

Medical report of the Fever Department in Steevens' Hospital : containing a brief account of the late epidemic in Dublin, from September 1817, to August 1819 / by John Crampton.

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MEDICAL REPORT

OF THE

FEVER DEPARTMENT

IN

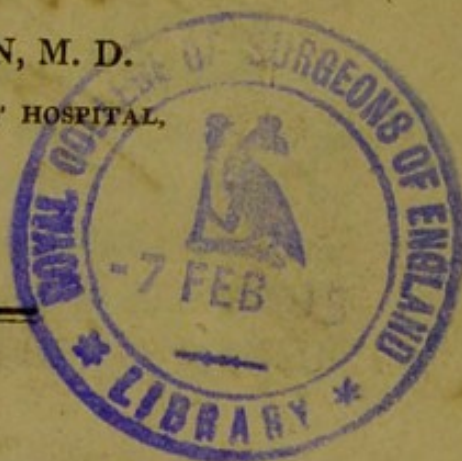
STEEVENS' HOSPITAL,

CONTAINING A BRIEF ACCOUNT OF THE LATE EPIDEMIC IN
DUBLIN, FROM SEPTEMBER 1817, TO AUGUST 1819.

BY

JOHN CRAMPTON, M. D.

PHYSICIAN TO STEEVENS' HOSPITAL,
&c. &c.



DUBLIN :

PRINTED FOR HODGES AND M'ARTHUR, COLLEGE-GREEN.

1819.

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For the Medical Association
Members of the
St. Luke's College of
Physicians in Ireland;
with sincere wishes
for their
prosperity, from
The Author

Nov. 1 - 1819



MEDICAL REPORT, &c.

STEEVENS' Hospital has afforded a favorite asylum to the sick poor of the city of Dublin since the year 1733, and in the late distressing epidemic it accommodated 4778 fever patients.

Long before the establishment of the different Fever Hospitals in Dublin, it was the only institution where patients affected with fever could be received; the accommodation it affords to those labouring under chronic diseases, besides to such as are subjects for surgical assistance, is generally known.

The following short description is extracted from a manuscript history of Steevens' Hospital, written by the late Mr. Samuel Croker King, a man equally distinguished for private worth and professional celebrity: he was one of the Surgeons to the Hospital for about sixty years.

“ This spacious hospital, which cost near
 “ £16,000, consists of four fronts. The east and
 “ west are 233 feet long, the north and south 204
 “ feet, with an area in the middle of 114
 “ feet by $94\frac{1}{2}$ surrounded by piazzas, which sup-
 “ port the galleries of two stories over them.
 “ The entrance is by a large gate in the east front.
 “ over which, in a tablet, is the following inscrip-
 “ tion in gold letters :

“ Richardus Steevens M. D. Dotavit,
 “ Grizzel Steevens soror ejus Ædificavit,
 “ A. D. 1720.

“ In the east front are convenient apartments
 “ for the Chaplain, Resident Surgeon, Steward
 “ and Matron : In the south east wing is a neat
 “ chapel, where Divine service is performed on
 “ Sundays, Wednesdays and Fridays, and the
 “ sacrament administered once every three months.
 “ In the north east wing is a handsome
 “ library, filled with a curious and valuable
 “ collection of medical and other books of the
 “ finest editions, bequeathed by Dr. Worth for
 “ the use and behoof of the Physician, Chaplain
 “ and Surgeon of the Hospital, each to have a
 “ key to resort to when and as often as they
 “ please.
 “ A whole length portrait of this gentle man
 “ and a half length of Mrs. Steevens constitute
 “ part of the ornaments of this room, and over the
 “ entrance is the following inscription :

" *Ægris sauciisque sanandis*

" *Richardus Steevens M. D. reditus,*

" *Griselda soror superstes Ædes hasce*

Dono dedere.

