having occurred in which the long retention of the dead body in living or sleeping rooms has greatly promoted the spread of disease, the Act has called special attention to the need of regulations for the early removal and the proper interment of the corpse; and the General Board of Health have authorised the medical officer, after having ascertained the true cause of death, to give such directions as may appear to him to be required, for the due observance of the regulation relative to this highly important subject.

It appears to the General Board of Health to be absolutely necessary, in the present emergency, to concentrate responsibility on the medical officers, and to entrust them with discretionary powers, because the rapidity of the course of Cholera will not allow them to wait for direction from the guardians at their weekly meetings; and seeing the many and arduous duties that devolve upon the medical officers, the General Board of Health cannot but express a hope that the remuneration of these officers will be more proportionate to the value of required services than it was upon the former occasion.

The law having vested the general management of medical relief to the destitute in the Boards of Guardians, and having made them the authorised channels for the expenditure of the rates raised for the benefit of the poor, the instructions and regulations of the Board of Health have been mainly directed to them. They are aware, however, of the important exertions which in many instances have been made by town councils and local commissioners for the improvement of the public health, and where any of the functions herein prescribed are either by law or practice exercised by such town councils and local boards or commissioners, they would by no means wish to take them out of their hands; they will have the best means of considering how far they can act by their own powers, or conveniently with the boards of guardians, and it is only in the absence of any such powers, or in default of their effectual exercise, that the Board of Health would call upon the boards of guardians to take the duties on themselves.

The Board of Health will, from time to time, communicate to the local authorities additional information on matters relating to the removal of nuisances, and the prevention and mitigation of disease, in their official circular.

Signed by Order of the Board,

HENRY AUSTIN, *Secretary.*

V. ABSTRACT OF REGULATIONS FOR CARRYING OUT THE SYSTEM OF HOUSE-TO-HOUSE VISITATION FOR THE PREVENTION OF CHOLERA IN GLASGOW.

THE city of Glasgow is divided into two parishes, namely, the city parish and the barony parish. The city parish is divided into seventeen districts, and the barony parish into six. To each of these districts, in both parishes, there is appointed a medical superintendent, and over the whole a general superintendent. Each district is divided into a convenient number of sub-districts, over each of which is placed one advanced medical student, whose duty it is,—1. Under the direction of the superintendent of the district, to visit each house within his sub-district, at least once a-day. 2. To inquire into the state of the health of the inmates, and particularly as to the existence among them of bowel complaints, and other premonitory symptoms of Cholera. 3. To carry with him medicines for administration on the spot, wherever necessary; and 4, to report, without delay, all cases of emergency, as well as all instances where cleansing is required, to his district superintendent.

The duties of the district medical superintendent are:—

1. To visit all cases of emergency reported to him by the visitors of his district, or which may otherwise come to his knowledge.

2. To report immediately to the responsible officer charged with cleansing operations, all cases requiring cleansing.

3. To meet the visitors of his district at a stated hour each day, to receive the reports, and to consult with them on the general business of each sub-district.

4. To join at a stated hour each day the whole staff of district medical superintendents, along with the general superintendent, as their chairman. At the aggregate meeting reports of all cases, both of diarrhoea and of Cholera occurring during the preceding twenty-four hours are made up, and a copy of the summary is sent each day to the General Board of Health.

5. To have his surgery open all day for the purpose of dispensing gratuitously to all applicants such medicines as their cases may require.

6. If his house happen to be one of the houses deemed convenient for the purpose, to have his surgery open all night for the use of the legally qualified medical man who may be appointed for the night service, and the senior student appointed to assist him.

A supply of blankets, sand, salt, fuel, &c. is kept at a convenient place in each district for the use of the sick, but no article is given out, except on the written order of the District or General Superintendent.

The whole system of the House of Refuge, with its concomitant cleansing of rooms and houses is enforced.

Notices are sent to each house detailing the arrangements which are from time to time made for the public safety.

The difficulty of carrying out such a plan in a city consisting of nearly 400,000 inhabitants, and with so varied a population, composed to a large extent of persons in the most destitute circumstances and under the most unfavourable influences, may be conceived.

In proportion as it fails to be realised, the experiment must be regarded as imperfect, but there is evidence that many lives have already been saved by it; it has been spontaneously adopted in several other places in Scotland, and the result of the whole experience as to the extent to which it may be found capable of checking the progress of Cholera, cannot but be looked forward to with interest.

VI. THIRD NOTIFICATION.

*General Board of Health, Gwydyr House,
18th November, 1848.*

THE General Board of Health having, under the authority of the statute, issued one set of Orders, directing that the places frequently visited by epidemics should be sought out and examined and that measures of prevention should be carried into effect, as far as practicable, by cleansing; having also, in addition to these Orders, issued Special Regulations for the direction of Medical Relief in places where cases of Cholera have appeared, and numerous applications having from time to time been made to the Board from other places for these Special Regulations.

It has appeared to the General Board of Health to be desirable that these Special Orders and Regulations should hereafter take effect, without further notification, in all places forthwith upon the actual occurrence of cases of Cholera, and by these Orders and Regulations they do so provide.

In all cases, however, in which these Orders are acted upon, immediate notice of the fact must be sent to the General Board of Health, and the Medical Officers will be required to notify, from time to time, for the information of the Board, any progress which the epidemic may make in their respective districts.

Signed by Order of the Board,
HENRY AUSTIN,
Secretary.

VII. FOURTH NOTIFICATION IN RESPECT TO THE RE-APPEARANCE OF CHOLERA.

*General Board of Health, Gwydyr House,
June 11, 1849.*

THE General Board of Health, in a letter addressed to the Boards of Guardians on the issuing of the Order in Council bearing date March 27, 1849, for renewing for a further period of six calendar months the operation of the Act "for the Removal of Nuisances and the prevention of Epidemic Diseases," called attention to the fact, that recently in Scotland, and in various cities and towns on the Continent, Asiatic Cholera had again broken out, after it had disappeared for some time; and they represented the necessity, notwithstanding the general decline of the epidemic in Great Britain, of continuing to enforce every practical measure of precaution against this disease.

The General Board of Health have continued to watch with anxiety the progress of the pestilence abroad, the similarity of its present to its former course indicating its probable return to its former seats. The identity of that course in past years led the Board to apprehend its probable increase in Russia and its return to Holland; and the fear that it might also again reach this country induced the Board to recommend the renewal of the Order in Council, continuing in force the Nuisances Removal and the Diseases Prevention Act. Their apprehension has been realised. It has again prevailed as an epidemic at St. Petersburg; it has returned to Rotterdam; and it is now the painful duty of the Board to announce that it has re-appeared in this country, having again broken out in various and distant places in England, Wales, and Scotland.

