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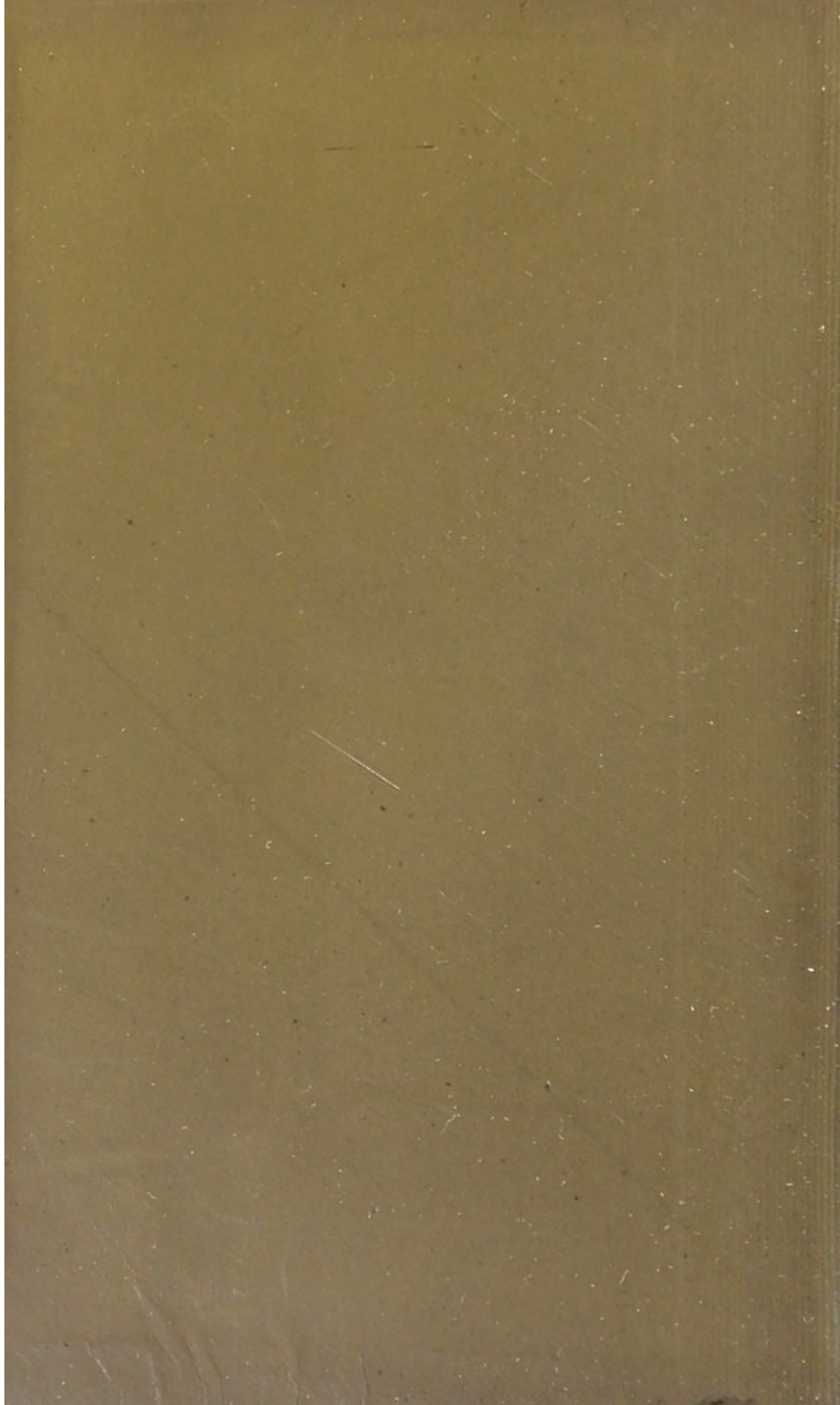
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INFECTIOUS DISEASES

LOUIS C. PARKES



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INFECTIOUS DISEASES



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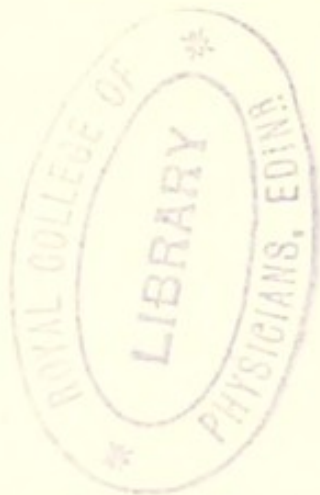
INFECTIOUS DISEASES

NOTIFICATION AND PREVENTION

BY

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PREFACE.

IT is highly desirable that the members of the medical profession should possess some acquaintance with the statutory enactments bearing upon the notification and prevention of Infectious Diseases. Not only has the medical profession certain duties cast upon it by recent Acts, but the public also has very grave responsibilities in its dealings with cases of infectious disease. The householder, the parents, or the persons in charge of a patient suffering from an infectious complaint, look to the medical attendant for advice as to what their duties and responsibilities may be in these cases; and it is therefore very essential that the advice given should be sound and accurate, so that not only may there be no possibility of an infringement of the law with its probable unpleasant consequences, but—taking a higher standpoint—that

the efforts of the authorities responsible for the maintenance of the public health may be seconded and aided, instead of being thwarted and nullified.

The present work has been undertaken with the object of placing in the hands of the profession a small compact volume containing all the enactments in force in England and Wales dealing with infectious diseases.

Explanatory notes have been introduced, and the sections have been re-arranged in an order which appeared to the author to be a little more consequential than that pursued in the Acts themselves, which are somewhat chaotic in their arrangement, as the result of the amendments they were subjected to during their passage through the Houses of Parliament, or of original defective drafting.

The other matter introduced, the author hopes may prove of use to medical practitioners generally. It includes a summarised account of the incubation, quarantine, and infective periods, and possible sources of infection, of the common infectious diseases, together with some hints as to

the practical working of isolation at home and of disinfection, and as to the methods to be pursued in dealing with infectious outbreaks in schools. In these remarks it will be found that mention has been made of certain special disinfectants, filters, &c., with the names of the makers, and prices. The author does not wish it to be understood that these are the only appliances which should be used, but the specific information as to these particular articles was introduced with the view of increasing the practical usefulness of the book by affording information as to where those things were to be obtained which had given satisfactory results in the author's experience.

Exception may be taken to the Table of the usual diagnostic signs characteristic of the specific eruptive fevers. This is intended merely as an aid to memory, which may be useful to those who are not often called in to see infectious cases. Extensive departures from the dates and symptoms set out in the Table will of course be found in great numbers of cases. It was only intended

to include in the Table the average dates and the more usual symptoms.

The incubation periods have been collated from the Report of a committee appointed by the Clinical Society of London to investigate the periods of incubation and contagiousness of certain infectious diseases (*Supplement to Clinical Society's Transactions*, vol. xxv., 1892).

The article on the relation of the Medical Officer of Health to the medical practitioners of his district merely gives the author's views on this subject, which are the outcome of his experience as to the most feasible method of making the post of medical officer of health of the greatest utility to his Board and to the public, whilst conserving in every possible way the rights and privileges of private medical practitioners in his district.

L. C. P.

61 Cadogan Square, S.W.

December, 1893.

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INFECTIOUS DISEASES.

PART I.

Infectious Disease (Notification) Act, 1889—Public Health Act, 1875—Infectious Disease (Prevention) Act, 1890—Public Health (London) Act, 1891—Metropolitan Asylums Board: Ambulance Service—Metropolitan Fever Hospitals—The Prevention of Epidemic Diseases (Public Health Act, 1875—Public Health (London) Act, 1891)—Cholera Orders of the Local Government Board.

INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.

[52 & 53 VICT., CH. 72].

THIS Act does not apply to the country generally, but is permissive—that is to say, it may be adopted by any urban, rural, or port sanitary district, in the manner set out in Section 5 of the Act.

Adoption of Act in Urban or Rural District.

Section 5.—(1) The local authority of any urban, rural, or port sanitary district may adopt this Act by a resolution passed at a meeting of such authority; and fourteen clear days at least before such meeting special notice of the meeting, and of the

intention to propose such resolution, shall be given to every member of the local authority, and the notice shall be deemed to have been duly given to a member if it is either:

(a) Given in the mode in which notices to attend meetings of the local authority are usually given, or

(b) Where there is no such mode, then signed by the clerk of the local authority and delivered to the member or left at his usual or last known place of abode in England, or forwarded by post in a prepaid letter addressed to the member at his usual or last known place of abode in England.

(2) A resolution adopting this Act shall be published by advertisement in a local newspaper, and by handbills, and otherwise in such manner as the local authority think sufficient for giving notice thereof to all persons interested, and shall come into operation at such time, not less than one month after the first publication of the advertisement of the resolution, as the local authority may fix, and upon its coming into operation this Act shall extend to the district.

(3) A copy of the resolution shall be sent to the Local Government Board when it is published.

The Act was compulsory in London until the commencement of 1892, when its provisions were replaced by similar provisions contained in the Public Health (London) Act, 1891. The Act was therefore in force in London from the 1st of November, 1889, to December 31st, 1891.

Definition of Infectious Disease.

Section 6.—In this Act the expression “infectious disease to which this Act applies” means any of the following

diseases, namely, small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued, or puerperal, and includes, as respects any particular district, any infectious disease to which this Act has been applied by the local authority of the district in manner provided by this Act.

Under the heading of erysipelas it is intended that both the traumatic and idiopathic forms of this disease should be included. As regards puerperal fever, any continued fever occurring in a lying-in woman, attributable to absorption of septic matter from some part of the genital tract, should be considered as coming within the definition. It is somewhat remarkable that the notification of puerperal fever is but little practised in London and other large towns. During the year 1892, in London, only 346 cases of this fever were notified out of a total of notifiable diseases amounting to 47,336, for which certificates were duly sent.

“Cholera” means true or Asiatic cholera, or cases of severe choleraic diarrhœa (*cholera nostras*) simulating Asiatic cholera. It is not the usual practice to notify English or summer cholera (*infantile diarrhœa*).

Scarlatina is expressly mentioned as being synonymous with scarlet fever, owing to the vulgar belief that scarlatina is a different disease from scarlet fever.

Local authorities are enabled by Section 7 to include in this list any other infectious disease such as measles, mumps, whooping cough, or chicken-pox, which is not specifically mentioned in Section 6. The procedure necessary is set out in Section 7.

Notification of Infectious Disease.

Section 3.—(1) Where an inmate of any building used for human habitation within a district to which this Act extends is suffering from an infectious disease to which this Act applies, then, unless such building is a hospital in which persons suffering from an infectious disease are received, the following provisions shall have effect, that is to say:—

- (a) The head of the family to which such inmate (in this Act referred to as the patient) belongs, and in his default the nearest relatives of the patient present in the building or being in attendance on the patient, and in default of such relatives every person in charge of, or in attendance on, the patient, and in default of any such person the occupier of the building shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which this Act applies, send notice thereof to the medical officer of health of the district.
- (b) Every medical practitioner attending on, or called in to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this Act applies, send to the medical officer of health for the district a certificate stating the name of the patient, the situation of the building, and the

infectious disease from which, in the opinion of such medical practitioner, the patient is suffering.

(2) Every person required by this section to give a notice or certificate who fails to give the same, shall be liable on summary conviction in manner provided by the Summary Jurisdiction Acts to a fine not exceeding forty shillings; provided that if a person is not required to give notice in the first instance, but only in default of some other person, he shall not be liable to any fine if he satisfies the court that he had reasonable cause to suppose that the notice had been duly given.

Although dual notification is here provided for, it is practically rarely if ever insisted on by sanitary authorities. The notification by the householder or relatives is a safeguard for those cases in which medical assistance is not sought, but the practical difficulty of proving that any lay person is aware of the nature of an infectious disease occurring in his house or family, is so great, as to render the application of this sub-section to concealed cases of infectious disease exceedingly difficult.

The persons mentioned in sub-section (a) are only relieved of the duty of notifying, when notification has been made by a person mentioned earlier on the list: *e.g.*, the occupier is not bound to notify when a person mentioned earlier on the list has done so, but the head of the family is bound to notify in any case. In practice the per-

son first mentioned on the list, if existent, would always be proceeded against, in cases of infringement.

As regards the duty of the medical practitioner, every medical man called in to see a case of infectious disease included in the list given in Section 6, is bound to notify forthwith—that is to say within a few hours. Even if the case has already been notified by another practitioner, the medical man, whether consultant or general practitioner, who is called in to visit the patient is required by the Act to notify.

The certificate must be sent to the medical officer of health of the district; and if sent by letter post, the sanitary authority cannot be required to prepay postage, nor can the expense of postage be recovered from the sanitary authority. On the other hand the sanitary authority may not deduct from the fees due for notification the cost of the (double) postage incurred by any practitioner sending the certificates by letter post unstamped.

Supply of Forms and Payment for Notification.

Section 4.—(1) The Local Government Board may from time to time prescribe forms for the purpose of certificates under this Act, and any forms so prescribed shall be used in all cases to which they apply.

(2) The local authority shall gratuitously supply forms of certificate to any medical practitioner residing or practising in their district who applies for the same, and shall pay to every medical practitioner for each certificate duly sent by him in accordance with this Act a fee of two shillings and sixpence if the case occurs in his private practice, and of one shilling if the case occurs in his practice as medical officer of any public body or institution.

(3) Where in any district of a local authority there are two or more medical officers of health of such authority a certificate under this Act shall be given to such one of those officers as has charge of the area in which is the patient referred to in the certificate, or to such other of those officers as the local authority may from time to time direct.

No authoritative statement has yet been made as to what are the public bodies or institutions alluded to in Sub-section 2. It is generally understood, however, that the Medical Officers of Hospitals, Infirmaries, and Public Dispensaries, are only entitled to the lower fee for notification, whilst cases seen on behalf of Clubs are patients in private practice.

Form of Certificates and their delivery.

Section 8.—(1) A notice or certificate for the purposes of this Act shall be in writing or print, or partly in writing and partly in print; and for the purposes of this Act the expression “print” includes any mechanical mode of reproducing words.

(2) A notice or certificate to be sent to a medical officer of health in pursuance of this Act may be sent by being de-

livered to the officer or being left at his office or residence, or may be sent by post addressed to him at his office or at his residence.

No disqualification of Medical Practitioner.

Section 11.—A payment made to any medical practitioner in pursuance of this Act shall not disqualify that practitioner for serving as member of the council of any county or borough, or as member of a sanitary authority, or as guardian of a union, or in any municipal or parochial office.

Where a medical practitioner attending on a patient is himself the medical officer of health of the district, he shall be entitled to the fee to which he would be entitled if he were not such medical officer.

Application of Act to Vessels, Tents, Vans, &c.

Section 13.—(1) The provisions of this Act shall apply to every ship, vessel, boat, tent, van, shed, or similar structure used for human habitation, in like manner as nearly as may be as if it were a building.

(2) A ship, vessel, or boat, lying in any river, harbour, or other water not within the district of any local authority within the meaning of this Act shall be deemed for the purposes of this Act to be within the district of such local authority as may be fixed by the Local Government Board, and where no local authority has been fixed, then of the local authority of the district which nearest adjoins the place where such ship, vessel, or boat is lying.

(3) This section shall not apply to any ship, vessel, or boat belonging to any foreign Government.

Repeal of Local Act.

Section 14.—Where this Act is put in force in any district in which there is a local Act for the like purpose as this Act, the enactments of such local Act, so far as they relate to that purpose, shall cease to be in operation.

Exemption of Crown Buildings.

Section 15.—Nothing in this Act shall extend to any building, ship, vessel, boat, tent, van, shed, or similar structure belonging to Her Majesty the Queen, or to any inmate thereof.

Definition of Occupier.

Section 16.—In this Act the expression “occupier” includes a person having the charge, management, or control of a building, or of the part of a building in which the patient is, and in the case of a house the whole of which is let out in separate tenements, or in the case of a lodging-house the whole of which is let to lodgers, the person receiving the rent payable by the tenants or lodgers either as his own account or as the agent of another person, and in the case of a ship, vessel, or boat, the master or other person in charge thereof.

Extension of Act to other Infectious Diseases.

Section 7.—(1) The local authority of any district to which this Act extends, may, from time to time, by a resolution passed at a meeting of such authority where the like

special notice of the meeting and of the intention to propose the resolution has been given as is required in the case of a meeting held for adopting this Act, order that this Act shall apply in their district to any infectious disease other than a disease specifically mentioned in this Act.

(2) Any such order may be permanent or temporary, and, if temporary, the period during which it is to continue in force shall be specified therein, and any such order may be revoked or varied by the local authority which made the same.

(3) An order under this section and the revocation and variation of any such order shall not be of any validity until approved by the Local Government Board.

(4) When it is so approved, the local authority shall give public notice thereof by advertisement in a local newspaper and by handbills, and otherwise in such manner as the local authority think sufficient for giving information to all persons interested. They shall also send a copy thereof to each registered medical practitioner, whom, after due inquiry, they ascertain to be residing or practising in their district.

(5) The said order shall come into operation at such date not earlier than one week after the publication of the first advertisement of the approved order as the local authority may fix, and upon such order coming into operation, and during the continuance thereof, an infectious disease mentioned in such order shall, within the district of the authority, be an infectious disease to which this Act applies.

(6) In the case of emergency three clear days' notice under this section shall be sufficient, and the resolution shall declare the cause of such emergency and shall be for a temporary order, and a copy thereof shall be forthwith sent to the Local Government Board and advertised, and the order shall come into operation at the expiration of one week from the date of such advertisement, but unless approved by the Local Govern-

ment Board shall cease to be in force at the expiration of one month after it is passed, or any earlier date fixed by the Local Government Board.

(7) The approval of the Local Government Board shall be conclusive evidence that the case was one of emergency.

THE PUBLIC HEALTH ACT, 1875.

[38 & 39 VICT., CH. 55].

This Act applies to England and Wales, exclusive of the Metropolis.

PROVISIONS AGAINST INFECTION.

Removal of Infected Persons to Hospital.

Section 124.—Where any suitable hospital or place for the reception of the sick is provided within the district of a local authority, or within a convenient distance of such district, any person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, or is on board any ship or vessel, may, on a certificate signed by a legally qualified medical practitioner, and with the consent of the superintending body of such hospital or place, be removed, by order of any justice, to such hospital or place at the cost of the local authority; and any person so suffering, who is lodged in any common lodging house, may, with the like consent and on a like certificate, be so removed by order of the local authority.

An order under this section may be addressed to such constable or officer of the local authority as the justice or local

authority making the same may think expedient; and any person who wilfully disobeys or obstructs the execution of such order shall be liable to a penalty not exceeding ten pounds.

A suitable hospital would be an Isolation or Infectious Disease Hospital provided by the Local Authority, or established out of charitable funds, or the Isolation Wards of some General Hospital or Infirmary adapted for the reception and treatment of infectious diseases.

There is no definition of "dangerous infectious disorder" in this Act. In the Public Health (London) Act, 1891, the term "dangerous infectious diseases" is used (Section 58) to denote the infectious diseases which are compulsorily notifiable by that Act (*see* Public Health (London) Act), as well as any other infectious disease to which in any district the notification clauses have been extended by resolution of the Sanitary Authority of that district.

The words "without proper lodging or accommodation" are somewhat vague, but legal decisions have been given in which it has been held that these words have no reference to the unfitness of the lodging or accommodation for the reception and treatment of a case of infectious illness, or to the possible danger to others from inadequate isolation of the case. Such being the

legal opinion, it is evident that tramps and casual wayfarers who are sleeping out-of-doors, or in buildings not intended for human habitation, are the persons specially indicated as being without proper lodging or accommodation; but overcrowding, defective ventilation, and filthy conditions in the rooms of dwelling houses may also be well included within the meaning of the words without in any way straining the sense of the enactment.

A "room occupied by more than one family" would include any room occupied conjointly by one family and by a lodger or lodgers paying rent for his or their accommodation.

"Legally qualified medical practitioner" means a person registered under the Medical Act, 1858 (21 & 22 Vict., Ch. 90).

The certificate should be as below :—

This is to certify that A.B. of (*patient's address*) is suffering from (*here give name of infectious disease*) and is without proper lodging and accommodation.

Signature

Date. Address.

Registered Medical Practitioner.

When it is intended to apply to a magistrate for an order for compulsory removal, notice of the time and place of making the application should

be given to the patient or his friends, so as to give them, if they desire it, the opportunity of opposing the order.

On applying for the magistrate's order for the removal of the patient, evidence must be given of the consent of the hospital authorities to receive the patient. Probably a letter to this effect from the person in charge of the hospital would be sufficient.

In the case of the inmate of a common lodging house, who is the subject of an infectious disease, the magistrate's order is not required; but the local authority or any committee (sanitary or public health) authorised by the local authority to enforce the Act, can make an order for the removal of the patient.

The officers entrusted with the duty of carrying out the removal are not justified in employing force either to enter the premises or apartment occupied by the patient, or to remove him if he or his friends offer a strenuous resistance. In these cases the only remedy is to summon the obstructing party with a view to the recovery of the £10 penalty.

The magistrate's order for removal does not carry with it the power to detain the patient in hospital until he is recovered or no longer infectious.

Removal from Ships.

Section 125.—Any local authority may make regulations (to be approved of by the Local Government Board) for removing to any hospital to which such authority are entitled to remove patients, and for keeping in such hospital so long as may be necessary, any persons brought within their district by any ship or boat who are infected with a dangerous infectious disorder, and such regulations may impose on offenders against the same reasonable penalties not exceeding forty shillings for each offence.

Provision of Conveyance for Infected Persons.

Section 123.—Any local authority may provide and maintain a carriage or carriages suitable for the conveyance of persons suffering under any infectious disorder, and may pay the expense of conveying therein any person so suffering to a hospital or other place of destination.

Provision of Means of Disinfecting.

Section 122.—Any local authority may provide a proper place, with all necessary apparatus and attendance, for the disinfection of bedding, clothing, or other articles which have become infected, and may cause any articles brought for disinfection to be disinfected free of charge.

Destruction of Infected Bedding, &c.

Section 121.—Any local authority may direct the destruction of any bedding, clothing, or other articles which

have been exposed to infection from any dangerous infectious disorder, and may give compensation for the same.

There is no statutory obligation upon sanitary authorities to provide either ambulance carriages or disinfecting stations—these sections are merely permissive.

Duty of Local Authority to cause Premises to be Cleansed and Disinfected.

Section 120.—Where any local authority are of opinion, on the certificate of their medical officer of health or of any other legally qualified medical practitioner, that the cleansing and disinfecting of any house or part thereof, and of any articles therein likely to retain infection, would tend to prevent or check infectious disease, it shall be the duty of such authority to give notice in writing to the owner or occupier of such house or part thereof requiring him to cleanse and disinfect such house or part thereof and articles within a time specified in such notice.

If the person to whom notice is so given fails to comply therewith, he shall be liable to a penalty of not less than one shilling and not exceeding ten shillings for every day during which he continues to make default; and the local authority shall cause such house or part thereof and articles to be cleansed and disinfected, and may recover the expenses incurred from the owner or occupier in default in a summary manner.

Where the owner or occupier of any such house or part thereof is from poverty or otherwise unable, in the opinion of the local authority, effectually to carry out the requirements

of this section, such authority may, without enforcing such requirements on such owner or occupier, with his consent cleanse and disinfect such house or part thereof and articles, and defray the expenses thereof.

The practical working of this section varies in different districts. Perhaps the most usual plan is for the sanitary authority to undertake by means of its officers the fumigation of the room or rooms occupied by the patient, notices being served on the owner or occupier to cleanse the walls, ceilings, and floors. In other districts the work of stripping the walls, cleansing, and lime-whiting, is also performed gratuitously by the sanitary authority's officer.

In any district where the Infectious Disease (Prevention) Act, 1890, or Section 5 of this Act has been adopted, Section 120 of the Public Health Act, 1875, is repealed.

Exposure of Infected Persons and Things.

Section 126.—Any person who :—

- (1) While suffering from any dangerous infectious disorder wilfully exposes himself without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof that he is so suffering; or
- (2) Being in charge of any person so suffering, so exposes such sufferer; or

- (3) Gives, lends, sells, transmits, or exposes, without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection from any such disorder,

shall be liable to a penalty not exceeding five pounds; and a person who, while suffering from any such disorder, enters any public conveyance without previously notifying to the owner or driver that he is so suffering, shall in addition be ordered by the court to pay such owner and driver the amount of any loss and expense they may incur in carrying into effect the provisions of this Act with respect to disinfection of the conveyance.

Provided that no proceedings under this section shall be taken against persons transmitting with proper precautions any bedding, clothing, rags, or other things for the purpose of having the same disinfected.

As to meaning of "dangerous infectious disorder" see page 12. "Wilfully" exposes is equivalent to "knowingly" exposes. There is no offence if there is no knowledge of the infectiousness of person, or thing. Magistrates will not convict a person charged with infringing this Section, unless proof is tendered that the person summoned had knowledge of the infectious nature of the disease. Such knowledge might, however, be inferred from the actions of the defendant. In sub-section 2 "so exposes" means wilfully exposes. "Wilfully" must also be read into sub-section 3.