" *Edwardus Worth Archiater*

" *Bibliothecam quam vides*

" *Eruditam nitidam perpolitam.*"

When the House of Recovery in Cork-street, which was opened in the year 1804, came into full operation, fever cases were more sparingly admitted into Steevens' Hospital, but they still were occasionally received, and were placed in the same wards with the other patients, as there were no separate apartments for their reception. The Physicians and Governors were, for obvious reasons, averse to receive them, except under urgent circumstances of distress, and where it was difficult to remove them to the Fever Hospitals. Steevens' Hospital thus gradually became a receptacle chiefly for chronic diseases of every description; whereas before Cork-street Hospital was opened it was, in a great measure, a fever hospital. This was the case in the year 1798, when I first attended Steevens' Hospital; and I find from case books which I kept in the winter of 1800 and 1801, that from the 1st of December 1800 to the 1st of May 1801, 174 patients were admitted into three wards of which I had the care—two for males and one for females; of these 38 were fever cases. From the 1st of November 1801, to the 1st of May 1802, the same wards accommodated 119

patients, of these 20 were cases of fever, exclusive of agues, many of which were received during those two years.

Here perhaps it may be worthy of observation, though the fever and other patients were placed in the same wards and in contiguous beds, that at least for the last twenty years scarcely any communication of infection from one patient to another has been observed to take place; and in no instance within that period has fever extended through the whole house. An occurrence of this kind has never happened since the light iron bedsteads have been in use, and since the excellent plan of ventilation for some time in existence has been put in practice. The wards on the middle and lower floors are roomy and well constructed; the female ward is 44 feet by 23, and 16 feet high, with 13 beds; the two male wards are 33 by 23, and the same height, with 11 beds in each. Antecedent to the period however of which I speak, when these wards were less perfectly ventilated, and when there were wooden partitions between the beds, fever frequently spread through the ward, and in some instances the whole house became infected. This fact is mentioned by Mr. Croker King, where he adverts to the want of fever wards; he says, "It often happened that a
" single patient in fever having been admitted
" into a ward with other patients, has communi-
" cated the contagion to every other person in the

“ward, nay sometimes to the whole house, notwithstanding all the precautions taken to prevent the contagion from spreading.” This must have been antecedent to the year 1785, which is the date of the manuscript from which I have made the above extract.

Although the state of the city of Dublin as to fever, antecedent to the time of opening the different fever hospitals, has not been recorded, it may be easily surmised from this, there was no hospital accommodation except at Steevens', and that but limited. If a servant was seized with fever at the house of an opulent family, the practice was to take a lodging for the patient, generally in some lane or obscure crowded street, hire a nurse, and consign him to the care of the family apothecary; the result of this, as to the extension of fever, is easily calculated. My recollection enables me to state, that at the time I allude to, fever was seldom absent from many of the best streets in Dublin, and that it was constantly endemic in the close streets, lanes, and alleys; but in those days it was considered as a necessary evil, and the preventive measures now resorted to were either not sufficiently known, or not acted upon as they ought. Happily for the present generation these subjects are now better understood; more attention has been bestowed on them by the profession, and by the public; and Government, with their accustomed liberality, have afforded ample

hospital accommodation for those who are ill of fever.

In the month of September 1817, there was a sudden increase of the epidemic fever which prevailed at that time to a considerable extent in Dublin; to provide for this the Government of the country directed additional wards to be opened in Steevens' Hospital for fever patients. The attic or upper story, which at this time was unoccupied, was allotted for this purpose; it was found capable of containing eighty-seven patients; and although to all appearances these apartments were very inferior in accommodation to those in the other parts of the buildings, and to the fever wards in other hospitals, as they were low and apparently close, yet the result on the whole has been favourable, the mortality in Steevens' Hospital having been below that of any of the other hospitals in Dublin at the same period, the deaths for the time that I superintended those wards having been only in the proportion of about one to forty compared with the discharges.