The circumstances under which the disease has re-appeared leave no doubt that these local outbreaks ought to be regarded as general warnings, proclaiming the necessity of the immediate and general adoption of every practical measure of precaution, as well on the part of private individuals as of collective communities.

The accompanying summaries show the daily, weekly, and monthly cases of Cholera that have occurred in the Metropolis, in England and Wales generally, and in Scotland, since the renewal of the Order in Council, as far as those returns have been made to the General Board of Health; but there is reason to believe that numerous attacks have occurred in different parts of the country from which no returns have been made to this Board.

From these returns it will be seen that, since the latter end of March, Cholera has broken out in twelve different localities in the Metropolis, in twenty-seven towns in England and

Wales, and in seventeen towns in Scotland, and that in several of these places, as in Sunderland, Liverpool, Durham, Weston (in the Hitchin Union), Gloucester, Keynsham, Merthyr Tydvil, Cardiff, Kilbirnie, Galashiels, Kelso, and Dundee, the disease has continued to spread.

Another fact is declared by these returns of great significance, which calls for the earnest attention of the local authorities charged with the execution of the Nuisances Removal and Diseases Prevention Act: namely, that the attacks within the last twelve days have exceeded those which have occurred during the preceding two months.

Thus in two months from the 29th of March to the 29th of May, both inclusive, the total number of cases is 428; but within the last twelve days, that is, from the 30th of May to the 11th of June, both inclusive, there have been no less than 673 cases, and at the same time the disease has manifested a decided tendency to spread epidemically, as is shown in the numbers attacked on board the American emigrant ship at Plymouth, and in the extent to which the disease has prevailed in Glover Hall Court, Beech Street, Barbican, in the city, and also in Bermondsey.

The total number of deaths, up to the time of the renewal of the Order in Council were 6,319 out of 14,332 attacks, or in the proportion of three deaths to seven attacks: whereas the returns now made give 638 deaths, out of 1,203 attacks; or a proportion of more than one-half—a proportion exhibiting the severity that usually marks the commencement of a general outbreak.

Under circumstances which thus afford ground for apprehension that another visitation of the scourge may be impending, the General Board of Health deem it highly satisfactory to be enabled to report the uniform success which has followed prompt and continued attention to the premonitory symptoms which generally precede an attack of this disease. In their first notification on the re-appearance of the pestilence in September, 1848, they announced that there is no real foundation for the extent of popular alarm arising from the apparent suddenness of the attack; that, except at the first outbreak of the disease in a locality, it is the developed stage only that is sudden; and that, in general, distinct warning is given of the approach of the disease in sufficient time for the employment of effectual remedies against it. Recent experience has fully confirmed the truth of this representation. In Dumfries, Paisley, Glasgow, and numerous other places, special arrangements have been made for the daily visitation of every house in the infected localities, with a view to search out incipient attacks, and to bring all such cases without delay under appropriate dietetic and medical treatment. The success of this

measure, wherever it has been adopted, has been so decided as to establish the fact that we have now arrived at the knowledge of an effectual mode of dealing with this pestilence, and the authorities charged with the execution of the Nuisances Removal and Diseases Prevention Act in any place in which Cholera may hereafter break out will incur the gravest responsibility if they do not forthwith organize an adequate staff to carry out this plan of visitation in its full efficiency.

The General Board of Health have to regret the failure of any mode of treatment that has been hitherto adopted in the developed or collapsed stage of this disease. They would not discourage efforts to arrest the progress of the malady in this stage: they believe, from information communicated to them, that individuals have been recovered from it who have received from the hands of their medical attendants the unremitting attention which is given to a person in a state of suspended animation; but few can receive such attention when the sufferers are numerous; and the register of deaths in all countries, in all climates, among all ages and classes, and whatever mode of treatment may have been adopted, shows that the only well founded hope of saving life is by prompt and continued attention to the very first indications of an attack.

Recent experience has fully confirmed the evidence previously adduced that the localities of this disease and the localities of other epidemics are the same, not a single instance having come to the knowledge of the Board of the spread of this scourge in groups in any other than the ordinary seats of typhus and other zymotic diseases; those seats being uniformly marked by the existence of filth, bad ventilation, overcrowding, and other local causes of atmospheric impurity. This is so certain and constant as to afford stronger grounds than ever for the presumption of culpable ignorance and neglect wherever successive cases continue to occur in any locality, or wherever the disease widely spreads through a court, street, or district.

Recent experience further establishes the advantages that have resulted from the operations of cleansing. The first cases of Cholera that occur in a locality are sometimes sudden, without any premonitory symptom: this suddenness of attack is in itself evidence of the local presence in unusual intensity of the causes of atmospheric impurity. As soon as cleansing operations have been carried into full effect, these sudden cases cease, and instead of them diarrhœa appears, which, if promptly and properly treated, does not pass into Cholera. Uniform experience shows that the first and certain effect of these cleansing operations is to stop these sudden attacks; and the cases of premonitory diarrhœa that follow, if early and properly attended to, are, in the great majority of instances, arrested at once; and thus the extension and the great mortality of cholera are checked.

The proportion of deaths to attacks already stated shows that the severity of the disease itself, wherever it actually breaks out, is as great as at any former period, if not greater; and a strong presumption arises that, but for such exertions as have been made, the general visitation would be equally severe, as it still is in those localities of the towns and cities of Egypt, Russia, and other places where no sanitary improvement has been effected.

The General Board of Health have to renew their former representation, that what is done against this one disease will have been done against the entire class of epidemic diseases. It is scarcely possible to over-estimate the importance of the conclusion to which the whole tenor of recent experience leads, that in proportion to the intelligence and energy exerted for the removal and prevention of the localizing conditions on which the presence of this disease depends, it is practicable in a great degree to secure immunity from it, and that, if happily Cholera should not again prevail to any great extent, those exertions will be equally effectual against typhus, scarlet-fever, diarrhœa, and other native and prevalent epidemic, endemic, and contagious diseases.

By order of the General Board of Health,

HENRY AUSTIN, *Secretary.*

VIII. PRECAUTIONS AGAINST CHOLERA AND OTHER EPIDEMIC DISEASES, ADDRESSED BY THE GENERAL BOARD OF HEALTH TO CAPTAINS OF MERCHANT SHIPS, STEAMERS, AND COLLIERIES.

