

ber of inmates in each house who had been attacked either with cholera or diarrhoea; together with other illustrative details respecting the number of widows and orphans who had become chargeable on the rates, owing to deaths from the epidemic; the total expense thus incurred, &c. A Return was ordered to be made of these particulars by the House of Commons; but so few replies have up to the present time been received, that it is impossible to give any general statement relative to details which in so many different ways affect the public interests. In the absence of this information, and having received from the medical inspectors accounts of only a limited number of these establishments, the duties of those gentlemen relating to another object, it has not appeared to me desirable, with such imperfect data, to enter at this time upon so important a question. I may, however, remark that sufficient is known to show that where the sanitary arrangements were defective the epidemic prevailed, and in some instances very severely; and that, as regards the expenses thrown upon the ratepayers, owing especially to the large number of widows and orphans left by the victims of the disease, they will be seriously felt, and that for years to come.

Before closing this section, it may be proper to remark, that an attempt was made to ascertain the force of the epidemic among the shipping on the river, but without success; since, although a vessel was provided for the reception of sailors, many of those who were attacked were conveyed elsewhere or died on board. Many persons working on the river, such as lightermen, boatmen, ballast-getters, &c., died, most of the cases appearing in the returns from the registrars' districts which border on the Thames.

SECTION IV.

Exemptions from the Epidemic, and Results of Sanitary Improvements.

Controllable Character of Epidemics.—It is a remarkable fact that those diseases which by their destructive violence, their sudden assaults, and their wide range, seem to break through all barriers and to bid defiance to all control—which among barbarous nations are regarded as manifestations of the Divine anger, as they are, even among the most civilized people, sometimes held to be the appointed means for checking what is falsely termed an excess of population—constitute precisely the class which, when their laws are thoroughly comprehended, are found to be most observant of limitations and most amenable to human influence. The plague has yielded before the advance of western civilization; and even where, by that combination of prejudice and ignorance which in all nations so powerfully impedes the progress of the human family, it is permitted to remain, it spares the cleanly and enlightened and takes its victims out of the abodes of filth and apathy. The intermittent and remittent forms of fever, which when they operate in all their intensity may kill almost on the instant, or more slowly

with a whole population, as is seen in the Pontine marshes, have, in a multitude of instances, been eradicated by the perfecting of agriculture; whilst, as regards the typhoid or low fevers, they also select their proper habitat, and invariably diminish as sanitary improvements progress. With respect to the more specific or eruptive fevers, as scarlatina and measles, they only flourish, as to the rule, amidst the filthy and neglected dwellings of the poor, where they acquire a malignity which gives them almost a new character; while, as to small-pox, the most loathsome of the class, a perfect preventive, according to excellent authorities, has been granted to mankind in the great discovery of Jenner, though, owing to defective arrangements and prejudices, never yet realised.*

Exemptions.—In the course of the late epidemic several instances of exemptions from its attacks, partial or complete, occurred. Some of these were particularly instructive, inasmuch as they concerned large groups or classes of people, living in the midst of cities which were severely visited, and who, notwithstanding this circumstance, and that they mingled freely with the general population, were yet so fortunate as wholly or in part to escape.

Instance at Berlin.—One of the most interesting of these examples is the following, which happened at Berlin during the severe epidemic of 1848, and for the details of which I am principally indebted to Dr. Wald, one of the physicians of the splendid new hospital called the Bethanien. The authorities of Berlin gave employment, at the time in question, to a body of about 6000 men, inhabitants of the city, and of various trades and callings—artisans, mechanics, and labourers. They were employed in repairing the Charlottenburg canal, which is situated in the open country, though only a short distance outside the walls. They worked very hard, and were absent from their homes fifteen or sixteen hours daily, returning every night to sleep: they resided in all quarters of the city. It was a matter of general remark, that, whilst the general population suffered severely, of this large and mixed body of workmen, according to the most careful inquiries, only eight were attacked. Now, here were 6000 men, of diverse occupations, ages, and constitutions, who almost entirely escaped; and as their families did not enjoy any particular immunity, their exemption cannot be explained by anything peculiar in this respect. They lived better than usual; but this circumstance, although important, will not account for the very small number of attacks. The common tenor of all similar exemptions, as well as the general principles of sanitary science,