It had been my intention to have abstained from giving any account of the late epidemic, so many fever reports have been published the subject I considered as nearly exhausted; in almost every remark I could make, I found myself anticipated. I feel it however due to the profession, and due to the Government of the country, who have so liberally contributed to relieve the poor

suffering from distress and disease, and who have interposed their arm and saved a populous nation from pestilence, to detail the arrangements that were made in Steevens' Hospital, and explain the treatment which was employed with a number of patients amounting nearly to five thousand.

The wards in the attic story had not been occupied for some years; they were formerly appropriated, during the war, as a surgical hospital for the use of the military. They were defective in point of height, being only seven and a half feet high, but openings were made in the ceilings of each ward, and on each side of the wall, on a level with the floor, there were air tubes in several places, for the purpose of ventilation; the windows were numerous, and the upper sashes moved on a pivot; the wards also communicated with long galleries by means of windows as well as doors; these galleries ran parallel to the wards; they also had numerous windows and ventilators kept continually open. In this way a constant current of fresh air circulated through them both night and day.

The bedsteads and bedding were not of the best description in the first instance; they were old barrack furniture; a new supply however of blankets, sheets, and changes of linen for the patients on their admission was soon added. These preparations having been made, and the wards having been thoroughly cleansed and whitewashed, they were almost immediately filled with fever pa-

tients. Three of the wards contained each fourteen beds, one seventeen, and another large ward twenty-eight beds, making in all eighty-seven. Care was taken not to place too many beds in a ward.

No. 1, which accommodated seventeen females, measured forty-four feet in length; it had six windows to the north, and two which opened into the gallery, for the purpose of ventilation.

No. 2, a convalescent for females, with accommodation for fourteen, measured thirty-three feet; it had four windows to the north, and two into the gallery.

No. 3, a female fever ward, with fourteen beds, thirty-eight feet; this had six windows, three to the north, and three to the west.

No. 4, a male ward, with fourteen beds, having three windows to the west, and three to the south, was thirty-eight feet long.

No. 5, with twenty-eight male beds, ninety-one and a half feet long; this ward had eight windows to the south, and four into the gallery; in breadth they all measured twenty-three feet, and in height seven feet and a half. Each of the small wards had two doors and a fire-place; the long ward two fire-places and three doors.

This long ward was used chiefly as a receptacle for male convalescents; a few mild fever cases were sometimes placed at its eastern extremity, where the temperature was much lower than at the other end.

This was the ward first filled with males, under Dr. Harvey's superintendence, but he soon observed that the patients in it had the fever in a more severe form, which he attributed to the southern aspect ; it was accordingly made a convalescent ward, for which it was better adapted.

In the winter the convalescent apartments for both sexes were kept warmer than the fever wards ; in the summer season they afforded a little variety in change of air and of scene, and appeared to promote recovery. In some of the worst cases also, shifting a patient from one bed to another was attended with the best effects. Considerable attention was paid to disinfect the convalescents ; this was managed chiefly by obliging them to submit to constant ablutions and changes of linen. The galleries also, which ran parallel to the wards, afforded space for the convalescents to take exercise, and contributed also to the same desirable object of disinfecting them, as the air circulated freely through them from a number of windows and air tubes which were constantly kept open.

Fumigations with the mineral acids were practised in the first instance before a thorough system of cleanliness had been completely established, but they were relinquished before the first quarter had elapsed ; they were found to excite cough, and otherwise incommode the patients much. Where much stress is laid on fumigation, other measures

that are more essential are apt to be neglected ; indeed fumigation seems better adapted to cleanse and purify wards that have been emptied of patients for the purpose, than for those where the sick are obliged to remain. Whitewashing however can be practised without removing patients, and this, with a good system of ventilation and constant washing the floors, appears to me to be quite sufficient, and where they have been constantly practised, the wards have been free from any offensive smell, and the attendants on the sick, except those who are obliged to handle them, and come in close contact with them, have escaped being infected.

