CHAPTER I

HISTORICAL

IT was only during the second half of the last century that the provision of means of isolation for persons affected with the infectious diseases ordinarily current in a community became recognised as the function and duty of local authorities. Many centuries earlier, indeed, provision had been made for the isolation and lodgment of persons affected with leprosy (under which name, as Hirsch considers, were probably included other affections more readily communicable from person to person than the disease to which the name of "leprosy" is now restricted) by the establishment of what were called leper-houses or "lazars" (in allusion to Lazarus the diseased beggar of the parable in St Luke's Gospel); these establishments were founded by the sovereign, by ecclesiastical bodies or by private benefactors. The first are said to have been established among the Franks in the 8th century, and at the beginning of the 13th century there were as many as 2000 in France, almost every town being obliged to build one. There were also many in England, and their former existence is sometimes commemorated in place-names, as that of Burton Lazars, Leicestershire. Their establishment seems to have been prompted not only by Christian charity but also by a belief in the contagious nature of this terrible disease, as well as by the idea of spiritual defilement associated with it, and the desire to remove the loathsome sight of its victims from the public view.

In subsequent centuries when outbreaks of plague frequently recurred in England it became the practice to erect or set apart

buildings outside the towns, called "Pest houses," for the isolation of persons suffering from plague, and perhaps other diseases recognised as infectious. They were apparently provided by the parishioners independently of any legal enactment. A few have survived to our own times; at Huntingdon, Woodbridge, Watford and Sevenoaks, an old house outside the town, bearing the name Pest House, was in occasional use for isolation purposes at least as recently as 1892.

According to Dr Murchison the definite establishment of fever hospitals was the outcome of the fatal typhus epidemic which committed such ravages at the close of the 18th century, and the first was opened at Chester by Dr Haygarth. Liverpool, Manchester, Norwich, Hull, Dublin, London and other towns soon followed; and at the same time the necessity of establishing fever wards in the old hospitals was acknowledged, and in many cases acted on. It appears to have been the previous practice to treat fever cases in the same wards with other patients, a practice which continued more or less until towards the latter part of the 19th century. The London Fever Hospital was established in 1802, but the London Small-Pox Hospital had been established in 1745, and the Lock Hospital for venereal diseases in 1746. All these hospitals appear to have been established by private effort, doubtless under the influence of the great humanitarian movement which commenced in the middle of the 18th century. The name "House of Recovery" borne by some of these early fever hospitals indicates that the founders had in view the relief of the individual patient rather than the protection of the community.

The Public Health Act, 1848, the first general public health Act, contained no clause authorising the local boards of health established under it to provide hospitals for infectious diseases. At that date medical knowledge concerning the propagation of the infectious fevers was less definite than it is now, and the early sanitary reformers were inclined to look for their origin in the universal fouling of the air, the soil, and the water-supply which they found to exist, rather than in specific infection. It is probable too that public opinion, which, as it was, was not prepared for the drastic measures advocated by the first General

Board of Health, would not have sanctioned the expense of establishing isolation hospitals, or have approved any measures which savoured of interference with the liberty of the subject. It has doubtless been well on the whole for the country that the earlier efforts of sanitary reformers were directed towards promoting a condition of cleanliness unfavourable for the propagation of epidemic diseases, rather than towards combating these diseases more directly, possibly by measures akin to quarantine; but the course adopted had the disadvantage that, when the question of hospital provision by public authorities for infectious cases came to be taken up, it was done for Poor Law purposes, and was thus started on a wrong track, as a measure for the relief of necessitous individuals rather than as one for the protection of the public health, and hence many difficulties arose.

Moreover in the middle of the last century considerable difference of opinion existed among physicians upon the relative advantages of isolating fever patients, and of distributing them in the wards of a general hospital; and keen controversialists had declared on the one hand that "it would be better to have no hospitals at all than to mix cases of typhus, small-pox, and scarlet fever with patients suffering from other diseases," and on the other hand that all cases of infectious disease ought to be distributed through the wards of general hospitals and that fever hospitals and fever wards were "a crime against humanity and a disgrace to the age in which we live[1]." The circumstance that most of the nurses and other officials of fever hospitals contracted fever had produced a reaction in favour of the system of mixing the patients, and in 1842 the opinions of a number of hospital physicians in London who were consulted on the point were unanimously hostile to separate fever wards and favourable to the mixing of fever patients with others, provided the proportion was kept low.