THE attention of the General Board of Health having been called to the circumstance, that the first cases of Cholera that appeared in Hull and Sunderland occurred on board of merchant vessels in those ports, it appeared to the Board to be very desirable to ascertain the sanitary state of these vessels, and with this view they directed Dr. Sutherland and Mr. Grainger to proceed to Hull and make the necessary inquiries. After completing their examination of the commercial shipping at this port, Dr. Sutherland proceeded to Sunderland and Mr. Grainger to Hamburgh. From their statements it appears that in consequence of the filthy state of the ships, and the inattention to ventilation, and to the common precautions for the preservation of the health of the seamen, precautions which to a considerable extent are taken in the royal navy, there is on board the commercial shipping an excessive amount of sickness and an undue susceptibility to epidemic disease, both amongst the crews and the passengers. From the whole tenor of the information

communicated to the Board, it appears that the state of the commercial shipping, at least in the ports examined, has experienced but little improvement since the former appearance of Cholera in 1832; at which time its condition is thus described by Mr. Bowie :—

“What is the general sanitary condition of merchant ships?—The accommodation of the smaller class of ships, especially coasters, is very confined; they are filthy, unpleasant, and unwholesome; the men often sleeping, feeding, and cooking in the same place, which is very badly cleansed and ventilated. Frequently, moreover, considerable quantities of wet clothing are thrown down upon their chests or boxes, or anywhere else they can place them. Fever is very frequent among the crews of these vessels, and very severe.

“That is to say, fever occurring on board the ship?—Yes.

“May not such circumstances give rise to the popular supposition of fever or epidemics being imported by such vessels, which have arisen on the spot, on board, and with sufficient cause?—Undoubtedly. In the very instance of the ‘Felicity’ it was given out that the Cholera had been imported into the metropolis by that vessel. Now the neighbourhood where this case occurred was one of the dirtiest along the river. What were called the ‘bone vessels,’ vessels employed to carry old bones for manure, usually lay there, and some of them lay there at that time. The smell was exceedingly sickening, and was perceptible at a great distance. Such was the recklessness of the crews of these vessels, that I have frequently seen them using the bones as fuel, and cooking their provisions with them; the most offensive smoke meantime penetrating into the houses along the shore. Putrid carcases of dogs, cats, and other inferior animals, likewise the refuse from the shipping in the neighbourhood, thrown into the river, or left on the muddy beach by the tide, were allowed to remain there, deteriorating the atmosphere, until removed by nature’s scavengers. The whole of the coast, extending from St. Katharine’s Docks, the entire length of High-street, Wapping, was very bad, with the exception of a few houses at and near the entrance of the London Docks. And I know it to be a fact, that the water for all domestic purposes was pumped into many of the houses from the parts of the river where these impurities abounded.

“From the circumstance of seamen, though robust and young in life, living in such condition as you describe, would not you consider them to have a special susceptibility to such a state of atmospheric impurity?—Yes; but even at sea, and away from all ports, Cholera has apparently broken out spontaneously.

“Do you attribute that to the confined and unwholesome state of the ship itself, or that part of the ship in which the seamen take their meals and sleep?—Principally to that part of the ship where the seamen take their meals and sleep. But the whole of the internal part of a ship may be very unwholesome, according to the nature of the cargo, or where bilge-water is allowed to collect. Vessels containing putrid hides, or other animal matters in a state of incipient putrescence, particularly guano ships, I would say, are likely to be dangerous where Cholera prevails epidemically.

“Would it be conformable to your experience of the susceptibility of

individuals to malaria, that seamen on board vessels from healthy ports, but lying for weeks in the vicinity of the bone ships, and amidst the surrounding deleterious influences, would be more liable to be affected by such circumstances than the seamen on board the bone ships themselves, accustomed to the foul atmosphere of such vessels, and, as it were, acclimated to them?—Yes, I believe they would be. I believe that those who are acclimated are less liable than those who are not.”

From all the information received, it appeared to the General Board of Health that the crews and passengers on board these vessels were in greater danger of a sudden outbreak of Cholera under circumstances which far more urgently required assistance than equal populations on shore, who may generally obtain medical aid promptly. After much inquiry, however, the General Board found that the only means in their power of affording the assistance they desired to give to persons on board of such vessels was by circulating information. On consulting with several persons having large interests in this branch of commerce, the Board, with the assistance of Mr. Grainger, prepared the subjoined modification of the instructions contained in their first notification.

These precautions and directions have been sent to the consul at Hamburg for distribution amongst the captains there, and measures have been taken for their general circulation in all the ports in which Cholera has already broken out, or may be expected to appear. The directors of the General Steam Navigation Company have engaged that these directions shall be circulated and observed in their own vessels.

The evidence of the frequent occurrence of various epidemic diseases on board the commercial shipping, such as at the present time are rarely if ever found in the navy, suggests the urgent necessity for the protection both of passengers and crews, that the like measures of precaution and prevention which experience has shown to be so successful in the navy should be adopted in merchant vessels.

It appears to the General Board of Health to be very important to state, that when cases of Cholera do occur on board of vessels in port, the same rules as to change of place and as to the regulation of diet, are applicable to ships, as have been shown to be necessary to persons on shore. Vessels, indeed, as has been already stated, are often stationed in port in the most dangerous places,—in the very spots where Cholera is observed to make its first appearance in almost all countries, and where it spreads with the greatest rapidity, and proves the most fatal. The evidence of Mr. Bowie as to the first appearance of Cholera on the river Thames, on its former visitation, in vessels moored near to the mouths of sewers, and other sources of filth, has been already cited; and Mr. Robertson, of Manchester, gives the following instance of the same fact:—“One morning,” he

says, "it was discovered that several men had been seized with Cholera during the preceding night, on board of a vessel lying in one of the docks. The men were sent to hospital, and the vessel having been immediately warped in the river, another ship with a healthy crew took up her station. The next morning all hands on board were ill of Cholera. On examining the dock, it was found that a large sewer discharged its contents under the spot where the vessel was placed. I give this most instructive fact on the authority of Dr. Gaulter, an accomplished physician (since deceased), the author of a valuable work on the 'Origin and Progress of Malignant Cholera in Manchester,' published 1833."

Impressed with the great importance of removing all vessels attacked by epidemic disease from such localities, the General Board of Health deemed it their duty to represent to the Government the necessity of changing the situation of the convict ships at Woolwich, on the recent outbreak of Cholera on board; and it is stated by the medical officer in charge of the prisoners, that the adoption of this recommendation was immediately followed by a diminution of the number attacked, and by a highly beneficial effect on the character of the disease.