The entrance to the attic story and fever wards was apart from the remainder of the Institution ; there was a separate kitchen, communicating by a back staircase ; hence there was no intercourse between the fever department and the rest of the hospital. The expences were defrayed by Government ; the Governors of the Hospital took no part in the management of the fever wards, the sole responsibility and economic arrangement rested with the Physician, who furnished quarterly accounts to Government ; they in return provided the money, not only for the maintenance of the patients, but for the purchase of necessaries, such as bedding, linen, &c. The management of the whole commenced under the able direction of Dr. Harvey. This intelligent and experienced

Physician soon made such dispositions that little room was left for improvement. The attic story was kept locked up, the nurses and servants under the strictest discipline; they were discharged at once for the slightest neglect or ill conduct. This ensured not only a prompt and ready obedience, but a dispatch and accuracy in the detail of their duties. The floors were washed every morning, the windows were kept open both night and day, food, drink, and medicines were supplied with the utmost regularity. The detail of this was superintended by Mr. Plant, the Apothecary, who, at an imminent hazard, gave up almost the whole of his time to those fever wards, and to enforce those measures of arrangement so judiciously planned by Dr. Harvey.

When patients were admitted, their clothes were hung up in an airy place in order to disinfect them, as far as was practicable, by ventilation. The patients themselves were washed in tepid water with soap, their heads shaved, clean linen and a cap supplied; they were put to bed in a cool ward, well ventilated by a constant current of fresh air. A mild purgative medicine was then administered. These measures were generally put in practice before the Physician, who visited daily, saw the patient, as admissions took place at all hours of the day. In many instances this plan, unassisted, was sufficient to ensure recovery. These ablutions were often practised for several days in

succession, whilst the purgatives were repeated. Under this system most of the patients experienced a great amelioration of symptoms, it was therefore the plan pursued with the greater majority of the mild cases.

In the more severe forms of fever, when the disease was complicated with local inflammatory attacks of different organs, the lancet and blisters were resorted to, and other measures that shall be more fully commented on in the sequel of this report. During the six months that Dr. Harvey superintended these wards this was the general plan of treatment; he was particularly anxious to have his patients well supplied with whey and with cold water; in the protracted and *petechial* forms of the disease he employed fresh porter wort with barm in a state of fermentation; he allowed wine in the advanced or *collapsed* periods of fever, but not in the earlier stages; indeed he was particularly judicious in his selection of those who required it. In some instances porter was used instead of wine, as being more congenial to the habits of the description of persons who were inmates of those wards. Calomel purges were directed in some of the severe cases, where the head was much engaged, or the liver deranged in its mode of action; but Dr. Harvey was averse to the indiscriminate use of mercurial purgatives: he reprobated also the employment of emetics, as being prejudicial both in the *gastric* and *cephalic* forms

of fever, each of which were so predominant at the time, but in cases of intestinal torpor he occasionally added small portions of emetic tartar to his purgative powders.

These were the general outlines of the practice of that distinguished Physician, who had justly acquired a character for his skill in the treatment of fevers. Indeed it is but justice to his memory to state, that he may be fairly said to have reformed the practice of fever in Dublin, by setting the example of a cooling treatment and the free use of purgatives at a time when bark and wine were used by others. This treatment he pursued in Steevens' Hospital and in the Royal Infirmary; and although there is no record of his plans except the books of those hospitals, yet he fairly anticipated those practical views which have been since so strongly inculcated by Hamilton and other modern writers on the use of purgative medicines, and by most of the later writers on the subject of fever.

After six months daily attendance on the Fever Wards in Steevens' Hospital, Dr. Harvey resigned the charge of them; his health at this time became feeble, and in less than a year after, the profession had to lament the loss of his talents and experience. The care of these wards was immediately placed in my hands by the Government, in March, 1818.