The words "*in charge*" are indefinite, but they

clearly apply to apprentices, children, scholars in a boarding school, and patients in public institutions, but they do not necessarily extend to domestic servants.

In a recent case heard at the Steyning (Sussex) Petty Sessions (*see* "Public Health," vol. vi., No. 1, Oct. 1893, p. 26) the magistrates convicted a gentleman for exposing his female domestic servant, whilst suffering from typhoid fever, in a railway carriage. In this case the master having paid the railway fare, and sent the girl from his house in Worthing to Steyning accompanied by another of his servants, whose railway fare he also paid, the magistrates held that he was "in charge." If the master had not paid the railway fares and not sent a companion, the servant must have been considered to have been a free agent and to have acted on her own responsibility.

In the case of the Tunbridge Wells Local Board against Dr. Bisshopp, the defendant, a medical man, was summoned for exposing in the street a patient suffering from scarlet fever of whom he was in charge. The doctor accompanied the patient through the streets to various institutions, seeking to obtain an order for admission for him. The magistrates refused to convict, and their decision was subsequently upheld in the Superior Courts by Mr. Justice Denman, who in his judg-

ment said: "There may be cases in which the patient may be utterly unable to take care of himself, and where a medical man may so conduct himself as to justify the justices in finding that he had him in charge. But it by no means follows that merely walking by the side of a man who is able to walk alone will bring him within the category."

Disinfection of Infected Conveyance.

Section 127.—Every owner or driver of a public conveyance shall immediately provide for the disinfection of such conveyance after it has to his knowledge conveyed any person suffering from a dangerous infectious disorder; and if he fails to do so he shall be liable to a penalty not exceeding five pounds; but no such owner or driver shall be required to convey any person so suffering until he has been paid a sum sufficient to cover any loss or expense incurred by him in carrying into effect the provisions of this section.

The Letting of Infected Lodgings.

Section 128.—Any person who knowingly lets for hire any house, room, or part of a house in which any person has been suffering from any dangerous infectious disorder, without having such house, room, or part of a house and all articles therein, liable to retain infection, disinfected to the satisfaction of a legally qualified medical practitioner, as testified by a certificate signed by him, shall be liable to a penalty not exceeding twenty pounds.

For the purposes of this section, the keeper of an inn shall be deemed to let for hire part of a house to any person admitted as a guest into such inn.

False statements as to non-existence of Infectious Disease.

Section 129.—Any person letting for hire or showing for the purpose of letting for hire any house or part of a house, who on being questioned by any person negotiating for the hire of such house or part of a house as to the fact of there being, or within six weeks previously having been therein any person suffering from any dangerous infectious disorder, knowingly makes a false answer to such question, shall be liable, at the discretion of the court, to a penalty not exceeding twenty pounds, or to imprisonment, with or without hard labour, for a period not exceeding one month.

In this Act there is no provision made for the case of a lodger introducing infectious disease into a lodging house, and on his departure concealing its existence from the owner of the house ; or for the analogous case of a person taking a house, contracting there an infectious disease, and leaving the house without informing the owner or his agent. These would not be offences under the Public Health Act, although the perpetrators would be amenable under the ordinary processes of the law to any persons who had suffered damage by their course of action. The Public Health (London) Act, 1891, Section 65, and the

Infectious Diseases (Prevention) Act, 1890, Section 7, provide for such cases of failure of duty on the part of the lodger or tenant.

Isolation Hospitals.

Section 131.—Any local authority may provide, for the use of the inhabitants of their district, hospitals or temporary places for the reception of the sick, and for that purpose may:—

Themselves build such hospitals or places of reception; or
Contract for the use of any such hospital or part of a hospital or place of reception; or

Enter into any agreement with any person having the management of any hospital, for the reception of the sick inhabitants of their district, on payment of such annual or other sum as may be agreed on.

Two or more local authorities may combine in providing a common hospital.

Recovery of Cost of Maintenance of Patient in Hospital.

Section 132.—Any expenses incurred by a local authority in maintaining in a hospital, or in a temporary place for the reception of the sick (whether or not belonging to such authority), a patient who is not a pauper, shall be deemed to be a debt due from such patient to the local authority, and may be recovered from him at any time within six months after his discharge from such hospital or place of reception, or from his estate in the event of his dying in such hospital or place.

There is no statutory obligation on sanitary authorities to provide Isolation Hospitals—the section is permissive. By Section 299 of the Act, “Where complaint is made to the Local Government Board that a local authority has made default in enforcing any of the provisions of the Act which it is their duty to enforce, the Local Government Board may order a local inquiry, and if after inquiry the Board is satisfied that the Authority has been guilty of the alleged default, shall make an order limiting a time for the performance of their duty in the matter of such complaint.” It is certain, however, that the failure to provide an isolation hospital is not a default within the meaning of this Section, as the provision of isolation hospitals is permissive—not compulsory.

The practice as to recovering expenses from the patients of a rate-supported isolation hospital varies in different districts. There can be no doubt that the best plan is to provide gratuitous accommodation for the sufferers from infectious disease. In any case it is most difficult to draw the line between those who can afford to pay the expenses of their maintenance in hospital, and those who cannot; and inasmuch as the patient's detention in hospital is for the good of the community, the admissions should be in every way

encouraged. The working classes more fully avail themselves of isolation hospitals, when they know that the accommodation is gratuitous, and rich and poor are treated alike.

Under Section 131 a sanitary authority is not only empowered to establish an infectious disease hospital in its own district, but there is no restriction on the establishment of such a hospital in a neighbouring district; nor is it necessary to obtain the consent of the sanitary authority of the district in which it is proposed to establish the hospital.

In the case of the *Withington Local Board v. Corporation of Manchester* ("Public Health," vol. v., No. 6, March, 1893), the plaintiff board sought to restrain the Manchester Corporation from establishing or carrying on without the consent of the plaintiffs any hospital for the treatment of small-pox or other infectious diseases within the plaintiff's district. One of the points taken by the plaintiffs was that the establishment of a small-pox hospital was a noxious and offensive trade or business such as required (Public Health Act, Section 122) the consent in writing of the local board of the district in which it was sought to establish it. Mr. Justice Chitty, before whom the case was argued, held that the establishment of an infectious disease hospital bore no analogy to

the setting up of an offensive trade, and this decision was upheld by the Court of Appeal.

The decisions given in this and in other cases go to show that a local authority, or a private individual, are free to establish anywhere a fever or small-pox hospital, and that the Courts will only grant injunctions when satisfied either as to the actual (not prospective) existence of nuisance, or of injury to the rights of the owners of adjoining property, or of injury to the health or comfort of the neighbourhood.

Power to provide Temporary Supply of Medicine.

Section 133.—Any local authority may, with the sanction of the Local Government Board, themselves provide or contract with any person to provide a temporary supply of medicine and medical assistance for the poorer inhabitants of their district.

This section is intended to apply to epidemic times, such as outbreaks of small-pox, cholera, &c.

MORTUARIES, ETC.

Power of Local Authority to provide Mortuaries.

Section 141.—Any local authority may, and if required by the Local Government Board shall, provide and fit up a proper place for the reception of dead bodies before interment,

(in this Act called a mortuary), and may make bye-laws with respect to the management and charges for use of the same; they may also provide for the decent and economical interment, at charges to be fixed by such bye-laws, of any dead body which may be received into a mortuary.

Justice may in certain cases Order Removal of Dead Body to Mortuary.

Section 142.—Where the body of one who has died of any infectious disease is retained in a room in which persons live or sleep, or any dead body which is in such a state as to endanger the health of the inmates of the same house or room is retained in such a house or room, any justice may, on a certificate signed by a legally qualified medical practitioner, order the body to be removed, at the cost of the local authority, to any mortuary provided by such authority, and direct the same to be buried within a time to be limited in such order; and unless the friends or relations of the deceased undertake to bury the body within the time so limited, and do bury the same, it shall be the duty of the relieving officer to bury such body at the expense of the poor rate, but any expense so incurred may be recovered by the relieving officer in a summary manner from any person legally liable to pay the expense of such burial.

Any person obstructing the execution of an order made by a justice under this section shall be liable to a penalty not exceeding five pounds.

Power of Local Authority to provide Places for Post-mortem Examinations.

Section 143.—Any local authority may provide and maintain a proper place (otherwise than at a workhouse or at

a mortuary) for the reception of dead bodies during the time required to conduct any post-mortem examination ordered by a coroner or other constituted authority, and may make regulations with respect to the management of such place; and where any such place has been provided, a coroner or other constituted authority may order the removal of the body to and from such place for carrying out such post-mortem examination, such costs of removal to be paid in the same manner and out of the same fund as the costs and fees for post-mortem examinations when ordered by the coroner.

INFECTIOUS DISEASE (PREVENTION)
ACT, 1890.

[53 & 54 VICT., CH. 34.]

This is a permissive Act. Any urban or rural sanitary authority may adopt the whole Act, or may adopt any one or more of its sections. The process of adoption is the same as for the Infectious Disease (Notification) Act, namely, by resolution of the authority passed at one of its meetings, at least 14 clear days special notice of the intention to propose such resolution having been given to the members of the authority (*see* p. 1).

The following section in this Act is not contained in the Infectious Disease (Notification) Act:—

A copy of the advertisement shall be conclusive evidence of the resolution having been passed, unless the contrary be shown; and no objection to the effect of the resolution, on the ground that notice of the intention to propose the same was not duly given, or on the ground that the resolution was not sufficiently published, shall be made after three months from the date of the first advertisement.

Rescindment of Resolution.

Section 21.—Any resolution adopting all or any of the sections of this Act may be rescinded, either wholly or as regards any of the adopted sections, by resolution of the local authority, but notice of the meeting at which such resolution is to be proposed, and of the intention to propose the same, shall be given, and such resolution shall be published, and shall come into operation, in like manner and at such time as is herein-before provided with respect to resolutions adopting this Act, and a copy of the resolution shall be sent to the Local Government Board when it is published.

On the resolution coming into effect the sections of this Act, the adoption of which is thereby rescinded, shall cease to extend to the district.

The provisions herein-before contained, as to evidence of, and objections to, the effect of a resolution adopting this Act, shall apply to any resolution rescinding such adoption.

There is no provision for the rescindment of the Infectious Diseases (Notification) Act. The power to adopt and subsequently rescind the adoption of Acts of Parliament introduces a somewhat novel procedure in local government.

This Act applied to London, but was repealed by the Public Health (London) Act, 1891.

Definitions.

Section 2.—Expressions used in this Act shall, unless the context otherwise requires, have the same meaning as the like expressions used in the Infectious Disease (Notification)

Act, 1889; and the provisions of this Act shall apply to the infectious diseases specifically mentioned in that Act, and may be applied to any other infectious disease in the same manner as that Act may be applied to such disease.

In this Act:—

“Dairy” shall include any farm, farmhouse, cow-shed, milk-store, milk-shop, or other place from which milk is supplied, or in which milk is kept for purposes of sale:

“Dairyman” shall include any cowkeeper, purveyor of milk, or occupier of a dairy:

“Medical officer of health” shall include any person duly authorised to act temporarily as medical officer of health:

It will be noticed that the provisions of this Act *shall* apply to the compulsorily notifiable infectious diseases specifically mentioned in the Infectious Disease (Notification) Act (*see* page 3), but *may* be applied to any other infectious disease which has been embraced in the Notification Act by resolution of the sanitary authority.

It is evident, then, that whilst the Local Authority which has adopted the Infectious Disease (Prevention) Act, is bound to apply its prohibitive and penalising clauses to all the diseases mentioned in the Notification Act, it has a discretionary power as to applying these clauses to any included disease such as measles, chicken-pox, or whooping cough.

The point is an important one, as it practically

means that at the discretion of the sanitary authority it becomes obligatory on the public to take the same precautions to prevent the spread of such a mild complaint as chicken-pox, as are necessary in the case of small-pox or typhus. This aspect of the matter must not either be overlooked in any discussion as to the advisability of making tuberculosis (phthisis) compulsorily notifiable.

Cleansing and Disinfection of Houses.

Section 5.—Section twenty-two of the Sanitary Act, 1866, so far as it relates to any London district, and section one hundred and twenty of the Public Health Act, 1875, so far as it applies to any urban or rural sanitary district in which this section is adopted, shall be repealed, and the following provisions shall be in force instead thereof, viz.,

- (1) Where the medical officer of health of any local authority, or any other registered medical practitioner, certifies that the cleansing and disinfecting of any house, or part thereof, and of any articles therein likely to retain infection, would tend to prevent or check infectious disease, the clerk to the local authority shall give notice in writing to the owner or occupier of such house or part thereof that the same and any such articles therein will be cleansed and disinfected by the local authority at the cost of such owner or occupier, unless he informs the local authority within twenty-four hours from the receipt of the notice that he will cleanse and disinfect the house or part thereof and any such articles therein to the satisfaction of the medical officer of health, within a time fixed in the notice.

- (2) If, within twenty-four hours from the receipt of the notice, the person to whom the notice is given does not inform the local authority as aforesaid, or if, having so informed the local authority, he fails to have the house or part thereof and any such articles disinfected as aforesaid within the time fixed in the notice, the house or part thereof and articles shall be cleansed and disinfected by the officers of the local authority under the superintendence of the medical officer of health, and the expenses incurred may be recovered from the owner or occupier in a summary manner.
- (3) Provided that where the owner or occupier of any such house or part thereof is unable in the opinion of the local authority, or of their medical officer of health, effectually to cleanse and disinfect such house or part thereof, and any article therein likely to retain infection, the same may without any such notice being given as aforesaid, but with the consent of such owner or occupier, be cleansed and disinfected by the officers of and at the cost of the local authority.

This Act does not now apply to London at all. This Section is an improvement upon Section 120 of the Public Health Act, 1875, as it obviates delay in carrying out the necessary disinfection of infected premises and articles. It is becoming nearly everywhere the custom now for the local sanitary authority to undertake the disinfection of infected premises and articles, leaving the subsequent cleansing operations to be carried out by owner or occupier.

Power of Entry.

Section 17.—For the purpose of carrying into effect the provisions of section five of this Act the local authority may, by any officer appointed in that behalf, who shall produce his authority in writing, enter on premises between the hours of ten o'clock of the forenoon and six o'clock of the afternoon.

Provision of Shelters.

Section 15.—The local authority shall from time to time provide, free of charge, temporary shelter or house accommodation with any necessary attendants for the members of any family in which any infectious disease has appeared, who have been compelled to leave their dwellings for the purpose of enabling such dwellings to be disinfected by the local authority.

Inasmuch as rooms are usually closed for 24 hours for disinfection, in the case of persons or families occupying a single room, it is manifestly desirable that accommodation should be provided for them whilst thus temporarily evicted. In the case of towns or districts of considerable size the sanitary authority should acquire a house or rooms permanently, so as to be always available on an emergency. There is some danger to the public in persons who have been in contact with infectious disease seeking temporary accommodation in lodgings which are not under any direct control

by the sanitary authority, although the provision of such temporary accommodation by the sanitary authority is probably a sufficient compliance with the statutory obligation imposed by the section.

Compulsory Disinfection of Bedding, &c.

Section 6.—Any local authority, or the medical officer of health of any local authority generally empowered by the authority in that behalf, may by notice in writing require the owner of any bedding, clothing, or other articles which have been exposed to the infection of any infectious disease to cause the same to be delivered over to an officer of the local authority for removal for the purpose of disinfection; and any person who fails to comply with such a requirement shall be liable to a penalty not exceeding ten pounds.

The bedding, clothing, and articles shall be disinfected by the authority, and shall be brought back and delivered to the owner free of charge, and if any of them suffer any unnecessary damage the authority shall compensate the owner for the same and the amount of compensation shall be recoverable in, and in case of dispute shall be settled by, a court of summary jurisdiction.

The Public Health Act, 1875, does not specifically enable sanitary authorities to insist upon the delivery of infected goods to their officers for the purpose of removing them for disinfection; nor does the same Act provide for compensation for damage done during the process of disinfection.

Prohibition of casting Infectious Rubbish into Dust-bins.

Section 13.—Any person who shall knowingly cast, or cause or permit to be cast, into any ash-pit, ash-tub, or other receptacle for the deposit of refuse matter any infectious rubbish without previous disinfection, shall be guilty of an offence under this Act.

This Section creates a new offence, as the casting of infectious rubbish into ash-pits or dust-bins would hardly constitute an infringement of Section 126 of the Public Health Act, 1875.

Penalty on Lodger or Tenant for concealing existence of Infectious Disease.

Section 7.—Every person who shall cease to occupy any house, room, or part of a house in which any person has within six weeks previously been suffering from any infectious disease without having such house, room, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a registered medical practitioner, as testified by a certificate signed by him, or without first giving to the owner of such house, room, or part of a house, notice of the previous existence of such disease; and every person ceasing to occupy any house, room, or part of a house, and who on being questioned by the owner thereof, or by any person negotiating for the hire of such house, room, or part of a house as to the fact of there having within six weeks previously been therein any person suffering from any infectious disease, knowingly makes a false

answer to such question shall be liable to a penalty not exceeding ten pounds.

This Section supplements Sections 128 and 129 of the Public Health Act, 1875, which heavily penalise owners or landlords for letting infected lodgings or making false statements when questioned as to the existence of infectious disease. It will be observed that under the Public Health Act, 1875, the maximum penalty on the landlord for the first offence is £20, and for the offence of making false statements, also £20 or a month's imprisonment with or without hard labour; whilst the lodger's or tenant's penalty is limited to a maximum of £10 under this Act, and the Court has no power to order imprisonment.

Notice to be given of Provision of Sections 7 and 13.

Section 14.—Where sections seven and thirteen of this Act, or either of them, are in force in any district, the local authority shall give notice of the provisions thereof to the occupier of any house in which they are aware that there is a person suffering from an infectious disease.

Detention in Hospital of Infectious Persons.

Section 12.—Any justice of the peace acting in and for the district of the local authority, upon proper cause shown to him, may make an order directing the detention in hospital at the cost of the local authority of any person suffering from

any infectious disease, who is then in an hospital for infectious disease and would not on leaving such hospital be provided with lodging or accommodation in which proper precautions could be taken to prevent the spreading of the disorder by such person. Any order so to be made by any such justice may be limited to some specific time, but with full power to any justice to enlarge such time as often as may appear to him to be necessary. It shall be lawful for any officer of the local authority or inspector of police acting in the district, or for any officer of the hospital, on any such order being made, to take all necessary measures and do all necessary acts for enforcing the execution thereof.

Under the Public Health Act, 1875, there is no power to detain any person in hospital, except in the case of persons removed from ships (Section 125), under regulations made by the sanitary authority. Any person who did leave a hospital in an infectious state and exposed himself in a public place would be liable to a prosecution under Section 126 of the Act, but the mischief would then have been done. Under the above Section the hospital authorities are empowered, on obtaining the justice's order, to forcibly detain the patient in hospital by all reasonable methods.

The Disposal of the Corpses of the Infectious Sick.

Section 8.—No person without the sanction in writing of the medical officer of health or of a registered medical practitioner, shall retain unburied elsewhere than in a public mor-

tuary or in a room not used at the time as a dwelling-place, sleeping-place, or workroom, for more than forty-eight hours, the body of any person who has died of any infectious disease.

Section 9.—If any person shall die from any infectious disease in any hospital or place of temporary accommodation for the sick, and the medical officer of health, or any other registered medical practitioner, certifies that in his opinion it is desirable, in order to prevent the risk of communicating any infectious disease or of spreading infection, that the body shall not be removed from such hospital or place except for the purpose of being forthwith buried, it shall not be lawful for any person or persons to remove such body from such hospital or place except for the last-mentioned purpose; and when the body is taken out of such hospital for that purpose it shall be forthwith carried or taken direct to some cemetery or place of burial, and shall be forthwith there buried; and any person wilfully offending against this section shall be liable to a penalty not exceeding ten pounds. Nothing in this Act shall prevent the removal of any dead body from any hospital or temporary place of accommodation for the sick to any mortuary, and such mortuary shall, for the purposes of this section, be deemed part of such hospital or place as aforesaid.

Section 10.—Where the body of any person who has died from any infectious disease remains unburied elsewhere than in a mortuary or in a room not used at the time as a dwelling-place, sleeping-place, or workroom, for more than forty-eight hours after death without the sanction of the medical officer of health or of a registered medical practitioner, or where the dead body of any person is retained in any house or building so as to endanger the health of the inmates of such house or building, or of any adjoining or neighbouring house or building, any justice may, on the ap-

plication of the medical officer of health, order the body to be removed at the cost of the local authority to any available mortuary, and direct the same to be buried within a time to be limited in the order; and any justice may, in the case of the body of any person who has died of any infectious disease, or in any case in which he shall consider immediate burial necessary, direct the body to be so buried. Unless the friends or relatives of the deceased undertake to bury and do bury the body within the time limited by such order, it shall be the duty of the relieving officer of the relief district from which the body has been removed to the mortuary, or in which the body shall be, if it has not been so removed, to bury such body, and any expense so incurred may be charged by the relieving officer in his accounts, and may be recovered by the board of guardians in a summary manner from any person legally liable to pay the expenses of such burial.

Section 11.—Any person who hires or uses a public conveyance other than a hearse for the conveyance of the body of a person who has died from any infectious disease, without previously notifying to the owner or driver of such public conveyance that the person whose body is or is intended to be so conveyed has died from infectious disease; and after any such notification as aforesaid, any owner or driver of a public conveyance, other than a hearse, which has been used for conveying the body of a person who has died from infectious disease, who shall not immediately afterwards provide for the disinfection of such conveyance, shall be guilty of an offence under this Act.

Section 8 creates a new offence. The Public Health Act, 1875, only empowers the Medical Officer of Health to remove a dead body to a mortuary after obtaining a Magistrate's order.

Section 9 gives powers to prevent the corpse of a person who has died of an infectious disease in a hospital being taken away by the relatives.

Section 10 enables the sanitary authority to obtain the removal of an infectious corpse which has been kept in a house longer than 48 hours. In the corresponding section of the Public Health Act, 1875 (Section 142), no limit of time, such as 48 hours, is fixed, during which it would be permissible to retain in a house an infectious corpse. The section, however, is sufficiently wide to deal with the removal at any time of a dead body, which in the opinion of a medical officer of health might, if retained, endanger the health of the inmates of the house.

Section 11 supplies an omission in the Public Health Act, 1875, which contains provisions for dealing with the conveyance of infected persons in public vehicles and for their subsequent disinfection (Sections 126 and 127), but makes no provision against the conveying of infectious corpses in such vehicles.

Inspection of Dairies and Cows: Prohibition of Sale of Infected Milk.

Section 4.—In case the medical officer of health is in possession of evidence that any person in the district is suffering from infectious disease attributable to milk supplied

within the district from any dairy situate within or without the district, or that the consumption of milk from such dairy is likely to cause infectious disease to any person residing in the district, such medical officer shall, if authorised in that behalf by order of a justice having jurisdiction in the place where such dairy is situate, have power to inspect such dairy, and if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon to inspect the animals therein, and if on such inspection the medical officer of health shall be of opinion that infectious disease is caused from consumption of the milk supplied therefrom, he shall report thereon to the local authority, and his report shall be accompanied by any report furnished to him by the said veterinary inspector or veterinary surgeon, and the local authority may thereupon give notice to the dairyman to appear before them within such time, not less than twenty-four hours, as may be specified in the notice, to show cause why an order should not be made requiring him not to supply any milk therefrom within the district until such order has been withdrawn by the local authority, and if, in the opinion of the local authority, he fails to show such cause, then the local authority may make such order as aforesaid; and the local authority shall forthwith give notice of the facts to the sanitary authority and county council (if any) of the district or county in which such dairy is situate, and also to the Local Government Board. An order made by a local authority in pursuance of this section shall be forthwith withdrawn on the local authority or the medical officer of health on its behalf being satisfied that the milk supply has been changed, or that the cause of the infection has been removed. Any person refusing to permit the medical officer of health on the production of such order as aforesaid to inspect any dairy, or if so accompanied as aforesaid to inspect the animals kept there, or after any

such order not to supply milk as aforesaid has been given, supplying any milk within the district in contravention of such order, or selling it for consumption therein, shall be deemed guilty of an offence against this Act. Provided always, that proceedings in respect of such offence shall be taken before the justices of the peace having jurisdiction in the place where the said dairy is situate. Provided also, that no dairyman shall be liable to an action for breach of contract if the breach be due to an order from the local authority under this Act.

The intention of this section is good, but a very unnecessary delay is involved in the procedure for prohibiting the sale of infected milk—a delay which might be the means of originating a large accession of fresh cases after the true origin of a milk epidemic had been ascertained with some approach to certainty. The local sanitary authority should have power to make an order prohibiting at once the sale of any milk from any dairy on receiving the report of their medical officer of health recommending such a measure to be taken. There seems also to be no valid reason why the medical officer should be unable to examine the cows unless accompanied by a veterinary surgeon. Medical men, and not veterinary surgeons, were the first to draw attention to the diseases of cows which are interchangeable with human beings; and medical officers of health who have had any special training for their work, are now well ac-

quainted with the literature of the subject, and may be trusted to form as correct a diagnosis of teat and udder eruptions on cows as the bulk of the veterinary profession.