Having thus directed attention to the general want of cleanliness and ventilation in the vessels themselves, and the unhealthiness of the situation in which they are often moored, the General Board of Health deemed it desirable to issue some special instructions on the present occasion in consequence of its having been ascertained that the captains, although for the most part provided with medicine chests, had no knowledge whatever of the treatment proper to be adopted in the event of any of the crew being attacked with diarrhoea or Cholera. Many sailors, it was further learnt, had been attacked whilst on the voyage, and some had died, without any efficient treatment having been applied. Great evil, and frequently fatal results had also ensued in consequence of captains neglecting to obtain early medical assistance when any of their crew were attacked whilst in port; and especially owing to the neglect of the premonitory diarrhoea, the general occurrence of which, before an attack of Cholera, was not known. The medicine here recommended, laudanum, was selected as being that with which the captains were best acquainted, and with which most ships are provided. It must be apparent that only the most general treatment could, in the peculiar circumstances of the case, be directed.

First Instruction,—Guard against Looseness of the Bowels and Purgings.

Before a person is attacked by the Cholera, he is almost sure to have for a day or two, or for several days, or only for a few

hours, some looseness of the bowels or purging; there is often no pain, but this must not put any one off his guard, as to the importance of this warning. The captain or mate ought, therefore, without alarming the men, to inquire of the crew daily, whether any of them have looseness or purging, as this might by chance become worse. If a man is purged, let him go to bed, be kept quite warm, and if he is cold, apply bottles of hot water, or bags filled with hot salt, or bran, to the stomach and feet. Give him immediately,

Eight drops of laudanum in a wine glass of hot and weak brandy and water; give the man this every two hours, as long as he is purged; the same dose should be given night and morning for one or two days after the purging has stopped.

Second Instruction,—What is to be done if a Man is seized or taken with Cholera.

This comes on with cold, giddiness, sickness, vomiting and purging of what looks like dirty water, or rice and water. Let the man get into a hot bed; cover him well with blankets; apply bottles of hot water, or bags filled with hot salt, sand, or bran to the stomach, spine, and feet; be sure he is not exposed to a draught or cold, the object being to get him into a sweat. Put a large poultice of mustard and vinegar over the stomach, and keep it on fifteen or twenty minutes. Give the man fifteen drops of laudanum, with a teaspoonful of brandy (or whisky or other spirit in the absence of brandy) in a little hot water; a little ginger or cloves may be added. This medicine may be given every hour for six hours, *but not longer*; it must then be left off. When the man begins to sweat, give him some hot tea, with a teaspoonful of brandy in it, and keep him warm in bed.

Third Instruction.

When the ship is in port, medical advice should be got *as soon as possible* in any case of seizure, as the delay of even one hour may cause death.

Fourth Instruction,—On Food.

All kinds of fruit, salads, cucumbers, celery, and pickles had better be avoided; also oysters, lobsters, crabs, mussels, or other shell fish.

The most wholesome articles of food are well-baked bread, good biscuits, rice, oatmeal, peas, and good potatoes: solid food is better than fluid, and therefore at this time it would be a good thing to give the crew beef and mutton instead of soup.

Fifth Instruction,—On the Danger of Spirits, Corn-Brandy, Wine, Beer, &c.

It is a very common notion among sailors and other people,

that brandy, whisky, rum, wine, and the like, are good as a protection against the Cholera. This is a total and fatal mistake: in every country and town where the Cholera has broken out, drunkards, and those who drink freely, have been the first and greatest sufferers from the disease; temperate men usually escape, drunkards usually die. It is therefore earnestly hoped and requested that captains will warn their crews against all excess in drinking: more especially warn them from taking corn-brandy or gin, which often acts as a poison; they should also not drink any of the white and brown beer sold at Hainburgh and other ports, especially if it be sour. The Elbe water is bad, and likely to purge; therefore it would be better to use water brought from England; and captains are recommended to take in a supply accordingly.

Sixth Instruction,—Against Exposure to Wet and Cold.

Wet and cold should as much as possible be guarded against by warm dry clothing and stout shoes: a thick flannel belt or bandage around the stomach and loins is a good defence for sailors; when they go to bed, if the shirt is damp or wet, they should change it and put on a dry one. They should not stop out at night on shore: many sailors who have been drinking at Hambro' Bar, and lying about on Sunday night, have been seized on Monday with Cholera, and died in a few hours.

Seventh Instruction,—Concerning Cleanliness and Ventilation.

Nothing is of greater importance as a protection against Cholera than cleanliness and a good supply of fresh pure air. It is, therefore, the duty of captains to take all the means in their power to improve and keep up the health and strength of their crews, who are placed under their care and protection. The owners are particularly requested on the return of their ships to English ports to see these instructions complied with. The fore-castle should be frequently cleansed, and the hatches be opened in fine weather, so as freely to admit the fresh air. The fore-castle should be whitewashed. To sweeten the ship, bleaching salt or powder (called also chloride of lime), which is very cheap, and may be got at any druggists, should be mixed with water and poured down the pumps; it should also be sprinkled about the fore-castle and in the cabins. Keep the ship as free as possible from bilge water, using the pumps daily for this purpose, because it prevails most when ships are very tight; and open the hatches to purify the hold. All the bedding should be kept well dried, and be brought on deck in fine weather, and well aired.

MARK THIS WELL—*The Cholera is not Contagious*; so no one need be afraid of catching it: there is no danger in waiting on

and nursing any one of the crew who may unfortunately be attacked.

The captains of all vessels trading to the port of Hamburg are hereby informed that proper medicine, ready made up for use, and with plain directions, can be procured at prime cost of all the shipbrokers and agents for English ships in Hamburg, and they are hereby requested to provide themselves with the same, in order to afford all the protection to their crews which the circumstances of the case admit.

Signed by order of the General Board
of Health of England,

Oct. 18, 1848.

HENRY AUSTIN, *Sec.*

IX. EXTRACT FROM "REPORT ON THE OUTBREAK OF CHOLERA ON BOARD THE AMERICAN SHIP 'AMERICAN EAGLE,' AT PRESENT LYING AT PLYMOUTH." By Dr. SUTHERLAND.

THE circumstances connected with the outbreak of Asiatic Cholera on board the ship "American Eagle," which I have the honour of laying before the General Board of Health, appear to me to afford strong proof of the necessity for substituting a system of well-arranged sanitary regulations for preventing, as far as possible, the localization of epidemics on board merchant-vessels, instead of the expensive, inefficient, and dangerous system of quarantine now in use. Besides the saving of sickness and life, this case presents an example of the greater saving of time, or, in other words, of money, by the substitution of sanitary for quarantine regulations.