There was little room for improvement in a system so well arranged ; it was only to take advantage of such matters as the experience of six months afforded. Some difficulties having occurred as to washing the clothes, (for the Governors did not allow the infected linen, &c. to be washed in the house,) a wash-house was built in the garden. This enabled me to extend and improve the cleansing system. I had the lower sashes of the windows in the wards and galleries raised about six inches, whilst the upper sash, as before, turned on an axis ; this alteration, trifling in appearance, gave a still greater command of ventilation, and lowered the temperature of the wards some degrees, so that even in the hot summer months of 1818, these apartments at the top of the house in the roof felt pleasantly cool. It struck me at first with surprise that these wards, which were only seven and a half feet high, should feel cooler in the season just mentioned, than the wards in the attic story of the Richmond General Penitentiary, which felt oppressively hot, although they were at least twenty feet high, and had the advantage of a range of windows on both sides ; in the latter there was no cieling or plaister ; nothing in fact but the slates, through which the air in the ward soon became heated. The ceiling in Steevens' Hospital, which at first I thought was a disadvantage, as it lessened the capacity of the apartments, I was afterwards disposed to consider as an

improvement, as it interrupted the air which had been heated under the slates from rushing into the ward. The glare of light was also excluded by sun-blinds ; in this way every practicable comfort was afforded to the sick, whilst those circumstances which were not less material to their recovery, were not overlooked.

Aware of the privations the poor had suffered, and fully impressed with the influence which these had exerted in the production and dissemination of fever, a more comfortable diet was allowed to the convalescents than that given in most of the other hospitals. Those who were feeble were indulged with a little porter at their meals. In the end those liberal allowances proved economical, as the patients were sooner discharged, and relapses were less frequent : so that in this way a greater number passed through the fever in a given time, with an equal number of beds, than in many other hospitals. The humane and liberal conduct of the Government in distributing soup and bread to those who were discharged from the hospitals, left nothing almost to desire on this head. It was one of those decisive measures which appeared to make the first serious impression on the epidemic in Dublin, by diminishing the number of relapses.

On opening the hospital in September 1817, patients being received as they offered, the number of males admitted predominated considerably ; again, in summer 1818, the force of the disease

seemed mostly to press on the other sex ; at this juncture I had a male ward appropriated for females, to meet the pressing demand for admission on the part of females ; this brought the numbers nearly to an equality of both sexes in the hospital.

During the first six months, whilst Dr. Harvey superintended the fever wards, 1004 were admitted. The mortality amounted to fifty-two, but the deaths fell in a very unequal proportion upon the men and the women.

The returns of the first quarters ending the 17th Dec. 1817, are given in the annexed table.

Admitted.	Cured.	Died.	In Hospital, 17th Dec.	Total.
Men - 318		31		
Women 159		8		
477	355	39	83	477

The mortality this quarter was high amongst the males, less so amongst the females ; the deaths of the men were under one in eight, those of the women one in sixteen ; the average mortality of both under one in ten ; but if the moribund cases are excluded, under one in fifteen.

The high mortality of the men this quarter is easily accounted for ; the cases were unusually severe ; they were almost all in advanced stages of fever, many of them insensible at the time of their

admission ; two or three expired before they were put to bed ; eight of them were received moribund, and many of them died before the Physician's daily visit ; nineteen were admitted after the sixth day of their illness, some not until after the fourteenth or twentieth day ; a considerable proportion of them were not simple fever cases, but had local inflammatory diseases of important organs, complicated with fever, or superadded to it, and so advanced in their progress as to leave no opportunity for efficient medical treatment.

The greater number both of the men and women admitted this quarter were between the ages of twenty and thirty.

The men who died during this quarter, with the exception of one, were all below sixty ; they were of that class of people most exposed to fatigue, to wet and cold, to hard labour, and all the causes which tended so much to depress the mind and weaken the body. Such were the first victims. The comparative exemption of the women at this time deserves notice. The women who were occupied in domestic duties were spared in the first instance, although they afterwards had their share in the spread of the epidemic, partly from having been infected, and partly because many of them were exposed to the same causes of fever as the men. I had occasion to make the same remark in the Medical Inspection which I made of the province of Connaught by order of Govern-

ment, in February and March 1819. The men uniformly were the first sufferers, and afforded the most severe cases. They were seized with shivering at their work, and came home affected with fever. It was otherwise however in a few instances, where fever was imported into the towns and villages by the wandering hordes of vagrants and beggars.