A circular issued in 1860 on behalf of the London Fever Hospital elicited the information that of 11 London general hospitals 8 admitted a limited number of fever cases among the

[1] Murchison, *A Treatise on the Continued Fevers of Great Britain*, 1862, 2nd edition, 1873, Chapter 8.

general cases, while 3 admitted no cases of fever. Of 20 hospitals in the provinces, 9 refused to admit fever patients, 6 admitted them into separate wards and only 5 distributed them among the general patients. In every one of 4 Scotch hospitals there were separate fever wards. Of 5 Irish hospitals, 1 was limited to fever cases; in 3 there were separate fever wards, and in only 1 were the fever cases distributed among the general patients. In most of the large towns of Ireland there was a special hospital for the treatment of infectious diseases. The larger extent to which fever-cases were admitted into the London hospitals was due partly to the desire of affording to students the opportunity of studying cases of fever and partly to the circumstance that a large proportion of the fever cases in London were of enteric fever, a disease which does not spread in the wards like typhus.

At that time typhus was still, and relapsing fever had been until recently, frequent in London and other large towns, and epidemics of both diseases occurred from time to time. In the London Fever Hospital up to the close of 1861 there was no classification of the patients, and cases of typhus were treated in the same wards with cases of enteric fever, scarlet fever and other diseases. After 1861 the typhus cases were separately treated, but the classification was often broken through in consequence of the crowded state of the hospital. Separate wards for scarlet fever seem also to have been instituted about the same time, and small-pox was not admitted, the need for separate treatment of this disease being more generally recognised.

Dr Murchison pointed out that, as it was admitted that where typhus patients were mixed with others there was danger of the disease spreading if the proportion of typhus cases exceeded 1 in 6, there was need for fever hospitals during epidemics to receive the surplus. "Every one who has paid any attention to the subject admits that even in seasons when the disease is not epidemic, patients with typhus ought not to be treated in their own crowded houses where the fever would inevitably spread, and it is clear that they must be removed, either to fever hospitals or special fever wards, or be interspersed

among the other patients of a general hospital." The latter plan appeared to Dr Murchison objectionable on the following grounds:

1. There are numberless instances where typhus has spread in general wards, notwithstanding the most careful precautions, and where the proportion of cases has not exceeded 1 in 6, or where it has spread from even a single case.

[He quoted many instances.]

2. The two objections usually urged against fever hospitals and fever wards, that owing to the concentration of the poison the mortality among the patients themselves and the danger of the fever spreading are increased are contradicted by facts.

[During the first 6 months of 1862, 1107 cases of typhus were under treatment in the London Fever Hospital of which 232 died, a case mortality of 20·95 per cent. During the same period 343 cases of typhus were treated in general hospitals in London, and of this number 80 died or 23·32 per cent. The 1080 cases (1107 – 27) admitted into the Fever Hospital communicated the disease to 27 other persons, of whom 8 died, *i.e.* 1 person took the fever for every 40 admitted, and 1 died for every 135 admitted. The 272 cases admitted into the general hospitals communicated the disease to 71 persons, of whom 21 died; or 1 person caught the fever for every 3·8 cases admitted, and 1 died for every 12·9 cases admitted. In the 4 years 1862–5 1 person took typhus for every 5 typhus patients admitted into the general hospitals, but only 1 for every 67 admitted into the London Fever Hospital; 1 person died of typhus for every 14 admitted into the former but only 1 for every 326 admitted into the latter.]

3. The maladies for which patients are ordinarily admitted into general hospitals predispose them to contract typhus on exposure to the contagion, and to have it in a severe and fatal form.

4. The ventilation which is universally admitted to be necessary for preventing typhus spreading in a general ward is injurious to patients suffering from many diseases, such as nephritis, acute rheumatism, bronchitis, etc.

5. In a fever hospital or fever wards it will be always possible to obtain a staff of officials seasoned by a previous attack of typhus, or of an age at which it is not very likely to be fatal, which it would be impossible to obtain for general hospitals.

Dr Murchison's experience led him to the following conclusions as to the proper mode of dealing with fever patients.

1. Cases of enteric fever may be distributed in the wards of a general hospital with impunity.

2. Cases of typhus and of relapsing fever ought never to be treated in a ward with other patients; even in no larger a proportion than 1 in 6 there is a danger of these diseases spreading.