A large vessel, which in an ordinary season might possibly have carried its crew and passengers across the Atlantic in safety, is laid in dock, close to an epidemic locality (which, moreover, ought to have had no existence there); the stagnant water of the dock leaks into the vessel, and becomes offensive; the ventilation is very defective; an overcrowded population of emigrants is placed on board; their food is unwholesome, and the personal habits of many of them filthy. Possibly all these circumstances might have been inoperative in ordinary seasons; but during a prevailing epidemic constitution they become matters of immense importance. Cholera strikes the ship, just the same as I have seen it again and again strike a similarly circumstanced locality on shore, although few places on land have been altogether so badly situated as this ship has been. The plan of procedure on land is to spread the population, by taking them out of the infected localities. This is absolutely necessary to their safety; while those who are re-

moved, and all in the neighbourhood, are placed under strict medical inspection. Every needful sanitary precaution in the way of cleansing, ventilation, &c., is also enforced. But suppose the "American Eagle" had arrived in England from a foreign port; if there had been no Cholera here, she would have been put in quarantine; her overcrowded population kept in her; no system of medical inspection, or sanitary amendment, would have been possible. I am warranted in stating, from experience in similar cases on shore, that a large proportion of the crew and passengers would have perished in a very short time under such treatment.

Every man of common sense must recognize that the methods adopted at Plymouth in the case of the vessel in question were infinitely superior to such a barbarous expedient as leaving a large number of our fellow-creatures to perish under circumstances in which death comes in one of its most fearful aspects, and beset with more than ordinary terrors. Had due care been taken to preserve the neighbourhood of the docks in a proper sanitary state, we have every reason from experience to believe that an epidemic centre would not have existed there; and had the requisite precautions been taken on board of the "American Eagle," it is equally certain that the crew and passengers would have escaped Cholera. But after the neglect has been committed, and the consequences have shown themselves, it is surely a mark of ignorance as well as of inhumanity to subject the sufferers and their friends and fellow-passengers to all the dangers and horrors of a pest-ship, in order to ward off some imaginary danger from people at the port where the vessel arrives.

The present case illustrates forcibly the origin of presumed instances of importation of the disease. Should Cholera break out in Plymouth or its neighbourhood, a presumption of *importation* would be advanced; and in after-years, when all the circumstances are forgotten, the arrival of the "American Eagle" at Plymouth, the dispersion of the passengers, and the appearance of Cholera in the town, would, no doubt, be placed in the relation of cause and effect in the narrative: but let it be remembered that Cholera had shown itself in the neighbourhood of Plymouth *before the arrival of the ship*, and that a man, who had actually been in Plymouth, had died of the disease.

The case of the "American Eagle" further shows the importance of preventing the sailing of an emigrant ship, or any other vessel, when Cholera has broken out on board. Had this vessel put to sea with her depressed and over-crowded population, a large sacrifice of human life would have been inevitable. The greater purity of the air at sea, and the getting out of the epidemic atmosphere, which the ship by sailing might,

perhaps, soon do, may appear at first view to be reasons for her putting to sea with all possible despatch. But this view is a fallacious one, and, if acted on, would involve the certain destruction of numerous persons. Every man, woman, and child, under the circumstances which are here supposed, has been breathing a poisoned atmosphere. That some portion of the poison is already in the system of many of them, and has taken hold of them, is unequivocally shown by the prevalence of the premonitory diarrhœa. To the full development of the disease in every one of those persons nothing is wanting but favourable conditions. Such conditions are combined and concentrated in the intensest degree conceivable in an emigrant ship at sea under the circumstances supposed;—all more or less predisposed to disease; the disease actually existing in some; filth, over-crowding, imperfect ventilation, unsuitable food, panic. The concentration of these conditions, which it requires extraordinary care and skill to prevent, accounts for the fact, that outbreaks of epidemic diseases on shipboard are usually much more extensive and fatal in proportion to the numbers attacked than outbreaks in courts and alleys on shore. No matter how pure the atmosphere into which the ship may sail; this purer atmosphere cannot be got to the unhappy passengers. There is no possibility of substituting it for the poisoned atmosphere which is in the ship, which she carries with her, and which her over-crowded population continues to breathe. In port the affected individuals may be removed from the ship, may be dispersed, and placed in a comparatively pure atmosphere, while the ship itself may be thoroughly purified. By these means the progress of the disease is arrested in the persons already affected, and the further extension of the disease is stopped; but nothing of all this can take place at sea. To send a vessel to sea with Cholera on board is to follow the example of those guardians of the metropolitan unions who persisted in keeping their pauper children in the poisoned atmosphere of Drouet's establishment at Tooting, obstinately refusing to remove and disperse them, the result being that 180 perished.

The ship "American Eagle" is of about 1,000 tons burden. She left London on the 31st of May with a cargo and a number of emigrants on board, for New York. She touched at Portsmouth and took in about half-a-dozen passengers, which made the whole number of souls aboard 370. Of this number about 90 were German emigrants, who had come over from Rotterdam after having remained there a single night or two, the Cholera having been prevalent in that city at the time, and the poorer class of emigrants sleeping in the low class of lodging-houses.

Two or three Germans, who had come over from Rotterdam,

are reported to have died of Cholera in London, near the place where the "American Eagle" was lying before she sailed.

At the time of her leaving dock all were well on board except a little child of German parents, which had diarrhœa, of which, however, it recovered, under the treatment of Dr. Brown, a retired medical practitioner of London, who was on board as a passenger to the United States. The German emigrants had been in London for three or four days before the vessel sailed.

The father of the child already mentioned, was the first person attacked with Cholera. He was taken ill on the 1st June, very suddenly, and when Dr. Brown saw him he was already collapsed, and died in twelve hours from the period of attack.

On the 2nd of June there was no fresh case.

On the 3rd of June one of the sailors took ill. This man had been ashore at London several days without leave, and had been intoxicated. He assisted in sewing up the body of the first patient who died, but, except in this act, he had no communication with the steerage. He died after an illness of twelve hours.

It may be proper to state that the first fatal case happened in a weakly man, who had exhausted himself very much while in London, by attention to his baggage and moving it from place to place.

Another fatal case took place in an Englishman, who slept in a berth nearly opposite the first case. He was seized at 11 p.m. and died on the following morning.

On the 4th of June *four fresh cases occurred*. Two of these were Germans. They slept in the steerage, but their berths were at some distance from any of those in which the preceding cases occurred. Both of them died after an illness of about sixteen hours. Another fatal case occurred in a sailor who slept in a separate fore-castle from the one where the first sailor was attacked. This man was not known to have had any communication with any affected person. He died on the 6th.

About the period when this man was attacked a good deal of bowel complaint began to appear on board, and the captain, with great judgment and humanity, put into Plymouth on the 5th of June. Had he not done so, I am fully of opinion, for reasons already stated, that a very great sacrifice of life must have inevitably ensued.