* As a proof of the lamentable neglect of vaccination it may be stated, that, having been instructed by the Board of Health to visit Windsor in November last owing to an attack of small-pox, it was discovered, in carrying out the preventive measures I recommended, that there were in a population of about 8000 so many unprotected persons that the medical officers in three weeks vaccinated 506 persons, and to these must be added those vaccinated at the Royal Dispensary and by private practitioners. And yet in this town the guardians of the poor had anxiously exerted themselves to promote vaccination, having, in addition to issuing annually placards calling on the people to send their children to the surgeon, raised the fee paid to their medical officer from 1s. 6d. to 2s. 6d. for each case. In the year 1848 the births in England amounted to 504,227; of these only 167,042, or 33 per cent., were vaccinated under the direction of the guardians; and when to this number are added those vaccinated at the expense of their parents, it is certain that large numbers must have been left unprotected.

exclude any other conclusion than this—that these men, being withdrawn, for nearly two-thirds of every twenty-four hours, from the foul atmosphere of the streets and places in which the labouring classes reside, and which are in all respects in a most unfavourable condition as regards health, thereby were enabled to resist the epidemic influence, to which the members of their families succumbed, like the rest of the population.

Instance of Hamburg.—The town of Hamburg, owing to the destruction of nearly one-third part by the great fire of 1842, affords a striking illustration of the supreme importance of sanitary principles in the spread of epidemic disease. The rebuilding of this large portion of the city was intrusted by the authorities to Mr. Lindley, civil engineer, who, carrying out, as far as circumstances would permit, the principles developed in the Sanitary Report of Mr. Chadwick, has substituted wide, open, and airy streets, for narrow, filthy, and damp thoroughfares; he has replaced offensive privies by water-closets; he has introduced into every house an ample and cheap supply of water at high pressure; whilst, by an admirable system of sewers, and by turning a portion of the waters of the Alster river into them, and thus preventing any deposits, so that the bricks are as clean now as when first laid down seven years ago, he has secured to the inhabitants the inestimable advantage of efficient drainage without any of its penalties. These vast improvements, which, although they are imperfect in some respects, are yet up to this time unrivalled in Europe, have been productive of most marked improvements in the public health, so far as the rebuilt part of the city is concerned. All the medical men with whom I conversed coincided in the statement, that, during the epidemic of 1848, the severity of the cholera in the new quarter, although still occupied as before by numbers of the labouring classes, was much below that of 1832.

Experience of London.—I may premise the notice about to be taken of some of the principal exemptions which occurred in the metropolis, by observing, that, having carefully gone over the whole of the evidence collected by the medical inspectors; having well weighed a large number of facts communicated to me in a series of years by practitioners of all classes, residing both in town and country; and having also considered all the various circumstances that have fallen directly under my own observation, I feel myself justified in stating, that in no one instance has a well-matured plan of sanitary amelioration failed in the great object of all these proceedings—the diminution of sickness, suffering, and death, and the consequent promotion of human happiness. Whether the amelioration consisted in removing a damp and foul evaporating surface by flagging a court, or in promoting the free circulation of air by widening streets and exposing narrow alleys to the renovating influence of the direct rays of the sun, or in the substitution of water-closets for pestilential privies, or in the provision of a pure and ample water-supply, in each and every instance disease, and especially zymotic disease, has decreased, and life has been prolonged. To this statement I know not a single exception. In the preceding section, several instances, indicative of the beneficial influence of sanitary improvements, have incidentally been mentioned: others will now be adduced.

Model Lodging-houses and Buildings.—Among the illustrations of the position here asserted, none are of such a special and instructive character as those furnished by the various model establishments provided for the labouring classes. The circumstances which, in regard to the present investigation, give such peculiar interest to these institutions, are, firstly, that they were, by their beneficent and enlightened founders, erected for the express purpose of testing and demonstrating, in addition to the social bearings of the question, the direct influence of structural arrangements and sanitary precautions in mitigating the ravages of disease; that these buildings receive labourers and artisans of various occupations; that persons of all ages, from the infant at the breast to aged widows, are received; and that the establishments are situated in diverse quarters of the metropolis, and several of them in the very lowest and unhealthiest districts.

“Society for the Improvement of the Condition of the Labouring Classes.”—I am indebted to Mr. Wood, the secretary, and to Mr. Berry, the surgeon of this institution, for the following facts:—

The several houses, situated as stated below, have rarely beds unoccupied, so that the number of inmates may be estimated from the beds.