The necessity for obtaining a magistrate's order to inspect a dairy suspected of sending out infected milk, creates further unnecessary delay at a time when every moment may be of vital importance to the dairy customers, and helps to make the entire section unworkable.

Penalties : their recovery and application.

Section 16.—Every person who shall wilfully obstruct any duly authorised officer of the local authority in carrying out the provisions of this Act, or who shall obstruct the carrying out of an order made by a justice under this Act, or who shall offend against any enactment of this Act for the time being in force in any district by which no penalty is specifically imposed, shall be liable to a penalty not exceeding five pounds, and if the offence is a continuing one, to a daily penalty not exceeding forty shillings a day so long as the offence continues.

Section 18.—Every penalty imposed by this Act shall be recoverable in a court of summary jurisdiction on the information or complaint of the local authority, or of their duly authorised officer, but not otherwise, and shall be paid to the local authority.

Saving clause for Acts, &c., relating to Dairies and Animals.

Section 24.—Nothing in or done under this Act, shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1886, or of any order, license, or act of Her Majesty's Privy Council or the Local Government Board, made, granted, or done, or to be made, granted, or done, thereunder; or of any order, regulation, license, or act of a local authority made, granted, or done under any such order of the Privy Council or the Local Government Board; or exempt any dairy, or building, or thing whatsoever, or any body or person from the provisions of any general act relating to dairies, milk, or animals, already passed, or to be passed in this or any future session of Parliament.

Repeal of Local Act containing similar provisions.

Section 19.—Where a provision of this Act is put in force in any district in which there is any similar provision in force contained in any local Act, such last-mentioned provision shall cease to be in operation.

PUBLIC HEALTH (LONDON) ACT, 1891.
54 & 55 Vict., Ch. 76.

Infectious Diseases—Notification.

Section 55.—(1) Where an inmate of any house within the district of a sanitary authority is suffering from an infectious disease to which this section applies, the following provisions shall have effect, that is to say:—

- (a) The head of the family to which such inmate (in this section referred to as the patient) belongs, and in his default the nearest relatives of the patient present in the house or being in attendance on the patient, and in default of such relatives, every person in charge of or in attendance on the patient, and in default of any such person the master of the house, shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which this section applies, send notice thereof to the medical officer of health of the district.
- (b) Every medical practitioner attending on or called in to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this section applies, send to the medical officer of health of the district a certificate stating the full name and the age and sex of the patient, the full postal address of the house, and the infectious disease from which in the opinion of such medical practitioner the patient is suffering, and stating also whether the

case occurs in the private practice of such practitioner, or in his practice as a medical officer of any public body or institution, and where the certificate refers to the inmate of a hospital it shall specify the place from which, and the date at which the inmate was brought to the hospital, and shall be sent to the medical officer of health of the district in which the said place is situate :

Provided that, in the case of a hospital of the Metropolitan Asylum Managers, a notice or certificate need not be sent respecting any inmate with respect to whom a copy of the certificate has been previously forwarded by the medical officer of health of the district to the said Managers.

(2) Every person required by this section to send a notice or certificate, who fails forthwith to send the same, shall be liable to a fine not exceeding forty shillings: Provided that if a person is not required to send notice in the first instance, but only in default of some other person, he shall not be liable to any fine if he satisfies the court that he had reasonable cause to suppose that the notice had been duly sent.

(3) The Local Government Board may prescribe forms for the purpose of certificates to be sent in pursuance of this section, and if such forms are so prescribed, they shall be used in all cases to which they apply. The sanitary authority shall gratuitously supply forms of certificate to any medical practitioner residing or practising in their district who applies for the same, and shall pay to every medical practitioner for each certificate duly sent by him in accordance with this section a fee of two shillings and sixpence if the case occurs in his private practice, and of one shilling if the case occurs in his practice as medical officer of any public body or institution.

(4) Where a medical officer of health receives a certificate under this section relating to a patient within the Metro

politan Asylum district, he shall, within twelve hours after such receipt, send a copy thereof to the Metropolitan Asylum Managers, and to the head teacher of the school attended by the patient (if a child), or by any child who is an inmate of the same house as the patient. The Metropolitan Asylum Managers shall repay to the sanitary authority the fees paid by that authority in respect of the certificates whereof copies have been so sent to the Managers. The Managers shall send weekly to the county council, and to every medical officer of health, such return of the infectious diseases of which they receive certificates in pursuance of this section as the county council require.

(5) Where in any district of a sanitary authority there are two or more medical officers of health of that authority, a certificate under this section shall be sent to such one of those officers as has charge of the area in which is the patient referred to in the certificate, or to such other of those officers as the sanitary authority may direct.

(6) A notice or certificate to be sent to a medical officer in pursuance of this section may be sent to such officer at his office or residence.

(7) This section shall apply to every building, vessel, tent, van, shed, or similar structure used for human habitation, in like manner as nearly as may be as if it were a house; but nothing in this section shall extend to any house, building, vessel, tent, van, shed, or similar structure belonging to Her Majesty the Queen, or to any inmate thereof, nor to any vessel belonging to any foreign government.

(8) In this section the expression "infectious disease to which this section applies" means any of the following diseases, namely, small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina or scarlet fever, and the fevers known by any of the following names,

typhus, typhoid, enteric, relapsing, continued, or puerperal, and includes as respects any particular district any infectious disease to which this section has been applied by the sanitary authority of the district in manner provided by this Act.

See Note to Section 3 of the Infectious Disease (Notification) Act, p. 5.

In the Infectious Disease (Notification) Act, the expression "building used for human habitation" is used instead of the term "house." In the Interpretation clause of the Public Health (London) Act (Section 141), the expression "house" includes schools, also factories and other buildings in which persons are employed. Sub-section 7 of Section 55 extends the operation of the section to any structure used for human habitation.

The London notification certificate differs from that required by the Infectious Disease (Notification) Act, 1889, in that the age and sex of the patient must be inserted, and also whether the case notified by the practitioner occurs in his private practice, or in his practice as medical officer of any public body or institution. All cases seen by a medical practitioner, whether at their own homes or in institutions, when such practitioner is acting as salaried medical officer to some public body or institution (whether charitable or not) must be considered as cases occurring in public practice, for which the notification fee is

one shilling. Club patients will not come within this category.

The return alluded to in Sub-section 4, made by the Metropolitan Asylum Managers and forwarded to the Metropolitan Medical Officers of Health is a confidential document, and the information contained in it should not be published.

The infectious diseases mentioned in Sub-section 8 are the same as those given in the Infectious Disease (Notification) Act, 1889.

The Metropolitan Board School head-masters and teachers have power to exclude from school any children coming from a house in which a case of infectious disease has been notified. The usual custom is to continue the exclusion until a certificate has been received from the sanitary authority that the house is free from infection, which is usually sent after the disinfection of the room occupied by the patient. But in order to exclude children who are sickening for an infectious complaint, head-masters and teachers are empowered to insist upon a further period of seven days elapsing before the return of the children to school, after the receipt of the certificate of disinfection. If the Medical Officer of Health specially certifies that a longer period of absence is necessary, this also must be allowed to expire before the children resume their attendance. ("Regulations of the

School Board for London respecting the Sanitary Condition of Schools and Infectious Diseases." Board Code, Art. 125).

Extension of Compulsory Notification to other Infectious Diseases.

Section 56.—(1) The sanitary authority of any district may, by resolution passed at a meeting of that authority of which such notice has been given as in this section mentioned, order that the foregoing section with respect to the notification of infectious disease shall apply in their district to any infectious disease other than a disease specifically mentioned in that section; any such order may be permanent or temporary, and, if temporary, the period during which it is to continue in force shall be specified therein, and any such order may be revoked or varied by the sanitary authority which made the same.

(2) Fourteen clear days at least before the meeting at which such resolution is proposed special notice of the meeting, and of the intention to propose the making of such order, shall be given to every member of the sanitary authority, and the notice shall be deemed to have been duly given to a member if it is given in the mode in which notices to attend meetings of the sanitary authority are usually given.

(3) An order under this section and the revocation and variation of any such order shall not be of any validity until it has been approved by the Local Government Board, and when it is so approved the sanitary authority shall give public notice thereof by advertisement in a local newspaper, and by handbills, and otherwise in such manner as the sanitary

authority think sufficient for giving information to all persons interested; they shall also send a copy thereof to each legally qualified medical practitioner whom, after due inquiry, they ascertain to be residing or practising in their district.

(4) The said order shall come into operation at such date not earlier than one week after the publication of the first advertisement of the approved order as the sanitary authority may fix, and upon the order coming into operation, and during the continuance thereof, an infectious disease mentioned in the order shall, within the district of the authority, be an infectious disease to which the foregoing section with respect to the notification of infectious disease applies.

(5) In the case of emergency three clear days notice of the meeting and of the intention to propose the making of the order shall be sufficient, and the resolution shall declare the cause of the emergency and shall be for a temporary order, and a copy thereof shall be forthwith sent to the Local Government Board and advertised, and the order shall come into operation at the expiration of one week from the date of the advertisement; but unless approved by the Local Government Board shall cease to be in force at the expiration of one month after it is passed, or any earlier date fixed by the Local Government Board; if it is approved by the Local Government Board that approval shall be conclusive evidence that the case was one of emergency.

(6) The county council shall, as respects London, have the same power of extending the foregoing section by order to any infectious disease, and the same power of revoking and varying the order, as a sanitary authority have under this section as respects their district; and the foregoing section when so extended by the county council shall be construed as if it had been applied under this section as respects every district in London by the sanitary authority thereof.

The procedure necessary to extend compulsory notification to other infectious diseases than those scheduled in Sub-section 8 of Section 55, is similar to that set out in Section 7 of the Infectious Disease (Notification) Act. In this latter Act, however, there is no power conferred on the County Councils to extend the Act to other diseases, as has been done for the London County Council.

No disqualification of medical Practitioner.

Section 57.—(1) A payment made to any medical practitioner in pursuance of the provisions of this Act with respect to the notification of infectious disease shall not disqualify that practitioner for serving as member of the county council, or of a sanitary authority, or as guardian of a poor law union, or in any other public office.

(2) Where a medical practitioner attending on a patient is himself the medical officer of health of the district, he shall be entitled to the same fee as if he were not such medical officer.

INFECTIOUS DISEASES—PREVENTION.

The Dangerous Infectious Diseases.

Section 58.—The following provisions of this Act relating to dangerous infectious diseases shall apply to the infectious diseases specifically mentioned in the foregoing enactment of this Act relating to the notification of infectious disease, and all or any of such provisions may be applied

by order to any other infectious disease in the same manner as that enactment may be applied to such disease, subject to the same power of revoking and varying the order, and every such infectious disease is in this Act referred to as a dangerous infectious disease.

This definition of dangerous infectious diseases is important. The subsequent sections which contain provisions penalising concealment and negligence, refer only to dangerous, *i.e.*, compulsorily notifiable infectious diseases.

In consequence of this, in London it is not compulsory to take any precautions with regard to the sufferers from measles, mumps, chicken pox, whooping cough, or other non-notifiable disease.

As in the Infectious Diseases (Prevention) Act, the sanitary authority has a discretionary power as to applying the penalising clauses to diseases ordinarily non-notifiable, but which have been rendered compulsorily notifiable by resolution as set out in Section 56.

In the country, under the Public Health Act, 1875, which contains no definition of the term "dangerous infectious disorder" it lies in the discretion of a magistrate to determine whether any particular infectious complaint is of a "dangerous" character, to prevent the spread of which proper precautions must be taken.

Provision of Disinfecting Station and Van.

Section 59.—(1) Every sanitary authority shall provide, either within or without their district, proper premises with all necessary apparatus and attendance for the destruction and for the disinfection, and carriages or vessels for the removal, of articles (whether bedding, clothing, or other) which have become infected by any dangerous infectious disease, and may provide the same for the destruction, disinfection, and removal of such articles when infected by any other disease; and shall cause any such articles brought for destruction or disinfection, whether alleged to be infected by any dangerous infectious disease or by any other disease, to be destroyed or to be disinfected and returned, and may remove, and may destroy, or disinfect and return, such articles free of charge.

(2) Any sanitary authorities may execute their duty under this section by combining for the purposes thereof, or by contracting for the use by one of the contracting authorities of any premises provided for the purpose of this section by another of such contracting authorities, and may so combine or contract upon such terms as may be agreed upon.

This section renders the provision of disinfecting stations and removal vans compulsory in London. Articles infected from any non-notifiable infectious disease may be gratuitously disinfected.

Disinfection of Infected Premises and Articles.

Section 60.—(1) Where the medical officer of health of any sanitary authority, or any other legally qualified medical practitioner, certifies that the cleansing and disinfecting of any

house, or part thereof, and of any articles therein likely to retain infection, or the destruction of such articles, would tend to prevent or check any dangerous infectious disease, the sanitary authority shall serve notice on the master, or where the house or part is unoccupied, on the owner of such house or part, that the same and any such articles therein will be cleansed and disinfected or (as regards the articles) destroyed, by the sanitary authority, unless he informs the sanitary authority within twenty-four hours from the receipt of the notice that he will cleanse and disinfect the house or part and any such articles or destroy such articles to the satisfaction of the medical officer of health, or of any other legally qualified medical practitioner, within a time fixed in the notice.

(2) If either :—

- (a) Within twenty-four hours from the receipt of the notice, the person on whom the notice is served does not inform the sanitary authority as aforesaid, or
- (b) Having so informed the sanitary authority he fails to have the house or part thereof and any such articles disinfected or such articles destroyed within the time fixed in the notice, or
- (c) The master or owner without such notice gives his consent,

the house or part and articles shall be cleansed and disinfected or such articles destroyed by the officers and at the cost of the sanitary authority under the superintendence of the medical officer of health.

(3) For the purpose of carrying into effect this section the sanitary authority may enter by day on any premises.

No power is given in this section for the recovery from the owner or occupier of the cost or

expenses incurred by the sanitary authority in disinfecting. The sanitary authority can also be required under this section to undertake the gratuitous cleansing of the infected premises (washing of walls, floors, and ceilings), or of the infected articles, as well as their disinfection. The Public Health Act, 1875, and Infectious Diseases (Prevention) Act, 1890, enable the sanitary authority to recover the expenses of disinfecting and cleansing from the owner or occupier.

Compensation for destruction of, or damage to, Infected Articles.

(5) When the sanitary authority have disinfected any house, part of a house, or article, under the provisions of this section, they shall compensate the master or owner of such house, or part of a house, or the owner of such article, for any unnecessary damage thereby caused to such house, part of a house, or article; and when the authority destroy any article under this section they shall compensate the owner thereof; and the amount of any such compensation shall be recoverable in a summary manner.

Provision of Temporary Shelter.

(4) The sanitary authority shall provide, free of charge, temporary shelter or house accommodation with any necessary attendants for the members of any family in which any dangerous infectious disease has appeared, who have been compelled to leave their dwellings, for the purpose of enabling such dwellings to be disinfected by the sanitary authority.

See Infectious Disease (Prevention) Act, 1890, Section 15, p. 34, where a similar provision of temporary shelter is made compulsory. The wording is the same, with the exception that the words "from time to time" occur after "The sanitary authority shall."

It would seem from this section that any person who has been compelled to leave his dwelling in order that it may be disinfected, has the right to demand temporary house accommodation free of charge. It does not follow that sanitary authorities are compelled to maintain at all times a house or houses, in which such persons can be received; although such a course would be preferable, from a public health point of view, to the engagement of chance lodgings for persons displaced, who might carry infection with them to their new abodes.

Compulsory Disinfection or Destruction of Infected Articles.

Section 61.—(1) Any sanitary authority may serve a notice on the owner of any bedding, clothing, or other articles which have been exposed to the infection of any dangerous infectious disease, requiring the delivery thereof to an officer of the sanitary authority for removal for the purpose of destruction or disinfection; and if any person fails to comply with such notice he shall, on the information of the sanitary authority, be liable to a fine not exceeding ten pounds.

(2) The bedding, clothing, and articles if so disinfected by the sanitary authority shall be brought back and delivered to the owner free of charge, and if any of them suffer any unnecessary damage the authority shall compensate the owner for the same, and the authority shall also compensate the owner for any articles destroyed; and the amount of compensation shall be recoverable in a summary manner.

This section does not apply to the infectious diseases which are not "dangerous," *i.e.*, not compulsorily notifiable.

Removal of Infected Persons to Hospital.

Section 66.—(1) A person suffering from any dangerous infectious disease, who is without proper lodging or accommodation, or is lodged in a tent or a van, or is on board a vessel, may, on a certificate signed by a legally qualified medical practitioner, and with the consent of the superintending body of the hospital to which he is to be removed, be removed by order of a justice, and at the cost of the sanitary authority of the district where such person is found, to any hospital in or within a convenient distance of London.

(2) The order may be addressed to such constable or officer of the sanitary authority as the justice making the same thinks expedient; and if any person wilfully disobeys or obstructs the execution of such order he shall be liable to a fine not exceeding ten pounds.

(3) Any sanitary authority may make bye-laws for removing to any hospital to which that authority are entitled to remove patients, and for keeping in that hospital so long as may be necessary, any persons brought within their district by any vessel who are infected with a dangerous infectious disease.

See Public Health Act, 1875, Section 124, p. 13. The inmates of common lodging houses are not mentioned in this section, Metropolitan Common Lodging Houses being under the control of the police (Common Lodging Houses Acts).

The bye-laws only relate to the removal to hospital, and detention there, of infected persons from vessels or ships.

Detention of Infected Person in Hospital.

Section 67.—(1) A justice, on being satisfied that a person suffering from any dangerous infectious disease is in a hospital, and would not on leaving the hospital be provided with lodging or accommodation in which proper precautions could be taken to prevent the spreading of the disease by such person, may direct such person to be detained in the hospital at the cost of the Metropolitan Asylum Managers during the time limited by the justice. Any justice may enlarge the time as often as appears to him necessary for preventing the spread of the disease.

(2) The direction may be carried into execution by any officer of any sanitary authority, or of the Metropolitan Asylum Managers, or by any inspector of police, or any officer of the hospital.

Casting of Infectious Rubbish into Dust-bins.

Section 62.—(1) If a person knowingly casts, or causes or permits to be cast, into any ash-pit any rubbish infected by a dangerous infectious disease without previous disinfection,

he shall be liable to a fine not exceeding five pounds, and, if the offence continues, to a further fine not exceeding forty shillings for every day during which the offence so continues after the notice hereafter in this section mentioned.

(2) The sanitary authority shall cause their officers to serve notice of the provisions of this section on the master of any house or part of a house in which they are aware that there is a person suffering from a dangerous infectious disease, and on the request of such master shall provide for the removal and disinfection or destruction of the aforesaid rubbish.

Exposure of Infected Persons and Things.

Section 68.—(1) If any person:—

- (a) While suffering from any dangerous infectious disease wilfully exposes himself without proper precautions against spreading the said disease in any street, public place, shop, or inn; or
- (b) Being in charge of any person so suffering, so exposes such sufferer; or
- (c) Gives, lends, sells, transmits, removes, or exposes, without previous disinfection, any bedding, clothing, or other articles which have been exposed to infection from any such disease;

he shall be liable to a fine not exceeding five pounds.

(2) Provided that proceedings under this section shall not be taken against persons transmitting with proper precautions any bedding, clothing, or other articles for the purpose of having the same disinfected.

“Wilfully” exposes is equivalent to “knowingly” exposes. There is no offence if there is no knowledge of the infectiousness of the person or

thing exposed. A knowledge of the infectiousness may, however, be inferred by a magistrate from the acts or failure to act of the person implicated. The word "wilfully" should be read into Subsections (b) and (c), as well as (a). (*See* also p. 19).

The Letting of Infected Lodgings.

Section 63.—(1) Any person who knowingly lets for hire any house, or part of a house, in which any person has been suffering from any dangerous infectious disease, without having such house or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a legally qualified medical practitioner, as testified by a certificate signed by him, or (as regards the articles) destroyed, shall be liable to a fine not exceeding twenty pounds.

(2) For the purposes of this section, the keeper of an inn shall be deemed to let for hire part of a house to any person admitted as a guest into such inn.

False statements as to non-existence of Infectious Disease.

Section 64.—Any person letting for hire, or showing for the purpose of letting for hire, any house or part of a house, who, on being questioned by any person negotiating for the hire, as to the fact of there being, or within six weeks previously having been, therein any person suffering from any dangerous infectious disease, knowingly makes a false answer to such question, shall be liable, at the discretion of the court, to a fine not exceeding twenty pounds, or to imprisonment, with or without hard labour, for a period not exceeding one month.

Penalty on Lodger or Tenant for concealing existence of Infectious Disease.

Section 65.—(1) Where a person ceases to occupy any house, or part of a house, in which any person has within six weeks previously been suffering from any dangerous infectious disease, and either :—

- (a) Fails to have such house, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a legally qualified medical practitioner, as testified by a certificate signed by him, or such articles destroyed, or
- b) Fails to give to the owner or master of such house, or part of a house, notice of the previous existence of such disease, or
- (c) On being questioned by the owner or master of, or by any person negotiating for the hire of, such house or part of a house, as to the fact of there having within six weeks previously been therein any person suffering from any dangerous infectious disease, knowingly makes a false answer to such question,

he shall be liable to a fine not exceeding ten pounds.

(2) The sanitary authority shall cause their officers to serve notice of the provisions of this section on the master of any house or part of a house in which they are aware that there is a person suffering from a dangerous infectious disease.

The penalty on the landlord for letting infected houses or rooms or for concealing the existence of infectious disease, is twice as heavy as that imposed on the lodger or tenant for the latter offence. The landlord may have to suffer imprisonment

without the option of a fine, if convicted of an offence against Section 64.

Carriage of Infected Persons in Public Conveyances.

Section 70.—It shall not be lawful for any owner or driver of a public conveyance knowingly to convey, or for any other person knowingly to place, in any public conveyance, a person suffering from any dangerous infectious disease, or for a person suffering from any such disease to enter any public conveyance, and if he does so he shall be liable to a fine not exceeding ten pounds; and, if any person so suffering is conveyed in any public conveyance, the owner or driver thereof, as soon as it comes to his knowledge, shall give notice to the sanitary authority, and shall cause such conveyance to be disinfected, and if he fails so to do he shall be liable to a fine not exceeding five pounds, and the owner or driver of such conveyance shall be entitled to recover in a summary manner from the person so conveyed by him, or from the person causing that person to be so conveyed, a sum sufficient to cover any loss and expense incurred by him in connection with such disinfection. It shall be the duty of the sanitary authority, when so requested by the owner or driver of such public conveyance, to provide for the disinfection of the same, and they may do so free of charge.

Infected Persons not to carry on Business.

Section 69.—A person who knows himself to be suffering from a dangerous infectious disease shall not milk any animal or pick fruit, and shall not engage in any occupation connected with food or carry on any trade or business in such

a manner as to be likely to spread the infectious disease, and if he does so he shall be liable to a fine not exceeding ten pounds.

The Disposal of the Corpses of the Infectious Sick.

Section 72.—(1) A person shall not without the sanction in writing of the medical officer of health, or of a legally qualified medical practitioner, retain unburied for more than forty-eight hours elsewhere than in a room not used at the time as a dwelling-place, sleeping place, or work-room, the body of any person who has died of any dangerous infectious disease.

(2) If a person acts in contravention of this section he shall, on the information of the sanitary authority, be liable to a fine not exceeding five pounds.

Section 73.—(1) If a person dies in a hospital from any dangerous infectious disease, and the medical officer of health, or any legally qualified medical practitioner, certifies that in his opinion it is desirable, in order to prevent the risk of communicating such infectious disease, that the body be not removed from such hospital except for the purpose of being forthwith buried, it shall not be lawful for any person to remove the body except for that purpose; and the body when taken out of such hospital shall be forthwith taken direct to the place of burial, and there buried.

(2) If any person wilfully offends against this section he shall, on the information of the sanitary authority, be liable to a fine not exceeding ten pounds.

(3) Nothing in this section shall prevent the removal of a dead body from a hospital to a mortuary, and such mortuary

shall, for the purposes of this section, be deemed part of such hospital.

Section 74.—If:—

- (a) A person hires or uses a public conveyance other than a hearse for conveying the body of a person who has died from any dangerous infectious disease, without previously notifying to the owner or driver of the conveyance that such person died from infectious disease; or
- (b) The owner or driver does not, immediately after the conveyance has to his knowledge been used for conveying such body, provide for the disinfection of the conveyance,

he shall, on the information of the sanitary authority, be liable to a fine not exceeding five pounds, and if the offence continues to a further fine not exceeding forty shillings for every day during which the offence continues.