On the 16th there were no fewer than eight new cases of Cholera, three of which, an Englishman, an Englishwoman, and an Irishwoman, died after about six hours' illness. On the 7th June two Englishmen died. On the 9th (yesterday), when I went on board, there had been twenty-one cases; thirteen deaths, six recoveries, and two under treatment. There were also twenty-five cases of severe diarrhœa under treatment. All

these cases will apparently recover; but the epidemic influence, I am sorry to say, has, up till to-day (Sunday), shown no disposition to abate in activity, for the cases of diarrhoea have been increasing in number; and another German, an old man, was seized with Cholera this morning, and at mid-day was in a state of collapse, in which, I fear, he will die.

I have much pleasure in stating that the authorities in Plymouth have done all in their power to alleviate this great calamity. The "Tyne" hulk was immediately sent by the Admiral to receive the sick and passengers; and an additional medical man, Mr. Fox, was put on board this hulk to take charge of the whole. The authorities permitted all such as chose to come on shore to do so; and as many as one hundred persons have thus been withdrawn from those agencies which appear to have tended to fix the epidemic on the ship and passengers.

The cabin of the "American Eagle" is fitted up with comfort and elegance, and not one of the passengers in it has suffered from indisposition.

The steerage runs under the cabin, and nearly the whole length of the ship. A portion at the stern has been separated as a store-room, into which there are stern lights, which also answer for ventilation; and there is a wooden grating at the upper portion of the partition through which air can pass from the store-room into the steerage.

The following are the dimensions of that portion set apart for the passengers:—

Length, 155 feet; breadth, 35 feet; height, 8 feet; superficial area, 5,425 feet; total cubic contents, 43,400 feet. This cubic space *includes* that portion occupied by the baggage of the passengers, as well as all that space occupied by the erections for berths, the bedding, &c.

Four ranges of berths, each intended to accommodate two persons, extend the whole length of the ship, interrupted only by the hatches, two in number, one of which is about eight feet square, and the other about six feet square.

Amongst other purposes, these hatches, if open, will answer to a certain extent for ventilation; but, in addition, there are three of the iron tube ventilators, one of which is about eighteen inches across the funnel-shaped mouth on deck, and the other two are about fifteen inches in diameter at the same part. Of course where these tubes perforate the deck they are much smaller in area,—apparently not above one-half the measurement stated. Besides these there are ten dead lights, five on each side of the steerage. Each is about six inches in diameter, and circular, the glass being capable of opening inwards so as to afford ventilation.

The total number of passengers accommodated in the steerage was 250,—a number considerably below the proportion admitted by the regulation, which is, I believe, one passenger to fourteen feet superficial area: but after all this is admitted, it will be seen that the cubic space only amounted to about 173 feet for each, including baggage. There can, in my opinion, be no question as to the defect of ventilation on board this vessel. It is quite true that, in this respect, she is better than the great proportion of our own emigrant ships; but, to a practised eye, the whole amount of air which it is possible to supply to such a great number of inmates, especially during the night, must appear wholly inadequate for the ordinary purposes of ventilation. I have seen no conditions on shore so defective in this matter as those presented by the ship in question; and yet the results on shore are sooner appreciated than they are on board ship. The fresh breeze to which the passengers are exposed during the day on deck, is evidently their only safeguard from certain destruction.

The water-closets are very difficult to keep clean, on account of their small number, and the filthy habits of many of the emigrants.

The decks were stated to me to be all cleaned every morning, and kept in as good a state as the habits of the people would admit of.

It is complained that the habits of the Germans are so very filthy that the English, and even the Irish emigrants cannot endure them. They appeared to be a quiet orderly people, but generally not so clean in their persons as either of the other classes.

Bad diet, mental depression, over-crowding, defective ventilation, superabundant moisture (for it is impossible to keep the people from slopping the decks), and, above all, an epidemic stroke coming along with these co-existing circumstances, have, no doubt, all contributed to produce the result.

The outbreak so closely resembles an epidemic seizure of a village on shore, that, in my opinion, it ought to be considered in this light. All the early cases have been sudden, and nearly all have died; and diarrhoea is now very prevalent. This is precisely the history of an attack of Cholera in a land population under unfavourable circumstances.

Under ordinary circumstances, there was nothing that would have produced more than an ordinary amount of sickness, but quite enough during an epidemic to determine its localization.

A number of people seemed to have been poisoned before the usual results showed themselves; and now that most of the defective conditions have been removed, the symptoms of diarrhoea are showing themselves in persons who would, without doubt, have been seized with sudden Cholera had the vessel proceeded on her voyage.

The first time I went on board (yesterday), I found the whole ship undergoing a thorough cleansing. The decks, planking, and roofs, as well as the berths, have been thoroughly washed with quick-lime, and disinfected with Sir W. Burnett's liquid; the passengers had all been previously transferred on board the "Tyne," or drafted into the town.

On board the hulk all the arrangements have been made for accommodating both the sick and the healthy, at least, so far as circumstances would admit. The sick who are confined to bed are about half-a-dozen, and are on the lower deck; the healthy are accommodated on the deck above; but this arrangement is still very faulty, for the sick should be by themselves, and the healthy are still too crowded to be safe.*

While on board the "Tyne" hulk I summoned the German passengers together, and, through a very intelligent countryman of their own, I impressed on them the need of immediate attention to premonitory symptoms, and urged on them to apply to the medical officer on board whenever they were attacked. A similar communication was also made to all the other emigrants.

The only remaining difficulty is in the matter of *food*. It would be very desirable, if it could be managed, to substitute fresh provisions for the salted meats now used. I have expressed this opinion strongly, and I believe that all persons absolutely suffering from diarrhoeal symptoms will be provided with the needful change of diet; but there appears no solution for the difficulty on the part of the great bulk of the emigrants.

I suppose there is no power to compel the ship "American Eagle" to remain, as long as it may be needful for safety; but I cannot help expressing a very strong opinion, that so long as any passenger is liable to diarrhoea, and for several days after this symptom has ceased, there will be absolute danger in proceeding to sea. I have protested verbally against such a step, and shall do so in writing, in order to justify the captain with the owners. He appears a humane and enlightened man, and willing to adopt, to the utmost, every possible precaution. He has done so hitherto, and I think it right to say so.

I have advised that the decks of the ship be thoroughly dried before any one is received on board, and that every available means of ventilation and cleanliness be adopted for the future.