	Number of Beds.
FOR SINGLE MEN. {	George-street, Bloomsbury . . . 104
	Charles-street, Drury-lane . . . 83
	King-street, Drury-lane 24
FOR FAMILIES. {	Model Buildings, consisting of
	twenty-three houses 54
FOR AGED FEMALES.—	One house 30
	— 295
	Total beds and inmates 295

With respect to the last two establishments, situated near the Lower Pentonville-road, Mr. Wood states, the inmates entirely escaped. All the other houses, as Mr. Berry reports, are situated in densely-populated districts.

“In the first, or George-street establishment, there were 10 or 11 cases of diarrhœa, and one attack of cholera, and this in an old man aged 70, of intemperate habits, and who rarely tasted animal food. The house in Charles-street had but two cases of diarrhœa; and that in King-street, probably the most crowded locality of all, escaped entirely both cholera and diarrhœa.”

Medicine was left with the housekeeper, and the inmates generally were, by Mr. Berry’s directions, warned that they could receive medicine on making application on the first symptoms of diarrhœa showing themselves. It thus appears that, out of 295 persons, 13 cases of diarrhœa and 1 case of cholera occurred.

“Metropolitan Buildings.”—This important establishment, consisting of a large mass of buildings let out as separate tenements to families, is situated in Old Pancras-road. On September 6, 1839, when I visited the establishment, there were 500 inmates, of whom 350 were children. Up to that date, when cholera and diarrhœa were raging in the metropolis, there had been only seven cases of diarrhœa

and not a single case of cholera, nor did any attack of the epidemic subsequently occur.*

It thus appears that, out of a total of 795 inhabitants, only 20 have suffered from diarrhoea and 1 from cholera. But fully to appreciate the vast influence thus exerted by sanitary measures over the most destructive epidemic known, it must be recollected that these model establishments are situated in districts where the cholera extensively prevailed. One of them is in St. Giles's, two are in Drury-lane, whilst, as regards the "Metropolitan Buildings," although the locality is more open, the immediate neighbourhood suffered severely. Thus, at the distance of 300 or 400 yards is Paradise-place, in St. Pancras parish, and already noticed as the spot where, in one house, three fatal cases of cholera occurred. As a further proof of the unhealthiness of this district, I may mention that, on visiting the Model Buildings, I saw what it had never happened to me but once before to witness—in St. Pancras-road the gully-holes stopped up to prevent the escape of the foul effluvia, which were stated by the inhabitants to be most offensive.

Owing to the slow progress of sanitary improvements in the metropolis, but few instances of marked and decided benefits consequent upon their introduction can be adduced: indeed, with the exception of the several model establishments, I do not know a single part of London, inhabited by the poor, in which the main predisposing causes of disease

* The late epidemic brought before the public eye a fact well known to those who have considered the subject—the large pecuniary sacrifice inflicted in various ways on the community by preventible disease. It was the desire of the General Board to have brought out this truth in all its bearings, by showing the amount of parochial expenditure incurred for medical attendance, widowhood, and orphanage during the late epidemic. As these returns have not yet been furnished, one or two illustrative instances only can be given; but they have a general application. The two cases of the Model Buildings, Pancras-road, and of Peahen-court, in the city of London, may be contrasted with each other. The former has a population of 500; no case of cholera occurred, and only 7 cases of diarrhoea, all of which recovered; there were no deaths, and consequently no widows or orphans were left; little or no expense was incurred for medical advice; there was no outlay for funerals; and there was no loss of wages. The population of Peahen-court was, when I inspected it, about 150; at the time of the cholera there was one small stand-cock for the supply of water; the cellars were half full of ashes, dirt, and decaying animal and vegetable matter; in each house was a privy, and, a barrel-drain having been carried below the privies into the main sewer, and there being neither traps to prevent the escape of the sewer air, nor water to flush the drain, a foul stench was produced in each dwelling; a severe outbreak of cholera occurred, seven persons having died; the heads of two families were cut off, and in a few days 12 orphans were thrown on the parish. From an estimate furnished to me by the clerk of a populous union, as to average cost of each pauper orphan, it appears that from this one court, with less than one-third of the population of the Model Buildings, a public loss amounting to 420*l.* has been unnecessarily incurred. In the parish of Lambeth, according to an official statement, 270 orphans and 62 widows had become chargeable owing to deaths from cholera; and to these must be added 19 men who, in consequence of the deaths of their wives, were compelled to apply for parochial relief. Some idea of the burden thus cast on the ratepayers of Lambeth may be formed from the estimated expenditure in the preceding instance.