Section 89.—(1) Where either:—

- (a) The body of a person who has died of any infectious disease is retained in a room in which persons live or sleep; or
- (b) The body of a person who has died from any dangerous infectious disease is retained without the sanction of the medical officer of health or any legally qualified medical practitioner for more than forty-eight hours, elsewhere than in a room not used at the time as a dwelling-place, sleeping-place, or work-room; or
- (c) Any dead body is retained in any house or room, so as to endanger the health of the inmates thereof, or of any adjoining or neighbouring house or building,

a justice may, on a certificate signed by a medical officer of health or other legally qualified medical practitioner, direct that the body be removed, at the cost of the sanitary authority, to any available mortuary, and be buried within the time

limited by the justice; and may if it is the body of a person who has died of an infectious disease, or if he considers immediate burial necessary, direct that the body be buried immediately, without removal to the mortuary.

(2) Unless the friends or relations of the deceased undertake to bury and do bury the body within the time so limited, it shall be the duty of the relieving officer to bury such body, and any expense so incurred shall be paid (in the first instance) by the board of guardians of the poor law union, but may be recovered by them in a summary manner from any person legally liable to pay the expense of such burial.

(3) If any person obstructs the execution of any direction given by a justice under this section, he shall be liable to a fine not exceeding five pounds.

These sections are practically identical with those contained in the Infectious Disease (Prevention) Act, 1890.

Inspection of Dairies and Cows: Prohibition of sale of Infected Milk.

Section 71.—(1) If the medical officer of health of any district has evidence that any person in the district is suffering from a dangerous infectious disease attributable to milk supplied within the district from any dairy situate within or without the district, or that the consumption of milk from such dairy is likely to cause any such infectious disease to any person residing in the district, such medical officer shall, if authorised by an order of a justice having jurisdiction in the place where the dairy is situate, have power to inspect the dairy, and if accompanied by a veterinary inspector or some

other properly qualified veterinary surgeon to inspect the animals therein ; and, if on such inspection the medical officer of health is of opinion that any such infectious disease is caused from consumption of the milk supplied therefrom, he shall report thereon to the sanitary authority, and his report shall be accompanied by any report furnished to him by the said veterinary inspector or veterinary surgeon, and the sanitary authority may thereupon serve on the dairyman notice to appear before them within such time, not less than twenty-four hours, as may be specified in the notice, to show cause why an order should not be made requiring him not to supply any milk therefrom within the district until the order has been withdrawn by the sanitary authority.

(2) The sanitary authority, if in their opinion he fails to show such cause, may make the said order, and shall forthwith serve notice of the facts on the county council of the county in which the dairy is situate, and on the Local Government Board, and, if the dairy is situate within the district of another sanitary authority, on such authority.

(3) The said order shall be forthwith withdrawn on the sanitary authority or their medical officer of health on their behalf being satisfied that the milk supply has been changed, or that the cause of the infection has been removed.

(4) If any person refuses to permit the medical officer of health, on the production of a justice's order under this section, to inspect any dairy, or if so accompanied as aforesaid to inspect the animals kept there, or, after any such order has been made, supplies any milk within the district in contravention of the order or sells it for consumption therein, he shall, on the information of the sanitary authority, be liable to a fine not exceeding five pounds, and, if the offence continues, to a further fine not exceeding forty shillings for every day during which the offence continues.

(5) Provided that:—

- (a) Proceedings in respect of the offence shall be taken before a court having jurisdiction in the place where the dairy is situate, and
- (b) A dairyman shall not be liable to an action for breach of contract if the breach be due to an order under this section.

(6) Proceedings may be taken under this section in respect of a dairy situate in the district of a local authority under the Public Health Acts, and the notice of the facts shall be served on the local authority as if they were a sanitary authority within the meaning of this Act.

(7) Nothing in or done under this section shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1886, or this Act, or of any order, license, or act of the Board of Agriculture or the Local Government Board thereunder, or of any order, bye-law, regulation, license, or act of a local authority made, granted, or done under any such order of the Board of Agriculture or the Local Government Board, or exempt any dairy, building, or thing or any person from the provisions of any general Act relating to dairies, milk, or animals.

This section is identical with Section 4 of the Infectious Disease (Prevention) Act, 1890.

HOSPITALS AND AMBULANCES.

Powers of Vestries and District Boards.

Section 75.—(1) Any sanitary authority may provide for the use of the inhabitants of their district hospitals temporary or permanent, and for that purpose may:—

- (a) Themselves build such hospitals, or
 - (b) Contract for the use of any hospital or part of a hospital, or
 - (c) Enter into any agreement with any person having the management of any hospital for the reception of the sick inhabitants of their district, on payment of such annual or other sum as may be agreed on.
- (2) Two or more sanitary authorities may combine in providing a common hospital.

Section 76.—Any expenses incurred by a sanitary authority in maintaining in a hospital (whether or not belonging to that authority) a patient who is not a pauper, and is not suffering from an infectious disease, shall be a simple contract debt due to the sanitary authority from that patient, or from any person liable by law to maintain him, but proceedings for its recovery shall not be commenced after the expiration of six months from the discharge of the patient, or if he dies in such hospital from the date of his death.

Section 78.—A sanitary authority may provide and maintain carriages suitable for the conveyance of persons suffering from any infectious disease, and pay the expense of conveying therein any person so suffering to a hospital or other place of destination.

Temporary Supply of Medicine and Medical Assistance.

Section 77.—Any sanitary authority may, with the sanction of the Local Government Board, themselves provide, or contract with any person to provide, a temporary supply of medicine and medical assistance for the poorer inhabitants of their district.

These sections give power to the Vestries and District Boards to provide and maintain Isolation Hospitals; a power which has been made use of by certain vestries at times when the Metropolitan Asylums Board's Hospitals have been unable to receive fever patients owing to the demand for beds being greater than the available accommodation.

The consent of the Local Government Board is apparently not necessary for the establishment by a Vestry or District Board of an infectious disease hospital; and this hospital may be established outside the district of the sanitary authority as well as within its own borders (*see* also p. 25).

Section 77 will only come into operation during epidemic periods, such as visitations of cholera.

Powers of the Metropolitan Asylums Board.

Section 79.—(1) The Metropolitan Asylum Managers shall continue to maintain the wharves, landing-places, and approaches thereto heretofore provided by them, whether within or without London, and may use the same for the embarkation and landing of persons removed to or from any hospital belonging to the Managers, and for any other purpose in relation thereto.

(2) The Managers may also provide and maintain vessels for use in connection with the said wharves or landing-places, and with the hospitals of the Managers, and also carriages suitable for the conveyance of persons suffering from any

dangerous infectious disease, and shall cause the vessels and carriages to be from time to time properly cleansed and disinfected, and may provide and maintain such buildings and horses, and employ such persons, and do such other things as are necessary or proper for the purposes of such conveyance.

(3) The Metropolitan Asylum Managers may allow any of the said carriages with the necessary attendants to be also used for the conveyance of persons suffering from any dangerous infectious disease to and from hospitals and places other than Hospitals provided by the Managers, and may make a reasonable charge for that use.

Sub-section 3 is a very valuable concession to the public. A charge of five shillings is made by the Board for the use of their Ambulance Carriage on these occasions.

Section 80.—(1) The Metropolitan Asylum Managers, subject to such regulations and restrictions as the Local Government Board prescribe, may admit any person, who is not a pauper, and is reasonably believed to be suffering from fever or small-pox or diphtheria, into a hospital provided by the Managers.

(2) The expenses incurred by the Managers for the maintenance of any such person shall be paid by the board of guardians of the poor law union from which he is received.

(3) The said expenses shall be repaid to the board of guardians out of the metropolitan common poor fund.

(4) The admission of a person suffering from an infectious disease into any hospital provided by the Metropolitan Asylum Managers, or the maintenance of any such person therein, shall not be considered to be parochial relief, alms,

or charitable allowance to any person, or to the parent or husband of any person; nor shall any person or his or her parent or husband be by reason thereof deprived of any right or privilege, or be subjected to any disability or disqualification.

The cases admitted to the Asylums Board's Hospitals are small-pox, diphtheria, membranous croup, if certified to be of a diphtheritic nature, scarlet fever, enteric fever, and typhus.

The Metropolitan Asylums Board is unable to acquire sites for the erection of Infectious Disease Hospitals unless with the consent of the Local Government Board. Where opposition is offered to the acquisition by the Asylums Board of a site for a hospital, the Local Government Board may hold a local inquiry conducted by one of its own officers before giving or withholding its consent to the Asylums Board's scheme.

The Metropolitan Asylums Board is thus placed at a considerable disadvantage as compared with provincial sanitary authorities (see p. 25).

Mortuaries.

Section 88.—Every sanitary authority shall provide and fit up a proper place for the reception of dead bodies before interment (in this Act called a mortuary), and may make bye-laws with respect to the management and charges for the use of the same; they may also provide for the decent and

economical interment, at charges to be fixed by such by-laws, of any dead body received into a mortuary.

Section 90.—(1) Any sanitary authority may, and if required by the county council shall, provide and maintain a proper building (otherwise than at a workhouse) for the reception of dead bodies during the time required to conduct any post-mortem examination ordered by a coroner or other constituted authority, and may make regulations with respect to the management of such building.

(2) Any such building may be provided in connection with a mortuary, but this enactment shall not authorise the conducting of any post-mortem examination in a mortuary.

Section 91.—Any sanitary authorities may, with the approval of the county council, execute their duty under this Act with respect to mortuaries and buildings for post-mortem examinations by combining for the purpose thereof, or by contracting for the use by one of the contracting authorities of any such mortuary or building provided by another of such contracting authorities, and may so combine or contract upon such terms as may be agreed upon.

Section 92.—The county council shall provide and maintain proper accommodation for the holding of inquests, and may by agreement with a sanitary authority provide and maintain the same in connection with a mortuary or a building for post-mortem examinations provided by that authority, or with any building belonging to that authority, and may do so on such terms as may be agreed on with the authority.

Section 93.—(1) The county council may provide and fit up in London one or two suitable buildings to which dead bodies found in London and not identified, together with any clothing, articles, and other things found with or on such dead bodies, may on the order of a coroner be removed, and in which they may be retained and preserved with a view to the ultimate identification of such dead bodies.

- (2) A Secretary of State may make regulations as to:—
- (a) The manner in which and conditions subject to which any such bodies shall be removed to any such building, and the payments to be made at such building to persons bringing any unidentified dead body for reception; and
 - (b) The fees and charges to be paid upon the removal or interment of any such dead body which has been identified after its reception, and the persons by whom such fees and payments are to be made, and the manner and method of recovering the same; and
 - (c) The disposal and interment of any such bodies.
- (3) The county council may provide at the said buildings all such appliances as they think expedient for the reception and preservation of bodies, and may make regulations (subject to the provisions aforesaid) as to the management of the said buildings and the bodies therein, and as to the conduct of persons employed therein or resorting thereto for the purpose of identifying any body.
- (4) Subject to and in accordance with such regulations as may be made by a Secretary of State, any such body found in London may (on the order in writing of a coroner holding or having jurisdiction to hold the inquest on the same) be removed to any building provided under this section, and subject as aforesaid the inquest on any such body shall be held by the same coroner and in the same manner as if the said building were within the district of such coroner.

Interpretation of Terms.

Section 141.—In this Act, unless the context otherwise requires:—

The expression "London" means the administrative county of London.

The expression "county council" means the London County Council.

The expression "the Metropolitan Asylum Managers" means the Managers of the Metropolitan Asylum District.

The expression "street" includes any highway, and any public bridge, and any road, lane, foot-way, square, court, alley or passage, whether a thoroughfare or not, and whether or not there are houses in such street.

The expression "premises" includes messuages, buildings, lands, easements, and hereditaments of any tenure, whether open or enclosed, whether built on or not, and whether public or private, and whether maintained or not under statutory authority.

The expression "house" includes schools, also factories and other buildings in which persons are employed.

The expressions "building" and "house" respectively include the curtilage of a building or house, and include a building or house wholly or partly erected under statutory authority.

The expression "owner" means the person for the time being receiving the rackrent of the premises in connection with which the word is used, whether on his own account or as agent or trustee for any other person, or who would so receive the same if such premises were let at a rackrent.

The expression "rackrent" means rent which is not less than two-thirds of the full annual value of the premises out of which the rent arises; and the full annual value shall be taken to be the annual rent which a tenant might reasonably be expected, taking one year with another, to pay for the premises, if the tenant undertook to pay all usual tenant's rates and taxes, and tithe commutation rentcharge (if any),

and if the landlord undertook to bear the cost of the repairs, and insurance, and the other expenses (if any) necessary to maintain the premises in a state to command such rent.

The expression "vessel" includes a boat and every description of vessel used in navigation.

The expression "hospital" means any premises or vessels for the reception of the sick, whether permanently or temporarily applied for that purpose, and includes an asylum of the Metropolitan Asylum Managers.

The expression "master" means in the case of a building or part of a building, a person in occupation of or having the charge, management, or control of the building, or part of the building, and in the case of a house the whole of which is let out in separate tenements, or in the case of a lodging-house the whole of which is let to lodgers, includes the person receiving the rent payable by the tenants or lodgers either on his own account or as the agent of another person, and in the case of a vessel means the master or other person in charge thereof.

The expression "day" means the period between six o'clock in the morning and the succeeding nine o'clock in the evening.

The expression "ash-pit" means any ash-pit, dust-bin, ash-tub, or other receptacle for the deposit of ashes or refuse matter.

The expression "dairy" includes any farm, farmhouse, cow-shed, milk-store, milk-shop, or other place from which milk is supplied, or in which milk is kept for purposes of sale.

The expression "dairyman" includes any cow-keeper, purveyor of milk, or occupier of a dairy.

METROPOLITAN ASYLUMS BOARD AMBULANCE SERVICE.

Removal of persons suffering from Infectious Diseases.

1. Apply on week days, between 9 a.m. and 8 p.m., to the chief offices:—*Postal Address*: Norfolk House, Norfolk Street, Strand, W.C. *Telegraphic Address*: Asylums Board, London. *Telephone Number* 2587.

N.B.—Applications in the latter part of the day must be despatched in time to reach the Offices before 8 p.m.

At night between 8 p.m. and 9 a.m., and on Sundays, Christmas Day, and Good Friday, to the ambulance stations: Eastern Ambulance Station, Brooksby's Walk, Homerton, N.E.; South Eastern Ambulance Station, New Cross Road (near Old Kent Road Railway Station), S.E.; Western Ambulance Station, Seagrave Road, Fulham, S.W.

2. Removal to the Board's hospital.

- (a) Only persons suffering from small-pox, fevers, or diphtheria are admitted into the Board's Hospitals.
- (b) Every application must state the name, age, and full address of the patient, from what disease suffering, and in cases of fever the particular kind of fever; and also the name of the person making the application.
- *(c) Unless a Medical Certificate be handed to the Ambulance Nurse the patient will not be removed.

* A copy of the notification certificate endorsed by the sanitary authority (or one of its officers) will be accepted in lieu of the original.

- (d) Patients should leave all valuables, money, &c., and all outside clothing at home, should wear body linen only, and be wrapped in the blankets provided for the purpose.
- (e) The Ambulance Nurse will leave, at the house from which the patient is removed, a notice stating the Hospital to which the patient is to be taken, and a copy of the regulations as to visiting, &c.

3. Conveyance to other places.

- (a) Persons suffering from any dangerous infectious disease may be conveyed by Ambulance to places other than the Board's Hospitals.

N.B.—Dangerous infectious diseases include the following:—Small-pox, Cholera, Diphtheria, Membranous Croup, Erysipelas, Scarlatina or Scarlet Fever, Typhus, Typhoid, Enteric, Relapsing, Continued, and Puerperal Fevers, and Measles.

- (b) Every application for an Ambulance must state:—
 - (i) Name, sex, and age of patient.
 - (ii) Description of disease, and, in the case of fever, the particular kind of fever.
 - (iii) Full address *from* which the patient is to be conveyed.
 - (iv) Full address *to* which the patient is to be conveyed.
- (c) The patient must be provided with a Medical Certificate of the nature of the disease, to be handed to the Driver of the Ambulance.
- (d) The charge for the hire of the Ambulance, including (when the patient is over ten years of age) the services of a male attendant, is 5s. This amount must be paid to the Driver, who will give an official receipt for the same.

- (e) One person only will be allowed to accompany the patient, and such person may be conveyed back to the place from which the patient was conveyed. If desired, a Nurse will be supplied at an additional charge of 2s. 6d. for her services.
- (f) The Ambulances may be sent outside the Metropolitan district only by special sanction of the Ambulance Committee or of the Clerk to the Board, and in such cases an extra charge will be made of 1s. for every mile outside the Metropolitan area.

4. The Drivers of the Board's Ambulances are not allowed to loiter on their journeys or to stop for refreshments on pain of instant dismissal. It is particularly requested that any breach of this regulation, or any neglect or incivility on the part of the Drivers, Nurses, or Attendants, may be immediately reported to the undersigned.

The Servants of the Board are forbidden to accept any gratuities or refreshments.

By Order, T. DUNCOMBE MANN,
Clerk to the Board.

Dated 25th January, 1892.

*N.B.—Penalty—*By Section 70 of the "Public Health (London) Act, 1891," it is enacted that—"It shall not be lawful for any owner or driver of a public conveyance knowingly to convey, or for any other person knowingly to place in any public conveyance, a person suffering from any dangerous infectious disease, or for a person suffering from any such disease to enter any public conveyance, and if he does so he shall be liable to a fine not exceeding Ten Pounds"

METROPOLITAN ASYLUMS BOARD
FEVER HOSPITALS.

London Fever Hospital, Liverpool Road, N.

Private rooms, £3 3s. per week.

In the wards, £3 3s. for the whole period of treatment.

Subscribers of £1 1s. and upwards after the first year, and donors of £10 10s. in one sum are entitled to treatment of their domestic servants free of charge.

Subscribing firms, clubs, and hotels are entitled to free treatment for certain of their employés. Patients from outside the area dealt with by the Metropolitan Asylums Board can only be received from the families of governors, or from subscribing firms, clubs, and hotels.

**Small-pox and Vaccination Hospital,
Highgate Hill, N.**

Admits persons suffering from small-pox, seven years of age and upwards, on payment of an admission fee of £5 5s. Hours of admission 8 a.m. to 6 p.m. Patients over 7 years of age may be sent in by the London Sanitary Authorities—the charge in these cases being 7s. per day, for which the sanitary authority must be responsible, and also in the event of a fatal issue for the cost of burial. A responsible officer of the sanitary authority must sign an admission order for the patient, and it must be ascertained that there is room for the patient in the hospital previous to sending him.

The Mary Wardell Convalescent Home for Scarlet Fever, Stanmore, Middlesex.

Patients are admitted only on the subsidence of acute symptoms. *Terms*:—First class patients £3 3s. per week; working class patients, fifteen shillings per week; children under 12, ten shillings per week (no accommodation for male patients of this class above 12 years of age). Application must be made to Miss Mary Wardell, Honorary Secretary, at least a week before patients require admission.

THE PREVENTION OF EPIDEMIC DISEASES.

Public Health Act, 1875.

Section 130.—The Local Government Board may from time to time make, alter, and revoke such regulations as to the said Board may seem fit, with a view to the treatment of persons affected with cholera, or any other epidemic, endemic, or infectious disease, and preventing the spread of cholera and such other diseases as well on the seas, rivers, and waters of the United Kingdom, and on the high seas within three miles of the coasts thereof, as on land; and may declare by what authority or authorities such regulations shall be enforced and executed. Regulations so made shall be published in the "London Gazette," and such publication shall be for all purposes conclusive evidence of such regulations.

Any person wilfully neglecting or refusing to obey or carry out or obstructing the execution of any regulation made under this section shall be liable to a penalty not exceeding fifty pounds.

Public Health Act, 1889.

Section 2.—(1) Regulations of the Local Government Board made in relation to cholera and choleraic diarrhœa in pursuance of section one hundred and thirty of the Public Health Act, 1875, may provide for such regulations being enforced and executed by the officers of Customs as well as by other authorities and officers, and without prejudice to the generality of the powers conferred by the said section may provide for the detention of vessels and of persons on board vessels, and for the duties to be performed by pilots, masters of vessels, and other persons on board vessels.

(2) Provided that the regulations, so far as they apply to the officers of Customs, shall be subject to the consent of the Commissioners of Her Majesty's Customs.

(3) The officers of Customs, for the purpose of the execution of any powers and duties under the said regulations, may exercise any powers conferred on such officers by any other Act.

Public Health Act, 1875.

Section 134.—Whenever any part of England appears to be threatened with or is affected by any formidable epidemic, endemic, or infectious disease, the Local Government Board may make and from time to time alter and revoke regulations for all or any of the following purposes; namely:—

- (1) For the speedy interment of the dead; and
- (2) For house to house visitation; and
- (3) For the provision of medical aid and accommodation, for the promotion of cleansing, ventilation, and disinfection, and for guarding against the spread of disease; and may by order declare all or any of the regulations so made to be in force within the whole or any part or parts of

the district of any local authority, and to apply to any vessels, whether on inland waters or on arms or parts of the sea within the jurisdiction of the Lord High Admiral of the United Kingdom or the commissioners for executing the office of the Lord High Admiral for the time being, for the period in such order mentioned; and may by any subsequent order abridge or extend such period.

Section 135.—All regulations and orders so made by the Local Government Board shall be published in the London Gazette, and such publication shall be conclusive evidence thereof for all purposes.

Section 136.—The local authority of any district within which or part of which regulations so issued by the Local Government Board are declared to be in force, shall superintend and see to the execution thereof, and shall appoint and pay such medical or other officers or persons, and do and provide all such acts, matters, and things as may be necessary for mitigating any such disease, or for superintending or aiding in the execution of such regulations, or for executing the same as the case may require. Moreover, the local authority may from time to time direct any prosecution or legal proceedings for or in respect of the wilful violation or neglect of any such regulation.

Section 137.—The local authority and their officers shall have power of entry on any premises or vessel for the purpose of executing or superintending the execution of any regulations so issued by the Local Government Board as aforesaid.

Section 138.—Whenever, in compliance with any regulation so issued by the Local Government Board as aforesaid, any poor law medical officer performs any medical service on board any vessel he shall be entitled to charge extra for such service, at the general rate of his allowance for services for the union or place for which he is appointed; and such

charges shall be payable by the captain of such vessel on behalf of the owners thereof, together with any reasonable expenses for the treatment of the sick.

Where such services are rendered by any medical practitioner who is not a poor law medical officer, he shall be entitled to charges for any service rendered on board, with extra remuneration on account of distance, at the same rate as those which he is in the habit of receiving from private patients of the class of those attended and treated on shipboard, to be paid as aforesaid. In case of dispute in respect of such charges, such dispute may, where the charges do not exceed twenty pounds, be determined by a court of summary jurisdiction; and such court shall determine summarily the amount which is reasonable, according to the accustomed rate of charge within the place where the dispute arises for attendance on patients of the like class as those in respect of whom the charge is made.

Section 139.—The Local Government Board may, if they think fit, by order authorise or require any two or more local authorities to act together for the purposes of the provisions of this Act relating to prevention of epidemic diseases, and may prescribe the mode of such joint action and of defraying the costs thereof.

Section 140.—Any person who:—

- (1) Wilfully violates any regulation so issued by the Local Government Board as aforesaid; or,
 - (2) Wilfully obstructs any person acting under the authority or in the execution of any such regulation,
- shall be liable to a penalty not exceeding five pounds.

Public Health (London) Act, 1891.

Section 82.—(1) The sanitary authority of any district within which or part of which regulations issued by the Local

Government Board in pursuance of section one hundred and thirty-four of the Public Health Act, 1875, set out in the First Schedule to this Act (in this Act referred to as the epidemic regulations) are in force, shall superintend and see to the execution thereof, and shall appoint and pay such medical or other officers or persons, and do and provide all such acts, matters, and things, as may be necessary for mitigating any disease to which the regulations relate, or for superintending or aiding in the execution of such regulations, or for executing the same, as the case may require.

(2) The sanitary authority may direct any prosecution or legal proceedings for or in respect of the wilful violation or neglect of any such regulation.

(3) The sanitary authority shall have power to enter on any premises or vessel for the purpose of executing or superintending the execution of any of the epidemic regulations.

Section 83.—(1) Whenever, in compliance with the epidemic regulations, any poor law medical officer performs any medical service on board any vessel, he shall be entitled to charge extra for such service, at the general rate of his allowance for services for the poor law union for which he is appointed; and such charges shall be paid by the master of the vessel on behalf of the owners thereof, together with any reasonable expenses for the treatment of the sick.

(2) Where such service is rendered by any medical practitioner who is not a poor law medical officer, he shall be entitled to charge for the service with extra remuneration on account of distance, at the rate which he is in the habit of receiving from private patients of the class of those attended and treated on shipboard, and such charge shall be paid as aforesaid. Any dispute in respect of such charge may, where the charges do not exceed twenty pounds, be determined by a petty sessional court; and that court shall determine sum-

marily the amount which is reasonable, according to the accustomed rate of charge within the place where the dispute arises for attendance on patients of the like class as those in respect of whom the charge is made.

Section 84.—The Local Government Board may, if they think fit, by order authorise or require any two or more sanitary authorities to act together for the purposes of the epidemic regulations, and prescribe the mode of such joint action, and of defraying the cost thereof, and generally may make any regulations necessary or proper for carrying into execution this section.