One of Dr. Arnott's air pumps would do the work effectually; and the more I see of shipping, the more I seek to apply physical laws to the solution of the question of ventilation, the more I am convinced that by a MOVING POWER ALONE, can any effectual change in the air in the hold of a ship be accomplished. All

* On a representation of this to the Port Admiral, Sir William Gage, he immediately ordered another ship, the "Andromache," for the accommodation of the emigrants.

ventilating tubes and open hatches are inadequate to the task, and while we have so very simple and cheap a mechanical power at our disposal, it is a duty to recommend and enforce its use whenever we have an opportunity.

(Signed) JOHN SUTHERLAND, M.D.

Plymouth, 10th June, 1849.

X. INSTRUCTIONS OF THE GENERAL BOARD OF HEALTH TO THE SUPERINTENDING INSPECTORS.

SIR,

ON proceeding to the town to which your service is directed you will inquire for the list of places required to be made out by the 9th Order, under the Epidemic Diseases Prevention Act, where cases of Typhus and other epidemic and endemic diseases have most frequently occurred. You will seek the assistance of the clergy and ministers of religion, who may be able to afford valuable aid in your inquiry, and you will also put yourself in communication with the chief medical officers and the medical practitioners who, as union surgeons or otherwise, have probably been led most frequently into the houses and streets where epidemic diseases have prevailed.

You will request the superintendent registrar of the district to attend your first meeting with the list of the places of epidemic disease; you will also request the medical officers to attend at the same time, and also a committee or deputation of the petitioners, the surveyor, inspector of nuisances, and the high constable or other chief officer of police to be in attendance upon you; you will read the Registrar-General's Return of the average proportion of deaths from epidemic disease, and also the average rates of infantile mortality, and also any other such particulars as may be in your possession from previous returns with which you will have been furnished, *viz.*—the answers made to the first sanitary inquiry; also the answers made to the inquiries of the Commissioners of Inquiry into the means of Improving the Health of Towns; and state that you are instructed to view the places where epidemic diseases have been most rife, and to judge for yourself as to the condition of the houses and of what may be done by public measures and the exercise of the powers by the General Board of Health, for the remedy of the evils in question, and for the advantage of the population.

You will then ask, if there be any evil, or any place to which any person in the meeting wishes you to direct your special attention? If there be, you will take a note of it, and endeavour to attend to it as far as it may appear to require it and as your time may enable you.

You will endeavour to confine your first meeting to the hear-

ing of such statements, and ascertaining the parties who will give the most trustworthy information.

If there be any parties opposed to the petitioners, or to the inquiry generally, or to proceedings on the ground of expense, the objection will involve references to the condition of some places, or to the condition of the town generally; and you must necessarily suspend your judgment until you have seen with your own eyes. After you have done so, you will judge how far it may be necessary to incur the expense or delay of a further hearing before you have made your Report, when they will see what is proposed to be done, and when it is hoped that their apprehensions will be removed, and when, if not, they will have the opportunity of being heard according to Section 9. You will select the medical or the relieving officers, or other persons who will guide you to the track of fever cases, and also any town surveyor or inspector of nuisances, or officer of police, who may be required to attend you to give explanations.

From what is established in relation to the haunts of typhus and epidemic disease, it may be presumed that the list of places of their occurrence will have carried you to ill-drained and ill-cleansed and filthy places. In these places you will inquire and examine as to the state of the water supplies.

From the inspection of these places you will proceed to the other better-conditioned districts, and to the general perambulation of the town, and to the suburbs.

You will next collect your information as to the soil, subsoil, the beds of clay or strata, and the geological condition of the site of the town, its permeability and absorbency, and its state as to springs and surplus water, as affecting the state of damp, whether of tenements within the town or of lands in the suburbs.

Having taken a general view of the covered portion of the town, and of the whole site, it is to be presumed from the known common causes of epidemic disease that you will have been brought upon ill-drained and ill-cleansed districts, with accumulations of filth and cesspools in yards, or in extended cesspools constituted by ill-constructed drains and covered sewers, or by stagnant open ditches which serve as sewers, upon houses with damp floors, or walls, and upon spaces surcharged with moisture.

You will then have to consider in what way the soil and animal and vegetable matter, filth, and refuse may be most rapidly, conveniently, safely and economically removed.

From trials of works it may be taken as demonstrated that you will find that such removal may be best effected by means of impermeable tubular drains, which will allow of no escape of noxious gases; and from their comparative smoothness, and the better adaptation of forms and concentration of the stream, will allow of the best scour and consequently the least deposit.

You will have next to consider the direction of the discharge, which usually need not be to the pollution of the nearest stream, but in the direction of agricultural demand and application for the purpose of production; but in making this provision you will consider of the discharge of the drainage into such channels as will not pollute the atmosphere of the town, but will yet serve for relief: should the early demand for it for agricultural production prove inadequate, the system of impermeable tubular drains might convey the refuse of the town through sites surcharged with surface water from the rain-fall on the uncovered spaces, or from springs, and from the percolation of upland-waters, and thus avoid adding to the noxiousness of the emanations from stagnant water charged with the common marsh impurities.

You will have to consider, together with the means of relief by the conveyance of night-soil and other refuse in tubular impermeable drains, the clearance of the table site or natural area of the town from surplus rain or spring water by means of a corresponding system of permeable agricultural tile drains, and other means, according to the position of the land; and you will have to direct your attention to the protection of low-lying districts from upland flood waters as well as from the ordinary rain-fall.

The natural drainage area usually determines itself by the line of water shed from the hill top to the river or stream, dividing the valley or the lines of water shed of a natural basin. But where a river dividing a town through the natural drainage area on each bank, might in an engineering point of view, be drained separately, yet this would require double, or weaker, or less economical establishments, clashing regulations and administrations, in parts of the same town, you will find the advantages resulting from the principle of administrative consolidation exemplified in a charge delivered to a jury at a Court of Sewers at Westminster by Lord Morpeth.

You will, however, wheresoever you can, avoid going beyond existing civil boundaries for the sake of time in procedure and on other grounds. In all places where there is no corporate body, it will be desirable that you should report your views upon the best mode of constituting the local board in conformity with the provisions of the Act as to numbers and the continuance or incorporation of any local body.

Considering the superior economy as well as the sanitary advantages of removing, as far as may be practicable, all the refuse and filth in a state of suspension in water, and the greater efficiency and economy of distributing all such matters as manure in the like suspension in water, you will next have to consider of the application of existing supplies, or of new supplies of water for these purposes, and also for domestic and manufacturing purposes and other uses.

You will have to consider of the sources of such supply, and of gathering grounds or storage grounds, for the collection, storage, and distribution of water for the purposes above specified.

The consideration of the works necessary for these purposes will lead to the determination of the natural drainage area, and also of the jurisdiction of the administrative area within which the several objects above described may be most economically and conveniently accomplished.