3. There is no evidence that in a well ventilated fever hospital the mortality from continued fevers is greater than in a general hospital.

4. In proportion to the number of cases of typhus treated the danger of the disease spreading is much less on the plan of isolation than on that of mixing.

5. Fever hospitals are absolutely necessary in all large towns liable to epidemics of typhus, and they ought to be provided with the means of rapid extension by the erection of temporary buildings of wood or iron in the event of an epidemic breaking out.

6. In all general hospitals there ought, when possible, to be arrangements for the treatment of contagious fevers, otherwise many acute cases, not contagious, are practically excluded. But the contagious cases ought not to be interspersed through the general wards; they ought to be isolated in separate wards, or better in a detached building.

7. In every fever hospital, typhus, relapsing fever, enteric fever and scarlatina ought to be treated in distinct wards; but there can be no objection to the many cases of acute non-contagious diseases, constantly sent by mistake to fever hospitals, being treated in the same wards with enteric fever.

A view contrary to that of Dr Murchison was expressed in an elaborate report by Dr J. S. Bristowe and Mr T. Holmes, on "The Hospitals of the United Kingdom" included with the 6th Report of the Medical Officer of the Privy Council, 1863. The reporters said: "The system of separate fever wards is one which deserves very careful consideration. It is intimately connected with the question of risk of contagion; and this, there can be no doubt, varies very greatly for different diseases. Thus if small-pox be received into any part of a general hospital, there is much danger of its affecting patients even in other parts. In

the Scotch hospitals, and in several of our English hospitals, small-pox appears to be admitted, though only in scattered cases, into the fever wards, or into separate wards adjacent to them; in some cases however it has spread in the hospital. On the whole, as far as our present experience goes, it appears unjustifiable to expose patients in a general hospital to the risk of having cases of small-pox among them. It is otherwise with the other exanthemata; scarlet fever is received at many of the London Hospitals, and as far as we know (having had long personal experience of two of them) without any detriment; nor does it appear certain that typhoid has manifested any tendency to spread among the patients. With typhus the case is otherwise.

"In the case of separate fever wards however or fever houses, the evidence is not of this negative description. Sad experience has shown how extremely dangerous such places are to the medical and other attendants on the patients and to the patients themselves. During the short time we have spent upon this enquiry, and among the comparatively few hospitals which comprise a separate fever house or fever wards, we have visited no less than three in which the resident medical officer had just died of fever caught in the wards, while in others the house surgeon or other residents had been attacked but had recovered.

"It seems then, on a review of the evidence that we possess, that if in a general hospital fevers of all kinds be scattered about in the wards there is some risk of the spread of fever to the patients; if they be collected into separate wards there is great danger to the medical attendants. In either case the nurses will be in danger, and of course in much greater danger under the latter system."

"When typhus fever is so prevalent that, if it were indiscriminately admitted, the wards would become crowded with it, it appears that even the best constructed hospitals will be poisoned by it, and become unfit for the purposes of a general hospital. Otherwise, that is when the proportion of cases of fever to general cases is small, there seems no great risk in admitting them if the hospital is well ventilated, and the beds a sufficient distance apart, and if patients who are well enough to go about

are carefully kept away from the fever beds. We believe that if our county hospitals were of perfect construction, a moderate number of fever cases (say one or two in each ward according to their size) might be admitted without danger, and that this plan would be far preferable to that of special fever wards by which so many valuable lives have already been sacrificed. But in order that fevers may be safely received the general arrangements and ventilation of the hospital must be very different from those which we have described at many country hospitals, where no doubt the more prudent course has been adopted in excluding these diseases altogether. It must be remembered however that the cases must be treated somewhere, and if the hospital is well constructed it ought to be a far more fit place for the treatment of disease than a poorhouse infirmary or a crowded cottage."

"The treatment of contagious diseases no doubt involves risk. No doubt such diseases if taken into any hospital, general or special, will occasionally spread but will they not spread if the patient is left at home? And is not the spread of such fevers due in part to the fact that so many of our hospitals, particularly in small country towns, shrink from the performance of their most serious duty, viz., that of treating the acutest forms of disease? If it be replied that in such case separate fever-houses should be added to the hospital, we would remark that such fever-houses are often found to be almost superfluous, from the small number of patients who apply at times when fever is not epidemic, and that when this is the case a valuable portion of the hospital is kept unoccupied. But that the hospital should have the power of treating acute disease is the first requisite, and for this it is necessary that no rule should exist excluding fevers."