Section 85.—(1) The Metropolitan Asylums Managers shall within their district have for the purpose of the epidemic regulations such powers and duties of a sanitary authority as may be assigned to them by the regulations; and the Local Government Board may make regulations for that purpose and thereby provide for the adjustment of the functions of the Managers relatively to those of any sanitary authorities.

(2) Subject to such regulations the Metropolitan Asylum Managers may use any of their property, real or personal, and their staff, for the execution of any powers or duties conferred or imposed on them under this section.

Section 86.—Any authority or body of persons having the management and control of any hospital, infirmary, asylum, or workhouse may let the same or any part thereof to the Metropolitan Asylum Managers, and enter into and carry into effect contracts with those Managers for the reception, treatment, and maintenance therein of persons suffering from cholera or choleraic diarrhoea within the district of the Managers.

Provided that the power conferred by this section shall not, without the consent of the Local Government Board, be exercised with respect to any asylum under the Metropolitan Poor Act, 1867, or any workhouse.

Section 87.—The amount expended in pursuance of the epidemic regulations by any sanitary authority in providing any building for the reception of patients or other persons shall, to such extent as may be determined by the Local Government Board, together with two thirds of the salaries or remuneration of any officers or servants employed in any such building under this Act, be repaid to such sanitary authority from the metropolitan common poor fund by the receiver of that fund, out of any moneys for the time being in his hands, on the precept of the said Board, to be issued after the production of such evidence in support of the expenditure as they may deem satisfactory, and the said Board may require contributions for the purpose of raising the sums so repayable.

As an example of the cholera order which may be issued by the Local Government Board under Sections 130 and 134 of the Public Health Act, 1875, the following order to the sanitary authorities of Grimsby (reprinted from *The British Medical Journal* of September 9th, 1893) may be cited.

The Cholera Order for Grimsby of the Local Government Board.

The Local Government Board have issued a special cholera order to the sanitary authorities of Grimsby and Cleethorpes and the Port Sanitary Authority of Grimsby. It directs that a meeting of a local authority or of a special committee of such authority shall be held daily. It requires that in every district, or if necessary in sub-districts, a legally-qualified medical man shall be appointed to act as medical visitor, to

act under the superintendence of the medical officer of health, and shall be provided with all needful medical assistance, and other assistance if required. The medical visitor or one of his assistants shall at least once daily visit those parts of the district or sub-division which are inhabited by the poorer classes, or wherein the disease is present, and shall there inquire at every house as to the existence of cholera or diarrhœa, and shall enter in a report book to be kept by him for the purpose, the facts as to all cases he may meet with; and shall, without delay, give, or take the proper steps for causing to be given, all necessary medical assistance to the sick. The medical visitor or assistant shall, when visiting the part assigned to him, be provided with medicines for immediate administration in urgent cases, and shall be held to be in medical charge (which shall include giving directions as to preventing the spread of the disease) of all cases of cholera or diarrhœa which he may meet, unless or until other provision for their medical attendance be made. He shall also, as far as possible, when visiting such part, investigate whether any conditions dangerous to health exist therein, and in particular whether there is any accumulation of excremental or other filth, and whether any unwholesome water supply is in use.

The medical visitor is required to make daily reports to the medical officer of health as to cases of disease, to point out all unwholesome conditions discovered and make any suggestions. The local authority is required to act immediately on these reports, and to carry out at their own cost if necessary cleansing operations. The medical visitor is authorised to communicate directly to the relieving officer as to any case of destitution requiring relief. The local authority shall, under the advice of the medical officer of health, provide a sufficient number of dispensaries to be open night and day, at convenient places within the district, and with an adequate

supply of such medicines, medical appliances, and disinfectants as the medical officer of health shall recommend, and with a legally qualified medical practitioner or skilled assistant always in attendance at each; and such medicines, medical appliances, and disinfectants shall be dispensed without charge by such medical practitioner or assistant to persons bringing orders for the same from a medical visitor or his assistant, and to any other persons who need immediate medical treatment, and by or on behalf of whom application may be made for the same. The names and addresses of all such other persons shall be sent to the medical visitor of the place in which they reside.

In every case of cholera or diarrhoea where the patient is not otherwise under medical care and treatment, the local authority shall, with the utmost expedition, cause medical assistance to be rendered, as well as provide such aid and comfort, nourishment and accommodation, as the circumstances of the case may require.

The local authority is also required to provide competent nurses to aid the medical visitors, to provide hospital accommodation, to appoint to it a legally qualified medical practitioner, with the requisite nurses and attendants, and to provide ambulances and litters for carrying the sick. Further, if the medical officer of health so advise, the local authority is requested to provide properly furnished houses of residence for healthy persons living in infected houses, and in case it is not advisable to remove a patient from a private house the local authority must cause the healthy persons in the house to be removed to the house of refuge. The local authority is required also to provide proper disinfectants, and the medical visitor is required to give full and particular instructions as to the best method of using such disinfectants, and shall, so far as practicable, see to the same being so used.

The local authority must also provide proper means for removing and disinfecting or destroying articles of clothing, bedding, or furniture, and shall compensate the owners in the event of destruction. The local authority is directed to take special steps to guard the purity of the water supply, to provide fresh water supply, and to close public or private wells. They must also make special arrangements with undertakers and burial authorities for the immediate interment of bodies, and no assembly of persons in the room where the corpse of a cholera patient is, and no waking of the dead shall be allowed. Finally, a special return shall be made daily to the Local Government Board of the number of cases of cholera.

LOCAL GOVERNMENT BOARD ORDER,
AUGUST 28TH, 1890.

Cholera Regulations: Ports—General.

To all Port Sanitary Authorities; to all other Sanitary Authorities as herein defined; to the Queen's Harbour Masters of Dockyard Ports; to all Officers of Customs; to all Medical Officers of Health of the Sanitary Authorities aforesaid; to all Masters of Ships; to all Pilots; and to all others whom it may concern.

Whereas We, the Local Government Board, are empowered by Section 130 of the Public Health Act, 1875, from time to time, to make, alter, and revoke such Regulations as to Us may seem fit, with a view to the treatment of persons affected with Cholera, and preventing the spread of Cholera, as well on the seas, rivers, and waters of the United Kingdom, and on the high seas within three miles of the coasts thereof, as

on land; and may declare by what Authority or Authorities such Regulations shall be enforced and executed;

And whereas by Section 2 of the Public Health Act, 1889, it is enacted that Regulations of the Local Government Board made in relation to Cholera and Choleraic Diarrhœa, in pursuance of Section 130 of the Public Health Act, 1875, may provide for such Regulations being enforced and executed by the Officers of Customs, as well as by other Authorities and Officers, and without prejudice to the generality of the powers conferred by the said Section, may provide for the detention of vessels and of persons on board vessels, and for the duties to be performed by Pilots, Masters of Vessels, and other persons on board vessels; provided that the Regulations, so far as they apply to the Officers of Customs, shall be subject to the consent of the Commissioners of Her Majesty's Customs;

And whereas by certain Orders dated the 12th day of July, 1883, and an Order dated the 21st day of April, 1884, We prescribed Rules and Regulations with a view to the treatment of persons affected with Cholera, and for preventing the spread of the disease, and it is expedient that such Orders should be revoked, and that further Regulations should be prescribed as hereinafter mentioned, to which the Commissioners of Her Majesty's Customs have signified their consent so far as such Regulations apply to the Officers of Customs.

Now therefore, We, the Local Government Board, do hereby revoke the aforesaid Orders, except in so far as they may apply to any proceedings now pending, and We do, by this our Order, and in exercise of the power conferred on Us by the Public Health Act, 1875, as amended and extended by the Public Health Act, 1889, and every other power enabling Us in that behalf, make the following regulations, and declare that they shall be enforced and executed by the authorities hereinafter named:—

Definitions.

Art. 1.—In this Order :—

The term “ Ship ” includes vessel or boat.

The term “ Officer of Customs,” includes any person acting under the authority of the Commissioners of Her Majesty’s Customs.

The term “ Master ” includes the officer, pilot, or other person for the time being in charge or command of the ship.

The term “ Cholera ” includes choleraic diarrhœa.

The term “ Sanitary Authority ” means every Port Sanitary Authority and every Urban or Rural Sanitary Authority whose district includes or abuts on any part of a customs port, which part is not within the jurisdiction of a Port Sanitary Authority.

The term “ Medical Officer of Health ” includes any duly qualified medical practitioner appointed by a Sanitary Authority to Act in the execution of this Order.

For the purposes of this Order :—

- (1) So much of a customs port abutting on an Urban or Rural Sanitary District as is nearer to such District than to any other, and is not included within the jurisdiction of any Port Sanitary Authority, shall be deemed to be within such District.
- (2) Every ship shall be deemed infected with Cholera, in which there is or has been during the voyage or during the stay of such ship in a port in the course of such voyage, any case of Cholera.

I. Regulations as to Detention by Officers of Customs.

Art. 2.—If any Officer of Customs, on the arrival of any ship, ascertain from the Master of such ship or otherwise, or have reason to suspect that the ship is infected with Cholera, he shall detain such ship, and order the Master forthwith to moor or anchor the same in such position as such Officer of Customs shall direct; and thereupon the Master shall forthwith moor or anchor the ship accordingly.

Art. 3.—While such ship shall be so detained, no person shall leave the same.

Art. 4.—The Officer of Customs detaining any ship as aforesaid shall forthwith give notice thereof, and of the cause of such detention, to the Sanitary Authority of the place to which the ship shall be bound, or where the ship shall be about to call.

Art. 5.—Such detention by the Officer of Customs shall cease as soon as the ship shall have been duly visited and examined by the Medical Officer of Health; or if the ship shall, upon such examination, be found to be infected with Cholera, as soon as the same shall be moored or anchored in pursuance of Article 10 of this Order.

Provided, that if the examination be not commenced within twelve hours after notice given as aforesaid, the ship shall, on the expiration of the said twelve hours, be released from detention.

II. Regulations as to Sanitary Authorities.

Art. 6.—Every Port Sanitary Authority and every other Sanitary Authority within whose district persons are likely to be landed from any ship coming foreign shall, as speedily as

practicable, with the approval of the Chief Officer of Customs of the port, fix some place where any ship may be moored, or anchored, for the purpose of Article 10; and shall make provision for the reception of Cholera patients and persons suffering from illness removed under Articles 13 and 14. The place to be fixed as aforesaid, where any ship may be moored or anchored for the purpose of Article 10, shall be some place within the jurisdiction or district of the Sanitary Authority, unless the Local Government Board otherwise consent; in which case the place so fixed shall, for the purposes of this Order, be deemed to be within such jurisdiction or district.

Provided that in the case of any Dockyard Port for which a Queen's Harbour Master has been appointed the place where any ship shall be moored or anchored for the purpose of this Article shall from time to time be fixed by the Port Sanitary Authority with the approval of the Queen's Harbour Master instead of with that of the Chief Officer of Customs of the Port.

Provided also, that where, in pursuance of any of the above cited Orders, places have been duly fixed for the mooring or anchoring of ships for the like purpose, such places shall be deemed to have been so fixed in pursuance of this Order.

Art. 7.—The Sanitary Authority, on notice being given to them by an Officer of Customs, under this Order, shall forthwith cause the ship in regard to which such notice shall have been given, to be visited and examined by their Medical Officer of Health for the purpose of ascertaining whether she is infected with Cholera.

Art. 8.—The Medical Officer of Health, if he have reason to believe that any ship coming or being within the jurisdiction or district of the Sanitary Authority, whether examined by the Officer of Customs or not, is infected with Cholera, shall, or if she have come from a place infected with Cholera,

may, visit and examine such ship, for the purpose of ascertaining whether she is so infected; and the Master of such ship shall permit the same to be so visited and examined.

Art. 9.—If the Medical Officer of Health on making such examination as aforesaid (whether under Article 7 or under Article 8), shall be of opinion that the ship is infected, he shall forthwith give a certificate in duplicate in the following form, or to the like effect, and shall deliver one copy to the Master, and retain the other copy or transmit it to the Sanitary Authority. He shall also give to the Local Government Board information as to the arrival of the ship, and such other particulars as that Board may require.

CERTIFICATE.

day of 189 .

SANITARY AUTHORITY OF

I hereby certify that I have examined the ship
of , now lying in the Port of [or
detained at] and I find that she is infected with
Cholera.

Medical Officer of Health [or Medical Practitioner
appointed by the Sanitary Authority].

Art. 10.—The Master of any ship so certified to be infected with Cholera shall thereupon moor or anchor her at the place fixed for that purpose under Article 6, and she shall remain there until the requirements of this Order have been duly fulfilled.

Art. 11.—No person shall leave any such ship until the examination hereinafter mentioned shall have been made.

Art. 12.—The Medical Officer of Health shall, as soon as possible after any such ship has been certified to be infected

with Cholera, examine every person on board the same, and in the case of any person suffering from Cholera or from any illness which the Medical Officer of Health suspects may prove to be Cholera, shall certify accordingly; and any person who shall not be so certified by him shall be permitted to land immediately on giving to the Medical Officer of Health his name and place of destination, stating, where practicable, his address at such place.

The name and address of any such person shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority, and such Clerk shall thereupon transmit the same to the Local Authority of the District in which the place of destination of such person is situate.

In this Article the term "Local Authority" means any Urban or Rural Sanitary Authority; and in the Administrative County of London, the Commissioners of Sewers, the Vestry under the Metropolis Management Act, 1855, of a Parish in Schedule A., and the District Board of a District in Schedule B. to that Act, as amended by the Metropolis Management Amendment Act, 1885, and the Metropolis Management (Battersea and Westminster) Act, 1887, and the Woolwich Local Board of Health.

Art. 13.—Every person certified by the Medical Officer of Health to be suffering from Cholera shall be removed, if his condition admit of it, to some hospital or other suitable place appointed for that purpose by the Sanitary Authority; and no person so removed shall leave such hospital or place until the Medical Officer of Health shall have certified that such person is free from the said disease.

If any person suffering from Cholera cannot be removed, the ship shall remain subject, for the purposes of this Order, to the control of the Medical Officer of Health; and the infected person shall not be removed from or leave the ship

except with the consent in writing of the Medical Officer of Health.

Art. 14.—Any person certified by the Medical Officer of Health to be suffering from any illness which such Officer suspects may prove to be Cholera, may either be detained on board the ship for any period not exceeding two days, or be taken to some hospital or other suitable place appointed for that purpose by the Sanitary Authority, and detained there, for a like period, in order that it may be ascertained whether the illness is or is not Cholera.

Any such person who, while so detained, shall be certified by the Medical Officer of Health to be suffering from Cholera, shall be dealt with as provided by Article 13 of this Order.

Art. 15.—The Medical Officer of Health shall, in the case of every ship certified to be infected, give directions, and take such steps as may appear to him to be necessary, for preventing the spread of infection, and the Master of the said ship shall forthwith carry into execution such directions as shall be so given to him.

Art. 16.—In the event of any death from Cholera taking place on board such ship while detained under Article 10, the Master shall, as directed by the Sanitary Authority or the Medical Officer of Health, either cause the dead body to be taken out to sea, and committed to the deep, properly loaded to prevent its rising, or shall deliver it into the charge of the said Authority for interment; and the Authority shall thereupon have the same interred.

Art. 17.—The Master shall cause any articles that may have been soiled with Cholera discharges to be destroyed, and the clothing and bedding and other articles of personal use likely to retain infection which have been used by any person who may have suffered from Cholera on board such ship, or who, having left such ship, shall have suffered from Cholera

during the stay of such ship in any Port, to be disinfected, or (if necessary) destroyed; and if the Master shall have neglected to do so before the ship arrives in port, he shall forthwith upon the direction of the Sanitary Authority or the Medical Officer of Health, cause the same to be disinfected or destroyed, as the case may require; and if the said Master neglect to comply with such direction within a reasonable time, the Authority shall cause the same to be carried into execution.

Art. 18.—The Master shall cause the ship to be disinfected, and every article therein, other than those last described, which may probably be infected with Cholera, to be disinfected or destroyed, according to the directions of the Medical Officer of Health.

III. **Flag to be hoisted by Ships infected with Cholera.**

Art. 19.—The Master of every ship infected with Cholera shall, when within three miles of the coast of any part of England or Wales, cause to be hoisted the Commercial Code Signal Q, being a yellow flag, under the National Ensign, and shall keep the same displayed during the whole of the time between sunrise and sunset.

NOTICE.—The Public Health Act, 1875, provides by Section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that Section, shall be liable to a penalty not exceeding £50.

CIRCULAR OF LOCAL GOVERNMENT
BOARD.

AUGUST 29TH, 1892.

Cholera Regulations.

SIR,

I am directed by the Local Government Board to state that it appears that large numbers of aliens in a filthy and otherwise unwholesome condition are now being brought into this country, and that the danger of the introduction of cholera is thereby increased. Under these circumstances the Board have thought it desirable to issue an Order altering the Cholera Regulations made by them on the 28th August, 1890, so as to impose certain restrictions on the landing of persons from ships bringing passengers of the class referred to, except under conditions which would allow of their being kept under observation, although the ship by which they have been brought may not on arrival have been infected with cholera within the meaning of the Regulations.

The Order confers power on the Medical Officer of Health in the case of any ship which has on board passengers of the class above mentioned, to certify that in his opinion, with a view to checking the introduction or spread of cholera, the persons on board should not be allowed to land until they satisfy him as to their names, places of destination, and their addresses at such places. When such certificate has been given, no person on board shall leave or be allowed to leave the ship, unless he satisfies the Medical Officer of Health as regards the particulars specified.

Any person who satisfies the Medical Officer of Health as

to these particulars may leave the ship, but in that case it will be the duty of the Medical Officer of Health forthwith to give notice to the Clerk of the Sanitary Authority of the name of the person and his address at his place of destination, and it will then be the duty of the Clerk to transmit the same to the Local Authority of the district in which the place of destination of the person is situate, so that the person may be kept under observation by such Local Authority.

When the person fails so to satisfy the Medical Officer of Health, the Order prohibits his leaving or being allowed to leave the ship, and any person contravening this Regulation will be liable to a penalty of £50.

The provisions above referred to, as already stated, apply to a ship which is not infected with cholera. Article I of the Order has the effect of imposing like conditions with regard to persons leaving a ship which is infected with cholera, so far as regards persons who are not certified by the Medical Officer of Health to be suffering from cholera or from any illness which he suspects may prove to be cholera.

Article IV. provides that the words in the Order shall have the same meaning as words in the Regulations of the 28th August, 1890, and, consequently, the term "Medical Officer of Health," as used in the Order, will include any duly qualified Medical practitioner appointed by a Sanitary Authority to act in the execution of those Regulations.

Two copies of the new Order are enclosed.

I am, sir,

Your obedient servant,

HUGH OWEN.

Secretary.

The Clerk to the Sanitary Authority.

LOCAL GOVERNMENT BOARD ORDER.
AUGUST 29TH, 1892.

Cholera Regulations.

To all Port Sanitary Authorities ; to all Masters of ships ; and to all others whom it may concern.

Whereas by an Order dated the 28th day of August, 1890, We, the Local Government Board, made Regulations under Section 130 of the Public Health Act, 1875, and the Public Health Act, 1889, with a view to the treatment of persons affected with Cholera, and preventing the spread of Cholera.

And whereas Article 12 of those Regulations provides as follows :—

“ The Medical Officer of Health, shall, as soon as possible after any such ship has been certified to be infected with Cholera, examine every person on board the same, and in the case of any person suffering from Cholera or from any illness which the Medical Officer of Health suspects may prove to be Cholera, shall certify accordingly ; and any person who shall not be so certified by him shall be permitted to land immediately on giving to the Medical Officer of Health his name and place of destination, stating, where practicable, his address at such place.

“ The name and address of any such person shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority, and such Clerk shall thereupon transmit the same to the Local Authority of the District in which the place of destination of such person is situate.”

And whereas it is desirable that the said Order should be amended as hereinafter appears.

Now Therefore, We, the Local Government Board, do, by

this our Order, in the exercise of the powers enabling Us in that behalf, make the following Regulations, and declare that they shall be duly enforced and executed:—

Art. 1.—Article 12 of the recited Order shall be amended by the omission therefrom of the words, “and any person who,” and the following words to the end of the first paragraph, and the insertion of the following words in place thereof:—“and a person who shall not be so certified shall not be permitted to land, unless he satisfy the Medical Officer of Health as to his name, place of destination, and address at such place.”

Art. 2.—Where a vessel is not infected with Cholera, but has passengers on board who are in a filthy or otherwise unwholesome condition, the Medical Officer of Health may, if in his opinion it is desirable with a view to checking the introduction or spread of Cholera, give a certificate in duplicate in the following form, or to the like effect, and shall deliver one to the master, and retain the other or transmit it to the Sanitary Authority:—

CERTIFICATE.

day of

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SANITARY AUTHORITY OF

I hereby certify that I have examined the ship
from _____ now in the port of _____
and I find that she has passengers on board in a filthy or
otherwise unwholesome condition, and that, in my opinion,
it is desirable with a view to checking the introduction or
spread of Cholera, that the persons on board the ship should
not be allowed to land unless they satisfy me as to their
names, places of destination, and addresses at such places.

Signed

*Medical Officer of Health (or Medical Practitioner
appointed by the Sanitary Authority).*

Art. 3.—When such certificate has been given, no person on board the ship shall leave or be allowed to leave the same unless he satisfy the Medical Officer of Health as to his name, place of destination, and address at such place; and such name and address shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority, and such Clerk shall thereupon transmit the same to the Local Authority of the district in which the place of destination of such person is situate.

In this Article the term "Local Authority" means any Urban or Rural Sanitary Authority, and in the Administrative County of London any Sanitary Authority as defined by the Public Health (London) Act, 1891.

Art. 4.—This Order shall be read as one with the recited Order, and words herein shall have the same meaning as words in that Order.

Given under the seal, &c.

HENRY H. FOWLER, *President.*

HUGH OWEN, *Secretary.*

PRECAUTIONS AGAINST THE INFEC- TION OF CHOLERA.

1. The Order of the Local Government Board, of 28th August, 1890, now in force, gives certain special powers to Port and Riparian Sanitary Authorities, enabling them to deal with any cases of Cholera brought into their district, so as to prevent as far as possible the spread of the disease into the country. But it is to be remembered that cases of choleraic infection differ widely in severity, and that persons suffering only slightly from the disease, or incubating it, are likely to be landed at English sea-board and riparian towns, and to

make their way to inland places. This has, in fact, occurred in former epidemics.

2. Former experience of Cholera in England justifies a belief that the presence of imported cases of the disease at various spots in the country will not be capable of causing much injury to the population, if the places receiving the infection have had the advantage of proper sanitary administration; and, in order that all local populations may make their self-defence as effective as they can, it will be well for them to have regard to the present state of knowledge concerning the mode in which epidemics of Cholera (at least in this country) are produced.

3. Cholera in England shows itself so little contagious, in the sense in which small-pox and scarlatina are commonly called contagious, that, if reasonable care be taken where it is present, there is almost no risk that the disease will spread to persons who nurse and otherwise closely attend upon the sick. But Cholera has a certain peculiar infectiveness of its own, which, *where local conditions assist*, can operate with terrible force, and at considerable distances from the sick. It is characteristic of Cholera (and as much so of the slight cases where diarrhœa is the only symptom, as of the disease in its more developed and alarming forms) that *the matters which the patient discharges from his stomach and bowels are infective*. Probably, under ordinary circumstances, the patient has no power of infecting other persons except by means of these discharges; nor any power of infecting even by them except in so far as these matters are enabled to taint the food, water, or air, which people consume. Thus, when a case of Cholera is imported into any place, the disease is not likely to spread, unless in proportion as it finds, locally open to it, certain facilities, for spreading by *indirect infection*.

4. In order rightly to appreciate what these facilities must

be, the following considerations have to be borne in mind:— *first*, that any choleraic discharge, cast without previous thorough disinfection into any cesspool or drain, or other depository or conduit of filth, is able to infect the excremental matters with which it there mingles, and probably, more or less, the effluvia which those matters evolve; *secondly*, that the infective power of choleraic discharges attaches to whatever bedding, clothing, towels, and like things, have been imbued with them, and renders these things, if not thoroughly disinfected, capable of spreading the disease in places to which they are sent for washing or other purposes; *thirdly*, that if, by leakage or soakage from cesspools or drains, or through reckless casting out of slops and waste water, any taint (however small) of the infective material gets access to wells or other sources of drinking-water, it can impart to enormous volumes of water the power of propagating the disease. When due regard is had to these possibilities of indirect infection, there will be no difficulty in understanding that even a single case of cholera, perhaps of the slightest degree, and perhaps quite unsuspected in its neighbourhood, may, *if local circumstances co-operate*, exert a terribly infective power on considerable masses of population.