You will only go beyond the existing civil boundaries where there is a physical necessity for doing so, or where there will be manifest advantage to the occupiers and owners of the district included in the new jurisdiction, as well as the owners and occupiers within the existing civil jurisdictions.

Where schemes of local amendment have been proposed in relation to any place, you will see and examine the place itself, and make your own notes of what appears to be necessary to be done, and of the applicability of established principles of works before you look at any of the schemes and plans of works which may be tendered for examination. You will bear in mind that you will not be warranted in incurring delay and expense in the examination of plans which *primâ facie* are erroneous in principle or defective in detailed application in respect to the important subject of the application of the refuse of the town to agricultural production. It is desirable to ascertain and determine to what extent town manure is at present used by the farmers near the town? What is paid for it according to the present methods? What is the expense of hand labour in its collection, and of cartage in its removal? and also what is the usual expense of its application as top-dressing? and what is the produce from the manure as at present applied?

You will inquire as to the state of the adjacent land for the reception of sewerage manure as to its permeability from drainage or from the natural condition of the soil and sub-soil, and also as to any waste or common land, or public lands held under tenures favourable to adaptation as examples of successful cultivation.

You will endeavour to make known as widely as you can, that every district will be protected by the General Board of Health from contributing more than its fair share of rates, proportioned as nearly as may be practicable to its share of the advantages which it is hoped will be derived from the measures which you will be required to prepare.

The Reports of the Commissioners of Inquiry into the means of Improving the Health of Towns show an extent of expenditure in useless and wasteful works which may well justify apprehension as to future expenditure under the same management for

the same objects. In the present depressed state of many commercial and manufacturing districts you will probably experience a great dread of any new outlay whatsoever. The Legislature, in authorizing a new expenditure, has appointed the new Board, whose agent you are for carrying the Act into effect, for the purpose of preventing the repetition of the former insufficiency and waste.

It will be your duty by your Report to allay, as far as may be practicable, unfounded apprehension on these heads.

You will show the description of works required, and state the charges at which it may be confidently pronounced that such works may be executed under a proper management. You will allay apprehensions of immediate outlays being required by expounding the principle and the equity of the distribution of charges over periods of time as sanctioned by the Legislature.

You will state the weekly charges per house, and the charges per head on the population, in order that the annual rental, as well as the immediate outlay which is to last for years, may not, as is commonly done, be fallaciously set against the daily and weekly convenience and economy.

You will moreover take care to ascertain and set forth what are really the existing charges in respect to which it is hoped the new charges will serve as means of reduction, the existing immediate charges of emptying cesspools by hand-labour and cartage; the charges of repairing defective house-drains and cleansing badly constructed sewers; the charges for the construction and repairs of pumps and wells, and of tanks and cisterns where supplies of water are only intermittent; the charges of fetching, carrying, and distributing water by hand-labour, and the charges of dilapidations of premises arising from damp and ill-drained foundations.

It is important to ascertain such existing charges, as a point of departure as well as of contrast. One mode of doing this will be by a set of house-to-house queries, such as have been distributed by the Metropolitan Commissioners of Sewers. You will exercise your discretion as to the distribution of these queries. In order to keep them within a manageable extent, you may send them to be answered by the petitioners, or you may distribute them to the occupiers of different classes of houses. You may take a block of houses of each of the chief classes, and after having ascertained the existing charges in relation to them, set forth the proposed house-drainage and other works, and show in detail the proposed new charges in relation to them.

You will also advert to the expenses of sickness and mortality. The extent of inquiry and exposition on this topic will be entirely at your own discretion.

In the event of your deciding to hold an adjourned meeting to hear any parties on any contested question, you will remind the persons applying, or the rate-payers, of the expenses incurred by any delay, and ask from what fund the prosecutors of the contested question expect payment?

You will bear in mind that your examination is mainly one as to works, or as to engineering appliances for the removal of the evils in question, and you will conduct the inquiry according to the best of your judgment for the attainment of the chief objects, according to your own professional views and methods of investigation: and where you deem it necessary to examine witnesses, it will be inexpedient that you should attempt to adopt the technical procedure of the Courts of Law, which is instituted for the determination of questions as to matters of fact with a view to legal decisions. You alone will be responsible for all inquiries, and you only are authorized to conduct them. The statute gives no authority for incurring the expense of hearing counsel and attorneys. It will be your duty to put such questions to witnesses as may appear to be necessary. If any one wishes any questions to be put on points to be investigated, you will request him to hand them to you in writing, and you will judge of their relevancy and direct the inquiry. You will bear in mind, and state to parties, if requisite, the inutility and grievous expense of former investigations as to the necessary or comparative merits of engineering works, when conducted according to the methods adhered to by Courts of Law on the trial of more definite questions of fact which are put in issue in those courts.

You will also point out the privilege of appeal secured by the Legislature to parties interested by the provision, "that within a certain time, being not less than the time of such publication and deposit, written statements may be forwarded to the Board in respect to any matter contained in or omitted from the said Report, or further Report or any amendment proposed to be made therein." You will give the assurance that the General Board will, to the best of their power, pay attention to all written and deliberate appeals on a matter in which their only desire and interest must be to see that no just cause of dissatisfaction prevails.

You will bear in mind, as a representative of the General Board, the general nature of its objects and position as collected from the tenor and spirit of the provisions of the Act, first, as an agency for the removal of those evils in the repression of which the public at large have an interest; next, as an authority of appeal and adjudication between rival or conflicting local interests; thirdly, as a security in the distribution of charges, for the protection of minorities and absentees against wasteful works or undue charges in respect to them; and,

fourthly, as a means of communicating to each locality for its guidance the principles deduced from the experience of all other places from which information may be obtainable.

In this last view in respect to works, each of you will be expected to note and communicate to each other reciprocally in detail whatsoever information you may obtain.

You will keep diaries of your proceedings and accounts of your expenses, and transmit them weekly to the General Board in the forms provided.

In the diaries you will note any facts or observations that may occur to you, and that you may not deem of importance enough for a separate letter.

The Board will regard your labours with great interest, and will be glad to hear from you upon all matters that may illustrate the progress of the measure.

The Board will in general refer to you any correspondence relating to the places with which you may be charged.

Signed by Order of the Board,

HENRY AUSTIN,

Secretary.

Gwydyr House, Whitehall.

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REPORT
BY THE
GENERAL BOARD OF HEALTH,
ON THE
MEASURES ADOPTED FOR THE EXECUTION OF THE
NUISANCES REMOVAL AND DISEASES
PREVENTION ACT,
AND THE
PUBLIC HEALTH ACT,
UP TO
JULY 1849.

Presented to both Houses of Parliament by Command of Her Majesty.



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