After the attack of cholera, Peahen-court was greatly improved; each house was provided with a cistern for water and with a properly trapped watercloset; and I have been informed on competent authority that, with their comfort, the health of the inhabitants "is strikingly improved." Previous to the epidemic, there had always been in this court a prevalence of low fever.

—overcrowding, privies, filth, defective water-supply, drainage, and ventilation—have all been removed. In different districts some of the evils have been corrected, and, as already remarked, always with corresponding benefits.

Islington Parish.—Mr. Pearce, the medical officer of the most populous and poorest district of Islington parish, states that

"The trustees of the poor, being anxious to improve the sanitary state of the parish, directed all the courts to be flagged and lighted; they also appointed five inspectors of nuisances. Some notion of the former state of the courts where the Irish lived may be gathered from the fact that, owing to the overflowing of privies, want of pavement, &c., the people were obliged to place bricks for the surgeon to step on to avoid the filth; the stench also was insufferable."

Since these improvements were effected, now about a year, Mr. Pearce

"has observed a marked decrease of disease, especially of fever; the only diseases in the Irish courts being at present a few cases of measles and bronchitis."

But the most important result was, that in this, formerly the most miserable and sickly part of the district, the inhabitants suffered much less from the late epidemic than any other portion of Mr. Pearce's division of the parish. Thus, this gentleman had in all 62 cases of cholera and 900 of diarrhoea, from July 5 to October 11; of these, only 12 cases of cholera and 70 of diarrhoea occurred in the Irish courts; whereas, calculating the population, there ought to have been 16 cases of cholera and 225 of diarrhoea. Mr. Pearce justly observes—

"I think it is impossible that any more powerful proof of the efficiency of sanitary improvements can be adduced than that those crowded, filthy Irish courts, which at one time were the hot-beds of fever and erysipelas, have suffered very little during the late epidemic; and I think he must be determined to be sceptical, who can attribute this to any other cause than the vigorous sanitary precautions adopted and fully carried out by the trustees of this parish."

St. Olave's, Southwark.—Similar but not such marked benefits have followed the plan of flagging the courts in St. Olave's union. Mr. Bayfield, one of the medical officers, states that he had observed a decrease of disease in such courts; and Mr. O'Connor, a scripture reader, says that this is one of the greatest improvements, since it prevents the accumulation of filth, and keeps the surface dry. He adds,—

"Has observed that there has been less fever and sickness in those places which have been flagged, and also less bowel complaints among the children and young persons."

Bethnal-green.—An important instance is adduced by Dr. Gavin of the marked diminution of disease and death, in a place called Old Castle-street, the owners of which, especially of the south side, have effected considerable improvements, by providing a good supply of water, drainage, &c. The result has been that, whereas before these ameliorations, namely in 1847, fever and other zymotic diseases prevailed, subsequently the medical officer, Mr. West, states that he has now no disease to attend to in the improved houses. As regards cholera,

it was observed that this street suffered much less than three adjoining streets, although previous to the improvements the mortality and sickness from zymotic diseases were higher; the results are shown in the appended tables:—

BEFORE IMPROVEMENTS (1847).

	Deaths from Fever.	Deaths from Zymotic Disease.	Cases of Fever.	Cases of Zymotic Diseases.
Old Castle-street .	1	5	1	14
Old Nichol-street .	2	..	6	7
New Nichol-street .	..	2	9	10
Half Nichol-street .	..	2	8	12

AFTER IMPROVEMENTS (1849).

	Deaths from Cholera.	Deaths from Diarrhoea.	Cases of Cholera.	Cases approaching Cholera.	Cases of Diarrhoea.
Old Castle-street .	10	1	12	3	80
Old Nichol-street .	35	0	17	10	197
New Nichol-street .	23	2	30	15	135
Half Nichol-street .	25	2	20	5	152

“Had the deaths in Old Castle-street been in proportion to the mortality of 1847, in place of being 11 they would have been 49; had the choleraic cases been in the same proportion, in place of being 95 they would have been about 169; 38 cases of fatal cholera and 74 cases of choleraic disease may be calculated as having been prevented by the improvements.”