5. The dangers which have to be guarded against as favouring the spread of Cholera-infection are particularly two. First, and above all, there is the danger of WATER-SUPPLIES which are in any (even the slightest) degree tainted by house refuse or other like kind of filth; as where there is outflow, leakage, or filtration, from sewers, house-drains, privies, cess-pools, foul ditches or the like, into springs, streams, wells, or reservoirs, from which the supply of water is drawn, or into the soil in which the wells are situate; a danger which may exist on a small scale (but perhaps often repeated in the same district) at the pump or dip-well of a private house, or, on a

large or even vast scale, in the case of public water-works. And secondly, there is the danger of breathing AIR which is foul with effluvia from the same sorts of impurity.

6. Information as to the high degree in which those two dangers affect the public health in ordinary times, and as to the special importance which attaches to them at times when any diarrhœal infection is likely to be introduced, has now for so many years been before the public, that the improved systems of refuse-removal and water-supply by which those dangers are permanently obviated for large populations, and also the minor structural improvements by which separate households are secured against them, ought long ago to have come into universal use.

So far, however, as this wiser course has not been adopted in any Sanitary District, security must, as far as practicable, be sought in measures of a temporary and palliative kind.

(a) Immediate and searching examination of sources and conduits of water supply should be made in all cases where drinking water is in any degree open to the suspicion of impurity: and the water both from private and public sources should be examined. Where pollution is discovered, everything practicable should be done to prevent the pollution from continuing, or, if this object cannot be obtained, to prevent the water from being drunk. Cisterns should be cleaned, and any connexions of waste-pipes with drains should be severed.

(b) Simultaneously, there should be immediate thorough removal of every sort of house-refuse and other filth which has accumulated in neglected places; future accumulations of the same sort should be prevented; attention should be given to all defects of house-drains and sinks through which offensive smells can reach houses; thorough washing and lime-washing of uncleanly premises, especially of such as are densely occupied, should be practised again and again.

7. It may fairly be believed that, in considerable parts of the country, conditions favourable to the spread of Cholera are now less abundant than in former times ; and in this connexion, the gratifying fact deserves to be recorded that during recent years enteric fever, the disease which in its methods of extension bears the nearest resemblance to Cholera, has continuously and notably declined in England. But it is certain that in many places such conditions are present as would, if Cholera were introduced, assist in the spread of that disease. It is to be hoped that in all these cases, the local sanitary authorities will at once do everything that can be done to put their districts into a wholesome state. Measures of cleanliness, taken beforehand, are of far more importance for the protection of a district against Cholera than removal or disinfection of filth after the disease has actually made its appearance.

8. It is important for the public very distinctly to remember that pains taken and costs incurred for the purposes to which this Memorandum refers cannot in any event be regarded as wasted. The local conditions which would enable Cholera, if imported, to spread its infection in this country, are conditions which day by day, in the absence of Cholera, foster and spread other diseases—diseases which are never absent from the country, and are in the long run, far more destructive than Cholera. Hence the sanitary improvements which would justify a sense of security against any apprehended importation of Cholera would, to their extent, though Cholera should never reappear in England, give amply remunerative results in the prevention of those other diseases.

R. THORNE THORNE,

Medical Officer of the Board.

Local Government Board.

August 26th, 1892.

**General Memorandum on the Proceedings
which are advisable in Places attacked
or threatened by Epidemic Disease.**

(1) Wherever there is prevalence or threatening of cholera, diphtheria, fever, or any other epidemic disease, it is of more than common importance that the statutory powers conferred upon Sanitary Authorities for the protection of the public health should be well exercised by those Authorities, acting with the advice of their Medical Officers of Health.

(2) Proper precautions are equally requisite for all classes of society. But it is chiefly with regard to the poorer population, therefore chiefly in the courts and alleys of towns, and at the labourers' cottages of country districts, that local authorities are called upon to exercise vigilance, and to proffer information and advice. Common lodging-houses, and houses which are sub-let in several small holdings, always require particular attention.

(3) Wherever there is accumulation, stink, or soakage of house refuse, or of other decaying animal or vegetable matter, the nuisance should as promptly as possible be abated, and precaution should be taken not to let it recur. Especially examination should be made as to the efficient working of sewers and drains, and any defect therein, and any nuisance therefrom or from any foul ditches or ponds, should be got rid of without delay. The ventilation of sewers, the ventilation and trapping of house drains, and the disconnection of cistern overflows and sink pipes from drains should be carefully seen to. The scavenging of the district, and the state of receptacles for excrement and of ash-pits or dust-bins, will require

close attention. In slaughter houses, and wherever animals are kept, strict cleanliness should be enforced.

(4) In the removal of filth during periods of epidemic disease, it is commonly necessary to employ chemical agents for reducing or removing the offence and harm which may be involved in the disturbance of the filth. In the removal of privy contents these agents are more particularly wanted if the disease in question be cholera or enteric fever. The chemical agent should be used liberally over all exposed surfaces from which filth has been removed. Unpaved earth close to dwellings, if it be sodden with slops or filth, ought to be treated in the same way.

(5) Sources of water-supply should be well examined. Water from sources which can be in any way tainted by animal or vegetable refuse, especially those into which there may be any leakage or filtration from sewers, drains, cess-pools or foul ditches, ought no longer to be drunk. Above all, where the disease is cholera, diarrhoea, or enteric fever, it is essential that no impure water be drunk.

The liability of leaky water-pipes to act as land drains and to receive foul matters as well as land drainage through their leaks is not to be overlooked. And such leaky pipes, running full of water with considerable velocity, are liable to receive, by lateral insuction at their points of leakage, external matters that may be dangerous. This latter fact is not recognised so generally as it should be; and ignorance of it has probably baffled many inquiries in cases where water services have in truth been the means of spreading disease.

If, unfortunately, the only water which for a time can be got should be open to suspicion of dangerous organic impurity, it ought at least to be boiled before it is used for drinking, but then not to be drunk later than 24 hours after it has been boiled. Filtering of the ordinary kind cannot by itself

be trusted to purify water. It cannot be too distinctly understood that dangerous qualities of water are not obviated by the addition of wine or spirits.

(6) When there appears any probable relation between the distribution of disease and of milk supplies, the cleanliness of dairies, the purity of the water used in them, the health of the persons employed about them, and the health of the cows that furnish milk should always be carefully investigated. Even apart from any apprehension of milk being concerned in a particular outbreak of disease, it is desirable that English people should adopt the custom, which is always followed in some continental countries, of boiling all milk at once upon its reception into a house.

(7) The washing and lime-whiting of uncleanly premises, especially of such as are densely occupied, should be pressed with all practicable dispatch.

(8) Overcrowding should be prevented. Especially where disease has begun, the sick room should, as far as possible, be free from persons who are not of use to the patient.

Ample ventilation should be enforced. It should be seen that windows are made to open, and that they are sufficiently opened. Especially where any kind of infective fever has begun, it is essential, both for patients and for persons who are about them, that the sick-room and the sick-house be constantly traversed by streams of fresh air.

(9) The cleanliest domestic habits should be enjoined. Refuse matters should be speedily removed or destroyed; and things which have to be disinfected or cleansed should always be disinfected or cleansed without delay.

(10) Special precautions of cleanliness and disinfection are necessary with regard to infective matters discharged from the bodies of the sick. Among discharges which it is proper to treat as infective are those which come in cases of small-

pox and scarlatina from the affected skin; in cases of cholera and enteric fever from the intestinal canal; in cases of diphtheria and scarlatina from the nose and throat; likewise, in cases of any eruptive or other epidemic fever, the general exhalations of the sick. The caution which is necessary with regard to such matters must, of course, extend to whatever is imbued with them; so that bedding, clothing, towels, handkerchiefs, and other articles which have been in use by the sick may not become sources of mischief, either in the house to which they belong or in houses to which they are conveyed. So far as articles of this class can be replaced by rags or things of small value, it is best to use such things and burn them when they are soiled. Otherwise clothing and infected articles should be subjected to the disinfectant of the sick room or be removed for disinfection by heat.

In enteric fever and cholera the evacuations should be regarded as capable of communicating an infectious quality to any nightsoil with which they are mingled in privies, drains, or cesspools; and after such disinfection of them as is practicable, they should be disposed of without delay and under the safest conditions that local circumstances permit. They should not be thrown into any fixed privy receptacle, and above all, they must never be cast where they can run or soak into sources of drinking water.

(11) All reasonable care should be taken not to allow infective disease to spread by the unnecessary association of sick with healthy persons. This care is requisite, not only with regard to the sick house, but likewise with regard to schools and other establishments wherein members of many different households are accustomed to meet.

(12) If disease begins in houses where the sick person cannot be properly accommodated and tended, medical advice should be taken as to the propriety of removing him to an in-

firmly or hospital. Every Sanitary Authority should have in readiness a hospital for the reception of such cases.

Where dangerous conditions of residence cannot be promptly remedied, it will be best that the inmates, while unattacked by disease, remove to some safer lodging.

13. Privation, as predisposing to disease, may require special measures of relief.

14. In certain cases special medical arrangements are necessary. For instance, as cases of cholera in this country sometimes begin somewhat gradually in the comparatively tractable form of what is called "premonitory diarrhoea," it is essential that, where cholera has appeared, arrangements should be made for affording medical relief without delay to persons attacked, even slightly, with looseness of bowels. So, again, where small-pox is the prevailing disease, it is essential that all unvaccinated persons (unless they previously have had small-pox) should very promptly be vaccinated; and that re-vaccination should be performed in cases properly requiring it.

15. It is always to be desired that the people should, as far as possible know what real precautions they can take against the disease which threatens them, what vigilance is needful with regard to its early symptoms, and what (if any) special arrangements have been made for giving medical assistance within the district. For the purpose of such information, printed hand-bills or placards may usefully be employed, and in cases where danger is great, house-to-house visitation by discreet and competent persons may be of the utmost service, both in quieting unreasonable alarm and in leading or assisting the less educated and the destitute parts of the population to do what is needful for safety.

16. The present memorandum relates to occasions of emergency. Therefore the measures suggested in it are essentially

of an extemporaneous kind; and permanent provisions for securing the public health have, in express terms, been but little insisted on. It is to be remembered, however, that in proportion as a district is habitually well cared for by its Sanitary Authority, the more formidable emergencies of epidemic disease are not likely to arise in it.

17. Provision by the public authority for disinfection by heat of bulky articles, and of those which cannot without injury be exposed to chemical agencies, ought always to be in readiness. Without such provision no complete disinfection can be effected. Partial and nominal disinfection, besides being wasteful, may be mischievous, as giving rise to a false security.

18. The following system of domestic disinfection may be commended to Sanitary Authorities who have already provided adequate public means for the disinfection and for the disposal of infected matters and things:—

- (a) For the purposes of the sick room, such as the reception of soiled handkerchiefs, sheets, and the like, as well as for the swabbing of floors, a valuable disinfecting solution may be made with perchloride of mercury. It is well to have this solution slightly acid, coloured also in such a way that it shall not readily be confused with drinks or medicines; and proper caution should be given to avoid accidents in its use. Sanitary Authorities will find it advantageous to have such a solution*

* A solution fitted for the desired purposes may be made with $\frac{1}{2}$ oz. corrosive sublimate, 1 fluid oz. hydrochloric acid, and five grains of commercial aniline blue, in three gallons (a bucketful) of common water. It ought not to cost more

prepared under the direct instructions of the Medical Officer of Health, and supplied of a uniform strength at the infected house upon the order of that officer.

- b) In places provided with proper systems of excrement disposal, excrements of cholera and enteric fever, after being treated in detail with the same disinfecting solution in ample quantity, may be safely put into the ordinary closet; but special care as to the flushing of drains and sewers, and special frequency in the removal and exchange of excrement receptacles, will commonly be wanted. Where the only closet is one that communicates with a cesspool or privy pit, the best arrangement for the disposal of infected stools that under these improper local circumstances may be found practicable will have to be adopted.
- (c) A substance generally available in the removal of filth from privies and ashpits, and for application to foul earth and the like,* is sulphate of iron (green copperas), either in a strong solution made by stirring crystals of the salt with five or ten times their bulk of hot water, or in the form of powder, to which form the crystals may be readily brought after desiccation. This agent should be used in quantity sufficient to destroy all

than 3*d.* the bucketful, and should not be further diluted. The use of non-metallic vessels (wooden or earthenware house tubs or buckets) should be enjoined on those who receive it, and articles that have been soaked in it should be set to soak in common water for some hours before they go to the wash.

* The removal of dangerous filth is here the object to be attained. It cannot confidently be stated that either the iron salt or any available substance will effect a true disinfection of such masses of filth as are here in question.

odour, and in the removal of filth accumulations it should be well mixed with successive layers of the matter to be removed. The dry form of application is to be preferred where masses of wet or semi-solid filth have to be dealt with.

- (d) For disinfection of the air of rooms, after the room has been prepared by the removal of persons, and of such articles as are best disinfected by heat, and by the closing of windows and crevices, sulphurous acid gas in ample quantity may be evolved, the doors being kept closed for six hours or more. The amount of sulphurous acid required for the disinfection of a moderate sized room can be obtained by burning $1\frac{1}{2}$ lbs. of sulphur (roll brimstone) in a pipkin over a small fire placed in the middle of a room, with an old tray or the like to protect the flooring. These processes should be effected by skilled persons acting under the directions of the Medical Officer of Health.
- (e) After measures of disinfecting a room have been taken, all wall paper should be stripped from the walls and be burned, and the room ought to have its ceilings and walls thoroughly washed or lime-whited.

19. For detailed information on disinfection by heat, on hospital accommodation, and on small-pox, and on questions of school administration during the prevalence of infectious disease, see the Office Memoranda and Reports on these subjects.

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Medical Officer.

Local Government Board,
Medical Department,
August 26th, 1892.

PART II.

INFECTIOUS DISEASES—INCUBATION PERIODS—QUARANTINE
 —INFECTIVE PERIODS—SOURCES OF INFECTION :—Diph-
 theria, Scarlet Fever, Measles, Mumps, German Measles,
 Influenza, Whooping Cough, Small-pox, Chicken-pox,
 Enteric Fever, Typhus, Asiatic Cholera—Table of the
 usual diagnostic signs of the Specific Eruptive Fevers
 —INFECTIOUS OUTBREAKS IN SCHOOLS—ISOLATION AT
 HOME—DISINFECTION—THE RELATION OF THE MEDICAL
 OFFICER OF HEALTH TO THE MEDICAL PRACTITIONERS
 OF HIS DISTRICT.

DIPHThERIA.

Incubation period.*

LEAST.	AVERAGE.	GREATEST.
Unknown.	2 days.	7 days.

Quarantine.—Seven days from last exposure to infection.

Infective period.—From the commencement of symptoms for the whole period of illness. The

* Unless otherwise stated, the incubation period is the period between the exposure to infection and the first appearance of symptoms of illness.

specific bacillus persists in the mouth for a considerable time after the false membrane has disappeared. It is, therefore, not safe to allow recovered patients, even although their tonsils appear healthy, to mix with healthy people until at least 14 days have elapsed since the disappearance of all membrane. During the whole of this time the mouth and throat should be repeatedly gargled with antiseptic lotion.

Sources of infection :—

(1) From a previous case of diphtheria—acute or convalescent—(a person who has recovered from the throat affection, but is suffering from diphtherial paralyses may convey the disease).

(2) From a case of apparently simple Tonsillitis.

(a) By recrudescence of infectiveness in an individual attacked at a former date by diphtheria, but recovered from it.

(b) Associated with the prior occurrence of a series of cases of simple sore throat or of ulcerative tonsillitis—usually seen in schools—these cases exhibiting “a progressive development of the property of infectiveness, culminating in the production of a definite specific type.” (*Diphtheria: its Natural History and Prevention*, by R. Thorne Thorne, M.D., F.R.S., “Milroy Lectures” for 1891).

(3) From a case of apparently simple nasal ulceration or ozæna.

It is difficult to say why such cases should impart the diphtheritic contagion, but undoubtedly they occasionally do so. Possibly they may be cases of chronic diphtheritic ulceration.

(4) From domestic animals (cats, pigeons, fowls) suffering from a throat affection of a diphtherial nature.

(5) From cow's milk—either by human infection of the milk in cow-sheds and dairies subsequent to, or during the "milking," or from a diseased condition of the cow or cows supplying the milk.

In milk epidemics of diphtheria, there is evidence to show that those who consume the largest quantities of milk (the wealthier families) suffer a proportionally larger number of attacks than those who from poverty or other causes only consume a limited quantity of milk; and beyond this, it would appear that the practice of storing presumably infected milk on the premises of houses may intensify its original capacity for creating illness.

(6) From fomites, *i.e.*, infected bedding, clothes, carpets, curtains, books, toys, drinking cups, spoons, forks, &c.

(7) From a person who has been in contact

with a diphtheria patient, but who has not himself contracted the disease.

(8) From defective sanitary conditions.

(a) Drain and privy nuisances.

(b) Dung heaps and decomposing organic refuse.

(c) Dampness of soil around house, dampness and moisture of walls or basement of house.

(d) Bleakness of site and exposure to cold wet winds.

The conditions classed under (8) are probably merely predisposing causes engendering morbid conditions of the tonsils favourable to the growth of the diphtheria contagion if implanted thereon. The contagion may possibly be present in the effluvia and emanations arising from decomposing matters and moisture-laden soils, having been deposited therein at some former period and lying latent until special favouring circumstances enable it to renew its virulence.

SCARLET FEVER.

Incubation period.

LEAST.	AVERAGE.	GREATEST.
Less than 24 hours.	1 to 3 days.	7 days.

Quarantine.—Seven days from last exposure to infection.

Infective period.—From the earliest appearance of symptoms (usually sore-throat) until all desquamation has ceased. The acute stage of the fever, when the sore-throat and rash are most highly developed, is at least as infectious as any period of the desquamative stage. Doubt exists in the minds of some qualified to judge as to the infectiveness of the later stages of desquamation (on the hands and feet only) where convalescence is well established. It is safer, however, to assume that risk of infection still attaches to all cases which have not entirely ceased desquamation.

Sources of infection :—

(1) From a previous case of scarlet fever—acute or convalescent.

(2) From a case of sore-throat without discoverable rash—but really a mild form of the disease.

(3) From cow's milk—either by human infection of the milk in cowsheds and dairies subsequent to, or during the “milking,” or from a diseased condition of the cow or cows supplying the milk.

In an epidemic of scarlet fever, due to infected milk, fresh primary attacks will probably cease within five days of the withdrawal or stoppage of the sale of the implicated milk. Subsequent at-

tacks will most likely prove on enquiry to be secondary, *i.e.*, the contagion has been derived from a primary case the result of drinking the infected milk.

Households appear to suffer severely in milk epidemics of scarlet fever according to the amount of milk consumed by the inmates. The larger the consumption of milk the greater the number of attacks.

(4) From fomites, *i.e.*, infected bedding, clothes, carpets, curtains, books, toys, drinking cups, spoons, &c. Infection may be carried by persons who are not themselves sufferers, if they have been in contact with patients.

The occurrence of injury or operation involving surface lesions, and of labour in pregnant women, may determine the onset of scarlet fever in persons who have been recently exposed to infection, but who would otherwise in all probability have proved insusceptible.

There is no evidence that scarlet fever has been spread from scarlet fever hospitals as a centre, as is known to be the case with small-pox hospitals. Nor has scarlet fever infection ever been with certainty traced to drain or sewer air contamination of dwellings.

MEASLES.

Incubation period.

From exposure to infection to onset of illness.

LEAST.	AVERAGE.	GREATEST.
4 days.	9 to 10 days.	14 days.

From exposure to infection to appearance of rash.

LEAST.	AVERAGE.	GREATEST.
7 days.	14 days.	18 days.

Quarantine.—15 days from last exposure to infection.

Infective period.—From the earliest appearance of symptoms until convalescence is well established. The catarrhal stage preceding the eruption is very infectious.

Sources of infection :—

- (1) From a previous case of measles.
- (2) From fomites, *i.e.*, infected bedding, clothes, carpets, curtains, books and toys.

MUMPS.

Incubation period.

From exposure to infection to onset of Parotitis.

LEAST.	AVERAGE.	GREATEST.
14 days.	21 days.	25 days.

Quarantine.—25 days from last exposure to infection.

Infective period.—From the onset of the prodromal stage (which may last 3 or 4 days) and for a fortnight or three weeks subsequent to the appearance of Parotitis. The chance of infection being propagated diminishes progressively from the onset of Parotitis.

Sources of Infection :—

- (1) From a previous case of mumps.
- (2) From fomites.

GERMAN MEASLES.

Incubation period.

From exposure to infection to appearance of rash.

LEAST.	AVERAGE.	GREATEST.
5 days.	18 days.	21 days.

Quarantine.—21 days from last exposure to infection.

Infective period.—From the onset of the prodromal or pre-eruptive stage until the cessation of desquamation.

Sources of infection :—

- (1) From a previous case of German measles.
- (2) From fomites.

INFLUENZA.

Incubation period.

LEAST.	AVERAGE.	GREATEST.
Less than 24 hours.	3 to 4 days.	5 days.

Quarantine.—Five days from last exposure to infection.

Infective period.—From the earliest onset of symptoms until convalescence is well established.

Sources of infection :—

- (1) From a previous case of influenza.
- (2) From fomites.

WHOOPIING COUGH.

Incubation period.

LEAST.	AVERAGE.	GREATEST.
7 days.	Not determined.	21 days.

Quarantine.—21 days from last exposure to infection.

Infective period.—The whole period of illness from the onset of the earliest catarrhal symptoms.

Sources of infection :—

- (1) From a previous case of whooping cough.
- (2) From fomites.

SMALL-POX.

Incubation period.*

LEAST.	AVERAGE.	GREATEST.
9 days.	12 days.	15 days.

Quarantine.—Fifteen days from date of last exposure to infection.

Infective period.—From the onset of initial symptoms until all scabs have been removed. The period of greatest infectivity is during the acute stage (vesicular and pustular); during the initial illness and until the appearance of the rash the liability to impart infection is not great. Isolation of a case very shortly after the appearance

* In hæmorrhagic small-pox and black small-pox (*variola nigra*) there is some evidence that the incubation period is shortened—not exceeding seven or eight days.

of the eruption, when associated with measures of re-vaccination and disinfection, is very commonly effective in preventing the further spread of the disease.

Sources of infection.—(1) From a previous case of the disease.

(2) From fomites. Infection can be conveyed by a person who has been in contact with a small-pox patient, but who is not himself a sufferer from the disease.

(3) Proximity to a small-pox hospital containing numerous cases in the acute stage. (See Mr. Power's Report to the Local Government Board, 1885, on the influence exerted by the Fulham Small-pox Hospital in the spread of Small-pox: also Dr. Barry's Report on the Small-pox Epidemic at Sheffield).

CHICKEN-POX.

Incubation period.

LEAST.	AVERAGE.	GREATEST.
13 days.	14 days.	19 days.

Quarantine.—Nineteen days from date of last exposure to infection.

Infective period.—From the appearance of the eruption until this has completely disappeared.

Sources of infection :—

- (1) A previous case of the disease.
- (2) Fomites. The infection may be conveyed by those who have been in contact with patients.

ENTERIC FEVER.

Incubation period.

LEAST.	AVERAGE.	GREATEST.
8 days.	12 to 14 days.	23 days.

Quarantine.—Twenty-three days from last exposure to infection.

Infective period.—The excreta are infectious throughout the whole course of the disease, and until convalescence has been established for at least a fortnight.

Sources of infection.—*Water, food, or air,* contaminated by the specific virus contained in the excretions of an enteric fever patient.

WATER.—An epidemic due to a contaminated public water supply may persist for three or even four weeks after the source of the specific pollution has been removed. The occurrence of primary attacks so long after the withdrawal of the

source of mischief and exceeding the greatest incubation period, is probably due to the storage of infected water in cisterns; sufficient of this water remaining behind to contaminate the pure water subsequently introduced.

Specifically polluted shallow well-waters may remain infective, or retain the infection latent, for long and unknown periods after the original mode of infection has ceased to operate.

FOOD.—The food most usually implicated in the production of enteric fever is cow's milk, which has acquired its infectiveness by the addition to it of excretally polluted water, or by being subjected to emanations from drains or privies in unwholesome dairies and milkshops.

During an epidemic of enteric fever, consequent upon a contaminated milk supply, fresh primary cases are not likely to occur after a period of fourteen days—the average incubation period—has elapsed since the stoppage of the sale of the infected milk. New cases may be reported subsequent to the fortnight, both in houses already attacked and in houses which so far had escaped infection, but these cases will probably resolve themselves on inquiry into secondary attacks, owing their inception to infection from a primary case the result of the milk poisoning.

The greatest milk drinkers are very often the first to be attacked in a milk epidemic.

Outbreaks of enteric fever have been traced to ice-creams, ginger-beer, herb-beer, and other drinks manufactured in rooms or in the yards of houses where enteric fever has prevailed. In these cases the infection may have been introduced by the unclean hands of the people who prepared the ice-creams or beers, by the polluted condition of the water used in their manufacture, or by absorption of foul emanations by the substances or liquids during preparation, or whilst stored on the premises.

Oysters, mussels, and other shell-fish grown in waters receiving sewage, have also been credited with originating attacks of enteric fever.