"Our own impression leads us to believe that scattering the cases is the safest course if the hospital be spacious and the applications not too numerous. We repeat that for the safe reception of fever cases large well ventilated wards and beds well removed from each other are essential."

The reporters' view was upheld by Sir John Simon who considered that rules which prohibited the admission of cases of contagious disease into general hospitals implied the dereliction

of a hospital's most important functions. "I cannot conceive," he said, "any cases having more claim to hospital treatment than those cases of typhoid, and sometimes typhus fever, which the rules would rigidly exclude. To leave such cases in the ill-provided homes of the poor is not only to withhold the assistance of the charity from persons in very urgent need of the best attainable medical treatment, but it further involves as an almost necessary result, that the disease shall continue its ravages in the family, and perhaps greatly beyond the family, which it has attacked." He also alluded to the indirect effect of such a regulation in excluding other large classes of acute disease which pre-eminently claimed hospital treatment. It had been found by the reporters that the admission or non-admission of infectious disease practically regulated in no small degree the admission of other acute medical diseases. Where a regulation that no cases of fever be admitted was enforced not only did actual fever cases cease to apply, but all those cases which the lay public might ordinarily regard as fevers, and those in which a skilled medical practitioner might hesitate for the moment to commit himself to an opinion ceased also to apply. The number of cases of other acute and serious diseases which might be mistaken for fever was illustrated by the experience of the London Fever Hospital in 1861, in which year out of 646 cases admitted, 473 were of typhus, typhoid, scarlet fever and measles, and 173, or 26·8 per cent. were cases of non-infectious acute disease[1]. The mortality among these non-infectious cases was 28·3 per cent. while the general mortality of the hospital for the year was only 18·2 per cent. (This would apparently make the mortality of the infectious cases only 14·6 per cent.) The most numerous causes of death were phthisis or acute tuberculosis, acute hydrocephalus,

[1] In the Metropolitan Asylums Board's fever hospitals the proportion of cases admitted on a mistaken diagnosis to total admissions was in 1910 11·3 per cent. and in 1911 10·6 per cent. Many of the cases so admitted were however of infectious diseases other and less serious than those notified, *e.g.* chicken-pox and rubella, and others had no obvious disease. The mortality among these cases in 1911 was 5·5 per cent. while among the ordinary infectious cases it was 6·72 per cent. The most frequent causes of death were pneumonia, broncho-pneumonia and tuberculous meningitis.

pneumonia and diseases of the heart and kidneys. In hospitals from which infectious diseases were by rule excluded the medical cases which applied for admission were purely chronic and for the most part trivial.

The provision of hospitals for infectious diseases by public authorities, and the virtual extinction of typhus fever have put an end to these old controversies, though they still have their moral. At the present time the practice of receiving infectious cases into general hospitals—even into detached buildings, as at some hospitals mentioned in Dr Thorne's report in 1882—has almost ceased, though enteric fever—a disease now recognised as being more readily communicable from person to person than it was considered to be in Dr Murchison's time—is still sometimes admitted, and occasionally diphtheria, especially cases urgently requiring operation. It is desirable, however, as pointed out by Dr Murchison, that general hospitals should possess some small wards suitably placed for the isolation of infectious cases which may be admitted under a mistaken diagnosis or in the stage of incubation; as the patient may not be able to bear removal to the public isolation hospital, or it may be desired to continue some surgical or other special treatment needed for the disease for which the patient was originally admitted.

Workhouse Infirmaries. Prior to 1866, except for such cases as could be admitted into the comparatively few fever or small-pox hospitals which then existed, or into general hospitals, the only places into which persons suffering from infectious diseases who were without proper accommodation in their own homes could be removed were the workhouse infirmaries. Here they were mixed with other patients, to the danger of the latter; and were nursed and attended to by pauper nurses, commonly feeble old men and women, ignorant of nursing and too often vicious and neglectful.

An Act was passed in 1790 "To impower Justices and other persons to visit parish workhouses or poorhouses and examine and certify the state and condition of the Poor therein to the Quarter Sessions." The preamble of this Act says: "Whereas the laws now in being for the regulating parish workhouses or poorhouses have been found in certain instances deficient and