Whitechapel.—Mr. Liddle, in his valuable Report, adduces several proofs of the direct benefit that has followed the introduction of sanitary measures. The following example may be selected as well illustrating some of the most important points bearing on the amelioration of the dwellings of the poor:—

“Gower’s-place, Goodman’s-fields, is a *cul-de-sac*, consisting of 16 houses. Here cholera extensively prevailed in the winter of 1848-49, 8 cases having occurred in three of these houses. The first case happened in the house adjoining a filthy and overflowing privy, and within two days 7 of the inmates in the adjoining two houses were attacked, 6 of whom died. On the occurrence of these cases the parochial officers (of Whitechapel) applied themselves to the abatement of nuisances, and the more frequent and effectual cleansing of this court and the houses in it; the privy was emptied; the house where the disease appeared was cleared of its inmates, whitewashed, and thoroughly cleansed; the court was also regularly washed down daily with the fire-engine and hose. Not a single death from cholera has taken place in this court since the return of the epidemic in June last.”

To the concluding part of this case I am particularly anxious to call attention. Mr. Liddle continues,—

“The sanitary condition of this court (the property having recently changed hands) is now carefully looked after in person by the present landlord. He has the privy cleansed daily; the court washed frequently and properly repaired; and he is now about erecting a large tank, so as to afford the inhabitants a constant supply of water; and for this improved supply the tenants have cheerfully consented to pay an additional penny per week.”

Exemptions in Public Institutions.—The exemption of many well-managed public establishments, situated in the midst of the metropolis, is instructive, as showing how effectually the most destructive epidemic can be controlled. Thus, Mr. Stone, the surgeon of Christ’s Hospital, informed me, that, among about 1000 boys belonging to the London establishment, there was not a single case of cholera. There were, however—which is important as showing the actual presence of the disease—many cases of diarrhoea, frequently combined with vomiting; all of which, by prompt treatment, were cured.

Prisons and Lunatic Asylums.—In the account of the progress of the epidemic in the prisons and lunatic asylums of the metropolis, several instances of exemptions are given.

Hospitals.—Some facts relating to the results of improved sanitary conditions in hospitals have come to my knowledge; and which seem to be of sufficient interest to notice in this place, although some of them are only indirectly connected with cholera.

St. Bartholomew’s Hospital.—It has been stated in a previous page, that no fewer than 478 cases of cholera were admitted into some detached wards at this hospital. The average number of the ordinary patients is 500, and there are upwards of 100 female attendants; out of this large number not a single case of cholera occurred. Great attention is paid to the sanitary state of the establishment; and in the year preceding the late epidemic, the sum of 2000*l.* was expended in improving the drainage of the hospital, which is now in a most efficient state.

New Wards at St. Thomas’s Hospital.—An instructive example of the general benefits derived from improved construction is afforded by the new wards of St. Thomas’s Hospital. The old buildings which occupied the place of the two fine wings, facing the main thoroughfare in the Borough, were low, confined, and dark; the new wards, six in number, are raised on a basement; they are lofty, light, spacious, and well ventilated. Since these wards have been opened, it has been remarked that erysipelas, a most obstinate and fatal disease in most hospitals, has much diminished, owing, as the medical officers are satisfied, to the improved sanitary condition of the new buildings. The resident medical officer, Mr. Whitfield, has also observed that there is less fever in these as compared with the old wards; and especially that the nurses suffer much less than in the latter. The mortality from cholera among the officers and inmates in 1832, when no cholera cases were admitted, was more severe than in 1849, although the latter epidemic was so much more severe than the former, and cholera patients were admitted. Great attention has of late years been paid by the authorities to the drainage of the hospital, and to sanitary improvement generally; and to these circumstances the comparative exemption just noticed ought probably to be attributed.

Middlesex Hospital.—Great improvements have been of late years effected in this establishment by the construction of new wards, im-

proved ventilation, &c. The results are thus described by the resident medical officer, Mr. Corfe:—

“There has undoubtedly been a more rapid and general improvement in the convalescence of patients since the introduction of the ventilating shafts, new windows, &c.—in fact, since the new hospital has been opened—compared with the progress of the sick to convalescence in the former building. For instance, there have been one, two, and at the most five cases of erysipelas in the wards, where we formerly numbered 12 or 16; it has been especially observed that there have been no cases breaking out in the wards of any severity; and those which did occur, perhaps 15 in the last nine months, have done well. The improvement in the statistics of erysipelas is most striking and peculiar. We have had no case of fever breaking out.”