The attendants upon enteric fever patients may become infected by taking meals with unwashed hands; and if meals are prepared by those who, whilst in attendance upon patients, are careless as to personal cleanliness, the food partaken of may be the means of conveying infection to others in the house, family, or neighbourhood.

AIR.—The air of privies, cesspools, drains, and sewers, which have become the receptacles for the sewage and waste-waters of typhoid infected houses, is capable of imparting infection to those who are exposed to emanations from these sources.

The air of the sick-room occupied by an enteric fever patient may possibly be the means of transmitting the illness to persons long present in the room, but not where the cleanliness and ventilation of the room are attended to. Enteric fever very rarely spreads in the wards of clean and well regulated hospitals.

Fomites.—Instances are known where washerwomen have contracted the disease from handling the infected clothing or bedding of enteric fever patients. The infection may persist for several weeks in infected clothing and bedding shielded from contact with light and air.

TYPHUS.

Incubation period.

AVERAGE.
7 days.

Quarantine. Fourteen days from date of last exposure to infection.

Infective period.—From the commencement of illness until convalescence.

Source of infection :—

From a previous case of the disease. The

virulence of the contagion is rapidly destroyed by fresh air and free ventilation combined with cleanliness, so that the spread of the infection is usually only observed in the overcrowded and insanitary quarters of the poorest class of the population in industrial towns. It is usually held that fomites do not propagate infection, but that actual contact or close proximity to a sufferer from typhus is necessary to impart the disease.

ASIATIC CHOLERA.

Incubation Period.

LEAST.	AVERAGE.	GREATEST.
A few hours.	1 to 2 days.	10 days.

Quarantine.—Ten days from date of last exposure to infection.

Infective period.—From the earliest onset of symptoms until complete recovery.

Sources of Infection.—As in enteric fever, from *water*, *food*, or *air* contaminated by the discharges of a person suffering from cholera, and from *fomites*.

In the case of cholera as in the case of enteric fever, there is reason to believe that the virus con-

tained in the excretions at the time of leaving the body of the patient, and for a short period after, is in a less active condition and more easily destroyed by chemical agents than after such excretions have been exposed for a short time to contact with air. An explanation is thus afforded of the fact that in well regulated hospitals fitted with good sanitary appliances, these diseases do not tend to spread from patients suffering from them to other patients in the wards not so suffering, or to nurses and persons in attendance. Under the opposite conditions, however, of home treatment in the crowded and dirty houses of the poor, with inadequate nursing and absence of care and cleanliness, it is well known that both enteric fever and cholera, but especially the latter, may exhibit a comparatively high degree of infectiveness, with the result that other inmates of the house invaded by the disease fall victims to its attack.

Diagnosis of cholera. — The diagnosis of Asiatic Cholera from English or Simple Cholera or Cholera Nostras, is one attended with numerous difficulties. There can be no doubt that reliance cannot always be placed on difference of symptoms, or on the greater gravity of the symptoms displayed in a case of true cholera. The vomiting and diarrhœa of watery, nearly colour-

less, or rice-water evacuations, the collapse, low temperature, prostration, lividity, and shrinking of the face and extremities, the cramps in the limbs and abdomen, the huskiness and loss of voice, the suppression of urine, which characterise an attack of true cholera, may all be present in greater or less degree in cases which, regarded from an etiological standpoint, can hardly be assigned to the invasion of the body by the specific cholera virus.

In this country during the past autumn isolated cases of the above nature have occurred in London and elsewhere, which, looked at from the point of view of symptoms alone, would undoubtedly be classified as attacks of true cholera. At any rate it is certain that such acute attacks presenting such grave symptoms occurring in adults in ordinary seasons (non-cholera years) are extremely exceptional.

Yet etiologically, how can these cases be regarded as cases of true cholera? In many there has been a complete absence of any history of true cholera infection, and indeed a complete failure after searching inquiry, to establish any possible connection between the person attacked and any conceivable source of infection. There has been, indeed, in some of these cases a history of consumption of tainted food of an ordinary kind, or of

exposure to foul drain emanations, which would be quite sufficient to account for an attack of acute diarrhœa of the kind so frequent in the summers and autumns of years of high temperature, but which is insufficient to explain the onset of true cholera.

Another distinguishing feature between these attacks and cases of true cholera is that there has been a notable failure in such cases of that capacity of spreading to other people brought within their influence, even under conditions where such spread seemed possible and likely, which is undoubtedly a characteristic of true or Asiatic cholera. The sporadic cases have not been succeeded by even a limited outbreak, such as might well have been considered a probable sequence in the case of a disease in which the capacity to spread under favourable conditions is so generally recognised.

It is true that in some of these cases simulating Asiatic cholera, a bacteriological examination of the excreta, or of the contents of the ileum, has shown the presence of Koch's *comma bacilli*, which are by many regarded as a certain diagnostic feature. Against such a view, however, must now be carefully weighed the considerations adduced in the foregoing paragraphs, and also the qualification to which some importance attaches,

that the present year (1893) is the first year in which cholera has occurred to any appreciable extent in this country, since the date of Koch's discovery of the *comma bacilli* and the general recognition of the methods to be pursued in their detection and examination. It may be that Asiatic cholera in this country, owing to different climatic, social, or sanitary conditions, has other methods of propagation and passes through other phases subsequent to its introduction, than are usual in the countries where it is of more frequent occurrence, but of this side of the question our knowledge is happily, from lack of experience, at present merely hypothetical.

TABLE
OF THE
USUAL DIAGNOSTIC SIGNS
OF THE
SPECIFIC ERUPTIVE FEVERS.

TABLE OF THE USUAL DIAGNOSTIC SIGNS

	SCARLET FEVER.	MEASLES.	RÖTHELN.	CHICKEN-POX.
Premonitory symptoms of pre-eruptive stage.	Headache, rigors, vomiting, pain in throat.	Nasal, conjunctival, pharyngeal catarrh, short dry cough.	Usually absent.	Slight or absent.
Usual date of eruption from commencement of illness.	2nd day.	4th day.	1st day.	1st day.
Character of the eruption.	Minute rosy papules at first discrete; they rapidly blend and give uniform scarlet hue to the skin.	Round dusky red spots, slightly raised and velvety; they soon coalesce forming crescents, horse-shoes, &c. In severe cases the eruption may be scanty, livid, or petechial.	Small round rosy red spots, discrete and slightly raised at first, subsequently some coalesce.	Rosy papules forming vesicles within 24 hours successive crops each running its own course. Vesicles are globular and getting; little pustulation. Eruption usually plentiful.
Sites of first appearance of eruption.	Chest, abdomen, forearms, and thighs.	Forehead at roots of hair, face, and neck. In a few hours spreads over the body.	Face and neck; spreads gradually over body and limbs.	Face, neck, chest, abdomen and limbs.
Physiognomy of patient.	Face flushed but free from rash; eyes clear and bright.	Eyes congested, nasal catarrh, expression dull.	Eyes congested.	Eruption usually on face.
Chief concomitant symptoms usually present.	Strawberry tongue — large red papillæ showing through fur. Later, tongue clean and very red. Acute tonsillitis and enlarged glands at angle of jaw.	Nasal, pharyngeal, laryngeal, or bronchial catarrh.	Congestion of tonsils, and early enlargement of cervical lymphatic glands on both sides.	

THE SPECIFIC ERUPTIVE FEVERS.

SMALL-POX.		TYPHUS.	ENTERIC FEVER.
DISCRETE.	MODIFIED		
Severe headache, rigors, great lumbar pain, vomiting, occasionally erythematous rashes on parts of body or limbs.	Usually somewhat severe as for discrete small-pox.	Severe headache, rigors, pains in limbs and back, great lassitude and weakness.	Gradual onset of lassitude, loss of appetite, thirst, headache, restlessness, pains in back and tenderness in right iliac fossa.
3rd day.	3rd day.	5th day.	2nd week.
Hard raised shotty papules, becoming vesicles after 48 hours. Vesicles are circular, dull, and flat. Hard horny nodules on palms of hands and soles of feet. Vesicles have yellow opaque contents (pustular) by 5th day of illness.	Usually scanty eruption of shotty papules, which become vesicular and then abort, or abort even before vesiculation. Occasionally no discoverable eruption.	Round dusky red spots, not raised, shading gradually at margins into dusky, congested, skin; maculae and petechiae also if severe.	Small round rosy lenticular papules in successive crops lasting 2 to 4 days.
Forehead, face, wrists and forearms.		Abdomen, chest, forearms; not as a rule on face.	Abdomen, chest, and back.
Face usually well covered with eruption.		Face dusky red; eyes injected; senses blunted; aspect dull and stupid; drowsiness or delirium.	Aspect bright, eyes clear in early stage. In later stage typhoid condition more or less marked.
		Tongue moist and thickly furred in early stage. Bowels costive; if diarrhoea, motions dark coloured.	Tongue red at tip and edges, furred in centre in early stage, later dry, brown, coated with sordes. Usually diarrhoea with yellow ochre motions; abdomen distended.

TABLE OF THE USUAL DIAGNOSTIC SIGNS OF

	SCARLET FEVER.	MEASLES.	RÖTHELN.	CHICKEN-POX.
Other diagnostic features.	Desquamation commences after disappearance of rash and may last from 3 to 12 weeks. In mild cases desquamation is often not noticed until many days after disappearance of acute sore throat, or of the faint and localised rash seen in such cases.	Temperature rises on appearance of rash. Many cases followed by branny desquamation, and brown staining on body.	Eruption may take 2 days to spread over whole body and limbs. It fades on face when spreading from body to legs. Slight desquamation not unusual.	

* In *hæmorrhagic small-pox* hæmorrhages may occur from the lungs, stomach, bowels, kidneys or uterus. Hæmorrhage usually takes place under the conjunctivæ, forming clots around the pupils with much discoloration of the lids, and there is hæmorrhage into or under the eruption of papules or vesicles. In black small-pox (*variola nigra*) ink-black spots form under the skin with diffused livid purpuric rashes about the neck, back, abdomen

SPECIFIC ERUPTIVE FEVERS—*Continued.*

SMALL-POX.		TYPHUS.	ENTERIC FEVER.
DISCRETE.	MODIFIED.		
In mild cases the temperature often falls to normal on appearance of eruption, and the patient usually feels much better. The eruption consisting of whitish spots may often be seen on the mucous membranes of the mouth, palate, and tonsils.		Hæmorrhage from mucous membranes almost unknown.*	

and thighs, and the disease terminates fatally before the fifth day of illness. Some of the black patches under the skin from blood extravasations may be one inch or more in diameter. In *confluent smallpox* there is confluence of vesicles—most marked on the face—causing great swelling and distortion of features; on the body and limbs the confluence of vesicles causes the formation of irregular serpiginous patches.

INFECTIOUS OUTBREAKS IN SCHOOLS.

It is impossible to cope effectually with outbreaks of infectious disease in public schools, grammar schools, colleges, and other large institutions, unless there is available a sanatorium or building to which cases can be at once removed, and at which effectual isolation can be carried out. The question, therefore, which so promptly besets a school medical officer, as to what advice he should give with regard to the "breaking up" of a school in consequence of the outbreak of an infectious illness, is one which must be very largely decided by the amount and character of the isolation accommodation available. Hardly less important is the nature of the complaint, and considerations which arise as to the possibility of the sanitary circumstances of the school being either directly or indirectly productive of the infection, or contributing to its spread and maintenance.

The necessity for prompt and early closure of a school is most apparent on the occurrence of an outbreak of enteric fever, diphtheria, or forms of septic infection of the throat and air passages

(septic tonsillitis, septic pneumonia, &c.), where there are known to be, or where on examination it is shown that there are defective conditions of drainage of the soil, or of house-drains and sewer-pipes, or of water supply, and where even if such conditions cannot be credited with the origin of the outbreak, still it is possible that they either materially contribute to the spread of infection, or act as predisposing causes affecting adversely the general health of the school. Under such circumstances to permit the continued exposure of the inmates of the school to ascertained evil influences is to court disaster; and the more rapidly the school is broken up and the scholars dispersed to their homes, the better will the interests of all concerned be studied. No countenance should be given to any attempt or suggestion on the part of the school authorities to remedy drainage defects during term time and school occupancy. The opening of the ground around defective or obstructed drains, and the removal of defective internal house pipes and fittings is far more likely to aggravate disaster, than to have any beneficial effect.

Outbreaks of measles, r6theln, mumps, chicken-pox, and influenza require less serious consideration. As a rule the occurrence of these complaints need not be considered as having any possible relation to defective sanitary surroundings, and

where the necessary isolation accommodation is at hand, at once available, and sufficient to meet a reasonably possible demand upon its resources, there need be no suggestion of "breaking up" the school. In these cases the period of the term will exercise some influence on the arrival at a decision as to disbanding the school. Should but a week or so remain of the term, the inconvenience of a sudden dispersal may be counter-balanced by the certainty of arresting the spread of infection, of preventing any strain upon the resources of the sanatorium, and of having the latter empty, cleansed, and disinfected before the reassembling after the vacation.

Scarlet fever occupies a position somewhat between the two classes of disease above mentioned. Whilst on the one hand scarlet fever may be looked upon as a disease the infection of which is in a majority of cases conveyed directly from the sick to the healthy, still there will often be aroused a suspicion in the mind of the medical attendant that school influences may have tended to aggravate the severity in type of this disease, and as the danger to life subsequent to the fourth or fifth year of age is far greater from scarlet fever than from measles, mumps, or chicken-pox, the decision to disband the school on the first sign that the isolation and disinfection precautions are not limiting the spread

of the complaint, is often a very sound one to take.

Where defective drainage or other insanitary conditions exist, such as overcrowding and bad ventilation, scarlet fever often assumes a severe type, and the infection appears to be most persistent and difficult to eradicate. To a certain extent this also applies to measles, as bad sanitary conditions may induce or aggravate the complications or sequelæ of this disease, such as diarrhœa and pneumonia, which under more favourable circumstances might have been absent or of little importance.

When small-pox is prevalent in the vicinity, and it is considered advisable to re-vaccinate the pupils, in large schools care should be taken to perform the operation on small numbers at a time, and at intervals. Should re-vaccination be performed in a wholesale manner, it will be found impossible to give the care and attention in dressing to the inflamed arms that may be requisite, with the result that ulcerated sores form, and there is much danger of the occurrence of erysipelas.

School sanatoria which are useful enough for ordinary illnesses, are not always competent to deal effectually with infectious complaints. The isolation cannot be reliable unless the building is

a detached block standing in its own grounds, remote from other school buildings and places of resort, and administered by a staff of nurses, servants, and officers having no duties of any kind in the general school buildings. Sanatoria which are merely rooms forming part of, or attached to school buildings and class-rooms, are not reliable for purposes of isolation. Even disregarding the possibility of conveyance of infection aurally, the risk of intercommunication between the attendants on the sick and school servants is great, and such intercommunication is very difficult to control.

On the reassembling of a school after the occurrence in the previous term of cases of diphtheria, it will be a wise precaution for the medical officer to examine the throats of all those who have suffered from an attack. Should any unhealthy condition of the tonsils be found to persist, the boy should be kept isolated and under observation for some days; should there be any symptoms indicative of diphtherial paralysis, he should be sent back to his home as promptly as possible. Those returning to school after scarlet fever should be medically examined as to their throats, and also as to their hands and feet for late desquamation. An examination of the urine for the detection of albumen may also be advisable.

It is very doubtful if children who are suffering

from otorrhœa, chronic nasal discharge, or glandular ulceration following an attack of any of the specific fevers, should be allowed to resume their places in school until they are completely recovered. Cases of incomplete recovery from scarlet fever as shown by albuminuria, and from diphtheria as shown by persisting paralyses, should be certainly kept away from school. There is not only danger of possible infection to other scholars, but progress towards complete recovery might well be retarded by too early a return to school life.

The suspicions of a school medical officer should be aroused as to possible drainage defects in a school, or in a particular house of a public school, by the constant occurrence of ill-defined illness, unassociated with any complaint of definite character. Simple lassitude, anæmia, and headache, with inability to cope effectually with school tasks occurring amongst several boys and affecting others at irregular intervals—attacks of diarrhœa and gastric disturbance affecting several lads and evidently unconnected with the school diet, such attacks being sometimes apparently dependent upon weather changes—sore throat and feverishness without any very obvious cause—the slow or unhealthy healings of slight wounds or scratches received at play, and the occurrence of cellulitis or traumatic erysipelas, these and other slight ail-

ments, if prolonged and persistent, and attacking irregularly and at intervals a larger number of boys than should be affected by what may be termed the normal conditions of occasional improper diet, exposure to chills, and neglect of regular action of the bowels, incidental to the mode of life pursued at all large schools, should arouse in the mind of the medical officer a suspicion that unhealthy influences are at work depending on defects of management, or more likely, on structural defects in the system of house sanitary appliances, drainage, or water supply common to the cases which have come under his notice.

The system pursued at many public schools now, whereby boys are allowed and encouraged to seek the advice of the medical officer for any minor ailment, is far preferable to the assumption by the matron of the functions of a medical attendant. If the advice of the medical officer is only sought in the graver cases, his knowledge of the general health of the school is seriously limited, and his capacity to give advice at critical moments is greatly impaired by his being unacquainted with the possible signs of an approaching disturbance. His want of touch with the general health tone of the school may result in a failure to appreciate the gravity of the situation when his advice and assistance at last are sought, and the course of ac-

tion he then recommends may be very different from that which he would advise had all the facts been known to him, and were he able to estimate them at their proper value. It must be remembered that when in a school grave disease once declares itself, it is not every matron who can be trusted to give a correct account of cases which may have been brought to her for advice, and which better knowledge and greater judgment would at once have relegated to the medical officer.

In any school which has been the subject of the outbreak of an infectious disease, or of a succession of outbreaks at irregular intervals it will be wise to advise the following precautions:—

Milk.—All milk as received from the farmer or dairy should be boiled for 5 minutes. Mere scalding is insufficient, where this is effected by placing the vessel containing milk inside a larger vessel, the water in which is heated to boiling point. The temperature of the milk under these circumstances will probably be found to rise not higher than 190° F. or 200 F., which is insufficient to sterilise it. The milk should subsequently be stored in a larder or dairy, in covered pans, and particular attention should be paid to the possibility of drain air finding its way into the larder or dairy. The cover is necessary to prevent insects or mice falling into and polluting the

milk. There can be no doubt that flies and vermin may at times convey contagion from one place to another.

Water.—The water used for drinking should be boiled for 5 minutes, and subsequently aerated by being allowed to pass through a clean filter. A useful filter for this purpose is the Morris circulating filter* the filtering medium used being “polarite” a substance containing magnetic oxide and carbide of iron.†

Water may also be sterilised, *i.e.*, deprived of all suspended or particulate matter, including microbes, without boiling by the use of the Berkefeld filter, in which the water is made to pass under pressure through a certain thickness of porous silitated ware. The filter must be connected with a pipe in which the pressure of water is not less than that produced by a column of water 20 feet in height, otherwise the filtration through the porous ware is very slow. A tap should be fixed above the filter so as to admit water to it, and turn it off.‡

* Manufactured by the Morris Tube Ammunition Company, 11 Haymarket, S.W. Sizes, from 2 quarts to 12 gallons, prices from 14s. to £4 10s.

† Manufactured by the International Sewage and Water Purification Company, 7 Victoria Street, S.W.

‡ The height of the filter is $15\frac{1}{2}$ inches, diameter $1\frac{3}{8}$ inches, giving 15 gallons of water per hour. Price 25s. all parts nickel plated. (The Berkefeld Filter Company, 121 Oxford Street, London, W.).

Drinking cups attached to fountains or pumps, which are used in common by the inmates, should not be permitted. This is a matter frequently overlooked, and there can be no doubt that the use of a common drinking cup has at times helped to spread infection.

The keeping of animals.—The keeping of animals on the premises of the school should be strictly prohibited. Cats, rabbits, mice, and birds, may be the means of conveying or retaining infection; and it is safer to eliminate such sources of mischief in any school where a recurrence of infection is feared.

Ventilation of dormitories and class-rooms.—Overcrowding in dormitories and class-rooms may not only exert a direct effect in rendering the passage of contagion from one person to another extremely easy, but it may also predispose the subjects of overcrowding to fall ready victims to the attack of the specific poison, and may at the same time intensify the severity of the disease when acquired. The amount of floor space and cubic space which should be allotted to each individual in a class-room or dormitory must vary with the kind of ventilation possible, and the ages of the inmates. In well ventilated and sufficiently warmed dormitories at least 40 square feet of floor space and 600 cubic feet of air

space should be allotted to each pupil. Under the age of twelve years, it will probably be sufficient to fix a minimum of 30 square feet of floor space and 450 cubic feet of air space. About the same amounts should be allowed in class-rooms or rather less, depending upon the number of hours per day each class-room is continuously in use.

In dormitories with cubicles, a larger amount of space should be allotted, as the partitions seriously interfere with the thoroughness of the ventilation. In every instance the cubicle partitions should be cut off six inches from the floor, so as to leave a space of this depth for the passage of air along the floors. If cubicles are placed in dark or unventilated corners they should be considerably larger than the cubicles elsewhere. The cubicle partitions should not be higher than six feet six inches.

Attention should be paid to the ventilation of the small room or rooms where special lessons are given in such subjects as music, drawing, &c. These rooms are often continuously occupied throughout the day by successions of pupils, who are subjected to an atmosphere vitiated by their predecessors; and little or no attempt is made to thoroughly renew the air of the room between the end of one lesson and the beginning of the next. It is in this way that the infection of sore throats and catarrhs is so frequently spread from pupil to

pupil. Wherever there is reason to believe that the bringing together of large numbers of pupils is likely to lead to the spread of infection in a school attacked by one of the specific fevers, attendance at chapel or in a common school-room for call-over or other purposes, should be as far as possible avoided.

Cleansing of drains, cisterns, &c.—If the infectious illness has been enteric fever, or of a diarrhœal nature, special attention should be paid to the cleansing of drains, waste-pipes, cisterns, wells, tanks, and overflow pipes. The water from wells should be pumped out, and the walls of the well should be scoured and cleansed, all foul water being subsequently removed.

Public elementary schools.—Sanitary authorities are now able to order the closure of public elementary schools, if in their opinion such a procedure is likely to prevent the spread of infectious disease.

Section 88 of the *Code of Regulations of the Lords of the Committee of the Privy Council on Education* (1890) provides that “the managers of a public elementary school must at once comply with any notice of the sanitary authority of the district in which the school is situated, requiring them for a specified time, with a view to preventing the spread of disease, either to close the

school or to exclude any scholars from attendance, but after complying they may appeal to the Education Department if they consider the notice to be unreasonable."

Public elementary schools are defined in the code as schools or departments of schools at which elementary education is the principal part of the education given, at which the ordinary payments in respect of the instruction, from each scholar, do not exceed ninepence a week, and which are conducted in accordance with the regulations contained in the code.

On its becoming evident to the medical officer of health of a district, that an epidemic of diphtheria, scarlet fever, or measles is threatened, or is being maintained by the opportunities afforded for personal infection owing to school attendance at public elementary schools, and that no other less drastic measures will suffice for the suppression of the epidemic, it is his duty to advise his sanitary authority to exercise its powers under the education code, to give notice for the closure of one or more of the public elementary schools of the district for a specified time. Such measures are specially useful in those rural districts, where school is a centre at which children from scattered hamlets meet, who would not otherwise be brought into contact with each other. In towns, school

closure is often less efficacious in eradicating an epidemic, as the children when not at school are liable to meet in the streets for play, or in each others houses, and thus propagate infection. At the same time it is clear that infection is less likely to be imparted in a wholesale manner under these conditions, than under the conditions of close crowding and inefficient ventilation prevailing in most board schools. It may also be necessary to obtain the closure of board schools for defective sanitary arrangements, which appear to have some connection with illness, such as enteric fever, diarrhœa, or diphtheria, occurring amongst the scholars.

ISOLATION AT HOME.

For the isolation of a case of infectious disease in a house occupied by only one family, a room at the top of the house should be chosen, and if possible the whole of the upper storey should be set apart for this purpose. The upper storey is preferable to any room or rooms on a lower storey for the reasons, (1) that other inmates of the house need not pass by or near the door of the sick-room, and (2) that currents of air usually ascend from the lower part of the house to the upper, thus avoiding the risk of aerial transference of infection from the sick-room to other inhabited parts of the house.

The room chosen for the patient should be large, airy, and lofty, if possible, with a fire-place, and a good-sized window facing into an open space unsurrounded by buildings. Any room with a window opening into an enclosed area, well, or court-yard, should be avoided, as down currents are often experienced in such enclosed places, which would result in infected air from the sick-room being drawn down towards the basement

and possibly finding its way into dwelling-rooms at lower levels.

A small fire should be kept burning in the fireplace day and night, with the view more especially to extract the used air of the sick-room and allow it to escape by the chimney flue; and the top window sash should be slightly lowered, except in very cold weather, so as to dilute the air of the sick-room with fresh air at all times. If any draught is experienced, a piece of muslin may be nailed or pasted over the aperture, and this will serve to break up the current of entering air and obviate draught; or a piece of wood can be placed under the lower rail of the lower sash, thus raising the lower sash on Hinckes Bird's plan, and allowing the air to enter with an upward direction between the two sashes in the middle of the window frame.