Exemption of the Jews.—Among the instances of exemption, one of the most remarkable is that of the Jews, who, in London, as in Liverpool, &c., have suffered very slightly. The following details relating to this point are extracted from Mr. Liddle's Report:—

“It is a well-ascertained fact that the Jews residing in London have suffered less in proportion to the population than the other inhabitants. It is reckoned that there are about 20,000 Jews in the metropolis. The number of Portuguese Jews is about 3000, and up to the 13th September only two cases of death from cholera had occurred among them. Not a single case of cholera happened in the Portuguese Jews' Hospital in the Mile End-road. In the year 1832 only 4 deaths from cholera occurred among this section of the Jews. The above facts are recorded on the information kindly furnished to me by Mr. S. Aselnino, the secretary of the Portuguese synagogue in Bevis Marks.”

Mr. Liddle, having received further information from the secretaries of the great synagogue, Duke's-place, and the new synagogue, Crosby-square, says,—

“I may fairly infer, from the above respectable sources of information (the best that can probably be obtained on this subject), that the Jews have suffered much less from cholera in proportion than the other classes of the community, probably not more than 13 out of a population of 20,000; whereas, up to the middle of September, the deaths from cholera in the metropolis amounted to 12,837. This would give a proportion of 0.6 per 1000; whilst the deaths vary in the Superintendent-Registrar's district from 1 in 1000 of the living at Hampstead, to 29 in 1000 at Rotherhithe. At Whitechapel the deaths were 6 in 1000; in Shoreditch, 9 in 1000; and in the City of London, 7 in 1000.

“This comparative immunity of the Jews from the ravages of cholera may perhaps be accounted for in the following manner:—

“1. It is well known that, however poor the lower class of Jews are, they never crowd more than one family into the same room; whereas, among the lower orders of other communities, especially among the Irish, the system of subletting rooms to different families is by no means of unfrequent occurrence. Three or four families are known to occupy a single room.

“2. The Jews are, as a class, not given to the abuse of intoxicating liquors. I have had, during the last twenty years, much intercourse with the Jews, and I cannot call to mind a single instance of drunkenness in any family I have visited.

“3. The Jews, in virtue of their religion, are particular in the food they eat. All shell-fish is avoided, and the meat which is exposed for sale is inspected by an officer appointed for the purpose of ascertaining the healthy condition of the animals when killed, and, if any disease is found in the slaughtered animal, it is condemned, and not allowed to be sold for human food.

“4. Sabbath rest is strictly enjoined by their religion, and is for the most part rigidly observed.

“5. The Jews are unable, from religious motives, to enter our workhouses, and, being comparatively few in number, are relieved by the more wealthy classes of their own persuasion, and a sufficient staff of relieving-officers is appointed to inquire into cases of distress, which being promptly relieved, extreme destitution is avoided.

“6. The Jewish festival of the Passover enjoins every Jew to have his house thoroughly cleansed annually, and the rooms of the lower classes are, for the most part, annually limewhited.”

SECTION V.

On the Predisposing Causes of Cholera.

DURING the late, as in former epidemic attacks of cholera, various theories were advanced, in this and other countries, respecting the essential or primary cause of the disease: this being so, and as, moreover, the views of those advocating sanitary principles have sometimes been misconceived as to the amount of influence they attribute to defective drainage, cleansing, water-supply, &c., it is desirable to explain that the following observations refer strictly to secondary and predisposing causes; or, in other words, to those conditions which, by favouring the action of the essential and at present unknown cause, tend to the reception and spread of the disease. It is further necessary to premise, that ignorance of this essential cause need in no degree operate as a bar to the full and successful investigation of the various circumstances which give force and impetus to this as to other destructive epidemics. It will, indeed, immediately occur to those who are familiar with the study of natural phenomena in general, that the objects of the present inquiry are precisely of the same character as those forming the subject-matter of other similar branches of research; in which the successful observer is more concerned to determine the laws and conditions of the forces he studies, than to wander in search of the essential nature of these last. There is still another consideration which it is proper to notice, as having a direct bearing on the question about to be discussed. In glancing over the multitudinous forms of disease to which the human body is subject, it soon becomes apparent that, although secondary or predisposing causes are most important in all, their influence is specially operative in the great zymotic class to which the various forms of fever, as well as cholera, belong. Observation and experience have further shown that in this class the predisposing causes are more susceptible of detection, and, which is still more important, of removal, than in more ordinary or sporadic diseases, such as inflammation of the lungs, of the stomach, or brain. The principal reason of both these facts, speaking generally, appears to consist in this: that in zymotic disease—I allude here to the leading members of the class, not to the specific diseases, such as syphilis