Where a room has to be prepared for the reception of a patient, curtains, hangings, pictures, and all furniture which is not strictly required should be removed to another apartment. The carpet also should be taken up, unless the floor boards are soft and absorbent, with spaces between the boards in which infective material might collect and escape the cleansing operations undertaken on the recovery of the patient. In such cases the carpet should be allowed to remain down, and

should be sent to be steam disinfected with the bedding at the close of the illness.

To prevent the passage of infected air from the sick room onto the landing and staircase, a sheet large enough to cover the whole doorway and to rest on the floor, should be hung up outside the door of the patient's room, and should be kept soaked in water, to which has been added carbolic acid in the proportion of two or three tablespoonfuls of the carbolic acid to one gallon of water. This precaution should be persisted in during the whole period of illness.

For ordinary-sick room purposes carbolic acid is perhaps as useful a disinfectant as can be obtained. Its well-known smell should prevent its being given or mistaken accidentally for internal medicine; but in order to further guard against the possibility of such a mistake, the bottle containing it should have a patent poison stopper, so that the bottle cannot be handled even in the dark, without the poisonous nature of its contents being called to mind by contact with the stopper.*

* A crenated flange of hard metal is fixed to a metal-capped stopper between the button and the cork. The points of the flange project immediately over the lip of the bottle, and are felt by the thumb and finger in the act of screwing out the cork. Manufactured by the Patent Stopper Company, Icknield Street, Birmingham.

Nothing should be allowed to pass out of the sick-room unless previously disinfected in a strong solution of carbolic in water (two tablespoonfuls of carbolic acid to one pint of water, equivalent to 1 in 20); and all rags, poultices, dressings, paper, used matches, &c., should be burned, and must not be put in the dust-bin. The cooking and feeding utensils used in the sick-room should be kept there, or in an adjoining room, and should be cleansed by the nurse or other person in attendance on the patient.

Sheets, towels, night-dresses, and other washable articles should not be sent to the laundry, without having been first boiled in the copper, or soaked in a disinfecting solution of carbolic acid in water.

The nurse or other person in attendance on the patient must keep herself entirely apart from other inmates of the house, and should sleep either in the patient's room or in a room adjoining, which should be regarded as as infectious as the sick-room. Visitors, especially children, should on no account be allowed to enter the sick-room. Any visitor going into the room should be provided with a macintosh or linen overall, and the hands, face, and hair should be washed with soap and water on leaving. Mothers should be specially cautioned not to kiss and caress their children, as infection may be conveyed to other children

after very close contact; and in cases of diphtheria or scarlet fever the very intimate contact necessitated by kissing may impart a form of sore-throat which, exhibiting itself no specific qualities, may prove highly infectious to others.

The impossibility of carrying out efficient isolation amongst the poor, where a family only occupies 2 or 3 rooms in a house, and where the mother looks after the patient, and also performs all other household duties, is too evident to require insisting upon.

In cases of enteric fever, the excreta of the patient should be mixed with an equal quantity of strong disinfectant solution in the bed-pan or chamber utensil. Strong carbolic acid solution (4 tablespoonfuls of the acid to one pint of water) or the St. Bede disinfectant of a strength equivalent to one of corrosive sublimate to 500 of water may be used for this purpose (see page 171). After standing for an hour exposed to the action of the disinfecting liquid the excreta may be thrown away into the water-closet, the pan and seat of which should be thoroughly cleansed after being so used.

The person in attendance on the patient should be cautioned to thoroughly cleanse her hands with soap and water, before preparing or eating any meal.

In country districts where earth-closets, pail-closets, privies, cesspools, or middens are in use,

and where garden ground is available, the disinfected excreta should be buried in about a foot of soil in the garden, as far away as possible from any pump, well, or stream used for supplying drinking water. Wherever there are drains and public sewers, it will be preferable to dispose of the excreta by means of the water-closets. After the termination of the case the water-closets and drains should be well flushed out with disinfectant solution.

In cases of cholera (and the same procedure would be equally serviceable in cases of enteric fever) the excreta from the patient should be collected and placed in a special pail containing disinfectants, provided by the sanitary authority. The sanitary authority's officers should finally dispose of them by mixing the pail contents with sawdust and burning them in a cremator or refuse destructor.

In treating cases of scarlet fever and measles, the advisability of employing antiseptic inunctions of eucalyptus globulus or other essential oils may be considered, but medical opinion is as yet not decided as to the advantages from a clinical and preventive view of such methods. The use of hot baths in the desquamating stage of scarlet fever to free the body from infective scales is no doubt helpful in shortening materially the long infective period of this complaint.

There is no objection to the diffusion of the volatile essences of the essential oils about the air of the sick room. Eucalyptus oil, pinol, sanitas, or other aromatic substances, may be left exposed in saucers; but care should be taken that these substances are not used by careless or negligent attendants on the sick to conceal the odours arising from neglect of cleanliness and absence of sufficient ventilation.

DISINFECTION.

On the close of a case of infectious disease, or on the removal of the patient to a hospital, arrangements should be made for the disinfection of the room or rooms occupied by the patient, and of his bedding and clothing. In most urban and in some rural districts, the disinfection in all its departments is now undertaken by the officers of the local sanitary authority. In such districts it is only necessary for the householder or the medical attendant to give notice to the sanitary authority of the readiness for disinfection, and the work will be at once undertaken.

In other places, however, the householder is left to carry out his own disinfection; and this should always be done to the satisfaction of the medical attendant, who may at any time be required to give a certificate of the disinfection having been efficiently carried out.

Disinfection of rooms.—Having made a thick paste with moistened flour and provided a sufficient quantity of brown paper, the various openings into the room should be sealed over with the paper. These will include the chimney flue,

any existing ventilators either into the chimney flue or communicating with the outer air, and the crevices around the window sashes, fanlights, skylights, or other lighting apertures. The furniture, fittings, and hangings should then be disposed about the room in such a way as to be exposed as freely as possible to the fumes to be generated.

The fumigation is generally carried out by means of sulphurous acid gas, generated by burning sticks of sulphur on live coal or in methylated spirit in a pan in the room. But this method has two disadvantages, namely the risk of the pan upsetting* and the burning coal or spirit igniting the woodwork and furniture of the room; and the possibility of the coal or spirit failing to keep the sulphur burning, with the result that an insufficient amount of sulphurous acid is disengaged, and the disinfection is not effectual.

A safer and more efficient method is to use tins of compressed sulphurous acid.† These tins are made of different sizes suitable for large or small rooms. For very large apartments two or more of the large sized tins should be used. The percentage of gas in the air of the apartment should al-

* Burning sulphur also tends to run up the side of the pan, and may then become detached and fall over.

† Manufactured by Boake, Roberts & Co., Stratford, London, E.

ways exceed one per cent. for proper disinfection, so for a room containing 1000 cubic feet, a tin which evolves 10 cubic feet of sulphurous acid gas is barely sufficient. After sealing up all apertures in the room, the tin should be placed in the centre on a chair upon a table, and the soft lead vent pipe sliced off with a knife. The gas will then be slowly evolved (see p. 170).

On leaving the room, the door by which the exit has been made should be sealed over with brown paper all round the frame and floor; and the room should then be left undisturbed for 12 hours. After this period, the room should be entered, and all the brown paper should be removed, the windows thrown wide open, and left so for another 12, or if possible, 24 hours. If there are any metallic articles, gilded frames, pictures, brasswork, or mirrors in the room, these should have been covered over with sheets or daubed over with grease before the fumigation; otherwise they might seriously tarnish. If possible they should be removed from the room before the fumigation is commenced.

If the fumigation is carried out by burning sulphur, $1\frac{1}{2}$ lb by weight of this substance should be used for every 1000 cubic feet of space of the room to be disinfected. The sticks of sulphur should then be broken up into small pieces, and

placed on an iron pan containing live coal, the pan being suspended over a tray or bucket containing water (to prevent the risk of fire), or the pan may contain methylated spirit to which a light is applied. Sulphur candles can also be obtained. These have a wick to which a flame is applied, and in burning they give off sulphurous acid gas, the amount evolved being proportional to the length of time the candle remains alight.

Subsequent to the fumigation and airing of the room, the wall-paper should be stripped off and burned, the ceiling lime-whited, and the walls repapered or redistempered as the case may be. The floor, woodwork, painted ironwork, and furniture of the room should then be well washed with soap and hot water containing an excess of household soda.

A more thorough disinfection of the room, which has contained infectious cases, is sometimes advisable. This more particularly applies to school dormitories, wards in hospitals, and places where it is especially desirable that no trace of infection should be allowed to remain. To effect this thorough disinfection, the skirting boards and floor boards, especially where badly fitting with crevices between them which collect dust and dirt, should be taken up, and the boards should be washed and scrubbed on both faces with a disinfecting

solution, either 1 in 40 carbolic acid, or St. Bede disinfectant equivalent to 1 per 1000 of perchloride of mercury. If the latter is used, wooden buckets should be provided for the preparation of the solution, as the mercury salt will attack iron or zinc vessels.

The space under the floor boards should be cleaned out, the dust, shavings, and rubbish found there being burned, and the surfaces of joists, sleepers, and ceiling exposed should be well sprinkled all over by means of a watering can containing the disinfecting solution. The sulphur fumigation should be carried out after the floor boards have been taken up, and before they are replaced. On basement or ground floors, if there is no concrete covering the ground, it will be advisable to have a 6-inch layer of concrete laid over the entire site exposed, and the surface of this should be floated over with cement. In any case the top layer of the soil should be removed, if it is decided not to go to the expense of concreting, and fresh gravel or brick rubble should then be spread over the ground, and rammed down solid. Subsequently the whole surface can be coated with tar.

Special attention should be given to ventilators, especially exit or exhaust ventilators with long and tortuous flues. These should be swept or cleansed out if possible, and sulphur fumigated.

Infection may be retained, otherwise, in the linings of the flues.

The fire-places should have large fires burned in them for some hours previous to the re-occupancy of the rooms, not only to air the rooms, but to destroy any infection that may be lurking in the chimney flues.

The waste-pipes of all lavatory basins, baths, and sinks which may have been used by infectious patients, or have received infected slops, should be cleansed as follows:—The ends opening outside over gullies should be closed, and the pipes should then be filled with hot water containing a sufficiency of caustic soda to dissolve and carry away the grease, soap, and dirt lining the pipes. Rain-water heads and pipes receiving infected waste-water should be well flushed out with a similar solution of caustic soda in hot water.

Drains should be cleansed and flushed, and all cisterns and tanks emptied and cleansed.

Disinfection of Bedding and Clothing.—Sheets, towels, body linen, and everything that is washable can be effectually disinfected by being placed in boiling water in a copper or other suitable receptacle. This should always be done before such articles are sent to the laundry. Where the linen is much stained, it should be steeped in cold water for some time previous to boiling to

remove the stains, which might otherwise be fixed by the high temperature.

Hair and flock mattresses and palliasses, blankets, woollen articles, cloth clothes, carpets, curtains, and other fabrics which do not admit of being washed, should be disinfected by steam in a proper steam disinfecting oven. Leather articles and books are spoiled by subjection to steam, and should be heated by dry hot air. Books should be opened, shaken, and brushed in the open air after they come out of the oven. Disinfection of bedding, &c., by dry heat in gas ovens or ovens heated directly by a furnace is very nearly valueless, unless the articles are spread out so as to expose all their surfaces to the dry hot air, and even then any infective material which has penetrated beneath the surface may not be reached by the heat. Disinfection by dry heat is not to be relied upon.

Many local sanitary authorities now possess proper steam disinfectors, where disinfection is speedily and effectually carried out, and the service is usually gratuitous. Where local authorities only possess dry heat disinfectors, no reliance should be placed on the disinfection carried out, and it will be better to make special arrangements for steam disinfection with a private firm.

Beds, clothing, &c., which are much soiled by discharges, or in a very filthy condition, should

be destroyed by fire in a properly constructed furnace.

Care should always be taken in selecting the clothes to be sent to be disinfected, that those worn by the patient at, and immediately before, the onset of his illness are included, and also any clothes worn by the mother or other person who undertook the nursing before the arrival of a professional nurse. Neglect of these precautions, and want of foresight in these particulars, has on very numerous occasions resulted in the recurrence of the disease in another member of the family, who has become infected by the clothes, originally stowed away, not disinfected, which have been brought out again when all idea of infection was over, perhaps many weeks or months after the recovery of the person first attacked.

DISINFECTANTS.

Compressed sulphur di-oxide (sulphurous acid) for aerial fumigation.—Each tin contains about twenty ounces of sulphur dioxide, condensed into a liquid by pressure, and is said to be equal in effect to about double its weight of sulphur, as ordinarily burnt for disinfection. Each tin may be relied upon to effectively disinfect a room about twelve feet cube (containing 1728 cubic feet). Manufacturers, A. Boake, Roberts & Co., Stratford, London, E. Price 8s. per dozen tins, if not less than a gross are ordered.

Directions for use.—The tin is taken in the left hand pointing away from the operator, who cuts off the soft lead vent pipe with one stroke of a strong knife. The tin should then be placed on a chair resting upon a table near the centre of the room. The first rush of the gas chills the remainder of the liquid and checks the further evolution to a gentle continuous flow, as the tin absorbs warmth from the room. If the temperature of the room be 65° F., the gas will take about two hours to fully escape. Where more rapidity is desired, the contents of the tin may be allowed to escape at once into a basin. The liquid then evaporates in about fifteen minutes.

St. Bede disinfectant (perchloride of mercury).—This disinfectant is prepared by the St. Bede Chemical Company, Ltd., Newcastle-upon-Tyne. It is sent out in the form of small blocks, each weighing one ounce, and containing 17·5 grains, or four per cent. of perchloride of mercury.

Composition of the block:—

Perchloride of Mercury	4·01 per cent
Free Sulphuric Acid	4·10 „
Sulphate of Soda	87·25 „
Sulphate of Lime	1·30 „
Oxide of Iron, &c.	0·27 „
Chloride of Sodium	0·21 „
Insoluble siliceous matter	0·24 „
Thymol, Eucalyptus, Indigo, and Water	2·62 „
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	100·00
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THE RELATION OF THE MEDICAL
OFFICER OF HEALTH TO THE
MEDICAL PRACTITIONERS OF
HIS DISTRICT.

The duty of a medical officer of health, as regards the investigation of the causes or origin of infectious diseases in his district, is laid down by the Local Government Board (*L. G. B. Order*, March, 1880) as follows:—

6. “On receiving information of the outbreak of any contagious, infectious, or epidemic disease of a dangerous character within the district, he shall visit the spot without delay, and inquire into the causes and circumstances of the outbreak, and advise the person competent to act as to the measures which may appear to him to be required to prevent the extension of the disease, and so far as he may be lawfully authorised, assist in the execution of the same.”

A similar provision is contained in the *Sanitary Officers (London) Order*, 1891, being the regulations made by the Local Government Board as to the duties, &c., of Medical Officers of Health under the Public Health (London) Act, 1891.

This order was issued subsequent to the passing

of the Infectious Disease (Notification) Act, 1889, which was made compulsory in London, but no provision was made in the Order for in any way defining the duties of medical officers of health with regard to notified cases of infectious disease.

There is no obligation laid upon the medical officer of health to examine a patient notified by a medical practitioner as suffering from an infectious disease in order to *verify the diagnosis*. Such a procedure forms no part of the duty of a medical officer of health, although circumstances may arise when the medical officer would be justified in pursuing such a course. As a general rule the examination of a patient should only be made after obtaining the consent of the medical practitioner in attendance, or in consultation with him.

Where the medical officer of health is debarred from private practice, friction with his professional brethren is little likely to arise, and there is probably but little objection under such circumstances to the medical officer of health seeing such patients as he may deem it advisable to visit with a view to his determining readily whether they are cases which should be promptly removed to hospital, or which can be allowed to remain at home, and also whether it will be necessary to carry out a thorough disinfection.

As a matter of fact nearly all medical officers of

health receive notifications in considerable number of very mild, or even doubtful, cases of diphtheria, scarlet fever, and erysipelas; and in London, at any rate, some discrimination has to be made between the mild and severe forms of fever and diphtheria, all of which are eligible for hospital treatment, otherwise the hospitals would be filled with cases of the mildest character—many of which can be perfectly well treated in their own homes. As regards disinfection also, many cases are notified so mild or doubtful in character, as to hardly justify extensive measures of disinfection and cleansing.

At the termination of a case of infectious disease, where the patient is supposed to have recovered, the Medical Officer of Health may deem it advisable to examine the patient, in order that he may give the necessary directions for disinfection, and sign the certificate stating the premises are free from infection, which is required by the school authorities before children in the house are again admitted to school. This examination is, however, rarely carried out, except in cases where the medical practitioner in attendance has discontinued his visits, and is, therefore, unable himself to certify the recovery of his patient.

In dealing with the preventive measures necessary to control the spread of disease a great deal

must be left to the discretion of the medical officer of health, and it is always possible for his relations with patients or their friends to be of such a character as not to cast the slightest reflection on the medical attendant.

No objection should be raised to the medical officer of health examining cases of small-pox, typhus, or other diseases not commonly prevalent, as in such cases special measures are called for involving considerable trouble and expense, and the medical officer can more confidently recommend the necessary steps to be taken if satisfied in his own mind as to the nature of the disease.

Some rather interesting points are involved in the question as to the liability incurred where a supposed infectious patient has been removed from his home to an isolation hospital, but the diagnosis arrived at by the certifying practitioner proves to be a mistaken one. In these cases patients may suffer damage to health or may suffer pecuniary loss owing to detention in hospital in order to undergo a period of quarantine.

On due consideration, it would appear that in those cases where the patient is willing, or the friends of the patient, if a child, offer no objection to the removal to hospital, even although this removal is carried out by the sanitary authority's officers, and without previous

consultation with the certifying medical practitioner, yet the latter is the only person who can be held to be in any sense responsible for the consequences attributable to an error in diagnosis. The medical officer of health has a right to assume that every case notified to him is a proper one for voluntary removal to hospital, unless there is an expression of opinion on the notification certificate, or in an accompanying letter, that the case should not, or need not, be removed. Where there is no error in diagnosis, but the patient suffers damage from not being in a fit state to be removed from his home, if consent has been previously given, it is difficult to see how either medical practitioner or sanitary authority can incur any responsibility; but in cases of compulsory removal the responsibility must rest on those who initiate and enforce the compulsion.

The plan which some medical men pursue is to be commended—namely, the writing across the notification certificate the words “*not for removal,*” in all cases when the patient is too ill to incur the risk of removal from home, or where owing to some slight doubt as to the diagnosis, the medical practitioner wishes to watch the further development of the disease.

It certainly seems to savour of injustice that medical practitioners in giving notification certificates

and therefore complying with a statutory duty, should be saddled with a responsibility which may occasionally prove to be very inconvenient, but unless the medical officer of health examines the cases notified to him, he cannot possibly be held responsible for the consequences which arise from a mistaken diagnosis.

Power is given under the various Acts to the medical officer of health (or to any registered medical practitioner) to obtain on his own initiative an order from a magistrate for the compulsory removal of a patient to an isolation hospital. As a matter of professional etiquette, a consultation with the medical attendant should always be sought, or at least a communication should be addressed to him that such a course is in contemplation, before steps are taken to bring the matter into court.

The final decision, before applying for compulsory powers of removal, as to whether isolation is practicable in the patient's own home, and as to whether the case is of the kind contemplated in the section of the Act providing for compulsory removal, must rest with the medical officer of health, he being a public functionary charged with certain statutory duties for the prevention of the spread of disease and the maintenance of the public health, but it is obvious that the prero-

gative of this officer should only be exercised on good and sufficient grounds.

The medical officer of health may be called upon to report upon the failure of a medical practitioner to notify a case of infectious disease in his district, and to advise his sanitary authority on the desirability or otherwise of instituting a prosecution. The sanitary authority can hardly fail to prosecute where reliable evidence is forthcoming that the medical practitioner has been a party to intentional concealment of the existence of a case of infectious disease, or where without any evidence of questionable motive, there has been gross negligence or culpable delay in performing a statutory duty. An exculpation on the ground that the medical practitioner was not aware of the nature of the disease, from which the person on whom he was in attendance, was suffering, offered *bonâ fide* as a reason for the failure to notify, must as a rule be accepted as a sufficient excuse for non-compliance with the Act.

But cases may arise where a mistaken diagnosis is due to unjustifiable professional ignorance, and where the interests of the public demand that such conduct should not pass unnoticed. It must be remembered that in case of doubt or difficulty the medical officer of health may be asked in consultation to give an opinion on the nature of the

disease, and thus the responsibility of the medical practitioner may be relieved. It is true that it is no part of the duty of a medical officer of health as defined by the Local Government Board, to attend consultations with the view to arriving at right diagnoses. Still, in the vast majority of districts, medical officers of health are always prepared to help a medical colleague with advice in cases where a second opinion is required. For a medical practitioner to be in constant attendance on a case of infectious disease (such as well-marked small-pox), which is of an extremely contagious character, to treat such a case as a non-infectious complaint, and to take no steps whatever to confirm the accuracy of his diagnosis, is a course of action dictated, no doubt, by ignorance, but which is unjustifiable by reason of the extent of such ignorance and of the neglect to take proper and reasonable precautions to confirm the diagnosis.

The medical officer of health may at times have to consider the desirability of advising his sanitary authority as to taking the necessary steps to extend the notification clauses to diseases other than those specially enumerated in the Infectious Disease (Notification) Act. Thus, at times when Cholera is imminent or has already invaded a district, all cases of acute diarrhœa or simple

cholera should be for a specified time compulsorily notifiable, and the notification should be placed on the same basis as that of the other infectious diseases. A system of voluntary notification by arrangement with the medical practitioners would to a certain extent answer the same purpose, but would probably be found less satisfactory to both parties—to the medical officer of health because one or more practitioners might decline to be parties to the arrangement, and to the medical practitioner because he would be unable to defend his action to his patients on the ground that he was performing a statutory duty, and because his claim to remuneration for notification would not rest on statutory sanction. The notification of measles, and even of whooping cough has been tried in various towns, with varying measures of success as a preventive agency.

Whenever it is proposed to extend the notification clauses to a disease not mentioned in the Act, the medical profession and the public are entitled to know whether it is the intention of the sanitary authority to apply the prohibitive and penalising sections (for exposure, concealment, &c.) to the newly notifiable disease, or whether these sections are not to apply (see pages 31 and 54). This information should be given in the advertisements in the local newspapers and in the handbills by

which the resolution of the sanitary authority is announced (see p. 10).

The question as to a medical practitioner being "in charge" of a patient suffering from an infectious disease has already been discussed (see p. 20). The point is an important one, as a medical practitioner not unfrequently finds a patient suffering from a dangerous infectious disease amongst his consulting-room patients, and is in consequence much exercised in his mind as to the best means of getting rid of an undesirable visitor. There can be no doubt that in the case of an adult patient the medical practitioner cannot be considered to be "in charge," and that any advice given as to the best means of reaching his home, will not necessarily render the medical adviser responsible. At the same time to avoid any insinuation of carelessness of the public interests, the medical practitioner should be careful to advise that the patient procure a conveyance (duly notifying the driver of the fact of his being in an infectious condition) to conduct him at once to his home; or else should advise his patient to wait in the house or its precincts until the proper infectious disease ambulance can be summoned.

In regard to boarding houses, lodging houses, or hotels, in which a case of infectious disease has been notified, the medical officer of health may

find himself confronted by very difficult questions as to the course of action it is his duty to pursue in respect of other inmates of such houses, or of intending visitors. If the medical officer of health is satisfied that all proper precautions have been taken, and that in his judgment there is no reason to anticipate the infection spreading to others, he is clearly not justified in taking any action which would be detrimental to the interests of the owners of the houses, and at the same time not necessary for the protection of the public health. So also with regard to intending visitors, who are protected by Section 129 of the Public Health Act (Section 64 of the Public Health (London) Act), which penalise the person letting for hire any rooms, or lodgings, who on being questioned by any person negotiating for the hire of such rooms knowingly makes a false answer as to there being or having been within six weeks previously a case of dangerous infectious disease.

It will, however, usually be good policy on the part of the medical officer of health to advise the keeper of the lodging house, boarding house, or hotel, to make no concealment of the occurrence of the case of infectious disease, but to make a full statement of all the circumstances to the other inmates or to intending visitors.

Should the medical officer of health be dissatis-

fied as to the precautions being taken, or should his advice as to removal or isolation of the patient, or as to disinfection, be disregarded, so that he is of opinion that other inmates of the house are being exposed to an unnecessary risk, considerations for the public safety must then override private interests, and it will be his duty to make a statement of the circumstances which have come to his knowledge to all those who are likely to be prejudicially affected.

There is nothing in the Acts to show that the notification certificate of the medical practitioner is a private document. As a matter of fact the very essence of the notification, is that the medical officer of health may be enabled on the information contained in it, to take such steps as the health interests of the public seem to demand.

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