All the women who died of fever this first quarter were admitted after the 5th day of their illness; one had fever ten days, another fourteen, a third thirty days, and one came in the fifty-sixth day, with the extremities mortified; a fifth died of pthisis, which followed her convalescence. If these cases are excluded from calculation it only leaves three deaths amongst the women, and fully corroborates what I have stated as to the comparative mildness of the epidemic amongst the women, compared with the severe cases in which the men were afflicted during the early periods of the epidemic.

During Dr. Harvey's second quarter, ending the 17th of March 1818, the numbers were as stated in the following table.

In Hospital.	Admitted.	Total.	Cured.	Dead.	In Hospital.	Total.
Dec. 17,	Men 324			Men 10	March 17	
	Women 203			Women 5		
81	527	608	508	15	87	608

This statement shews a very low rate of mortality, considerably less indeed than had been attained in any other hospital in Dublin, the deaths compared with the discharges being under one in forty, and that at a season of the year when the highest mortality was to be expected; still the same disparity as to the press of fever on the males and on the females is to be observed. The hospital was now in a regular systematic operation, and the patients came in at somewhat earlier periods of their illness.

Of the men who died none came in later than the 8th day of fever, and of the women none later than the 6th, and the deaths all occurred under fifty years of age. Of those admitted the greater numbers were between the ages of twenty and thirty, as may be seen by inspecting a table at the end of this report, where the respective ages of the patients admitted during each quarter are stated.

Fever appeared in all the different forms described by those who have written reports on the present epidemic. In many instances the stomach and bowels were disordered; in a great majority of patients the head was affected, especially in the fatal cases. Dysentery appeared in complication with fever early in winter 17—18. Catarrh and pulmonic attacks in spring 1818. A great variety and mixture was assembled in these wards, from the simplest ephemeral fever to the most malignant and protracted forms. Petechiæ or spots were more

observed in the first than in the second quarter. These matters I had frequent opportunities of observing, as I occasionally attended these wards with Dr. Harvey. With the exception of him and myself all those concerned in the attendance on the patients caught the disease : it is to be presumed, therefore, that a considerable proportion of those admitted were cases of contagious fever ; none of the nurses, none of the porters, barbers, or those occupied in handling, washing, and tending on the sick, escaped ; and many of them had relapses and recurrences of fever, as well as fresh attacks of it at subsequent periods.

I do not pretend to say that all those admitted into these wards were cases of contagious fever ; on the contrary, I believe at least one half of them were of a different description ; many merely had the symptomatic fever which accompanied inflammatory attacks of the different organs, and which no person conceives to be contagious ; in others fever made its appearance in consequence of the peculiar concurrence of causes to which the poor at this juncture were exposed, independent, I am inclined to think, of any contagious source ; yet these latter fevers might be communicated from one individual to another, although they were distinct in their origin ; and in the advanced periods of these two kinds of fevers it was quite impossible to distinguish the one from the other. This, however, is a question not easily to be decided ; I

shall therefore return to the narrative from which I have too long digressed.

In March 1818, as already related, the charge and responsibility of the Fever Wards devolved on me. The registers were kept regularly, with an account of the patients admitted, their ages, the deaths and discharges. Observations were also made on all the important cases; but the succession of patients were so rapid that I found it quite impossible to note all the circumstances I wished to record; as an apology for this I must mention, that I had fever wards assigned to me at the House of Industry, besides other important duties to attend to as one of the physicians to that Institution, and my course of Lectures on *Materia Medica* in the School of Physic engrossed a considerable share of my time during the winter season.

The registers enable me to say, that the fever pressed most sorely on three descriptions of persons, namely labourers, tradesmen and servants. The other classes of the community afforded but few inmates for our wards. The labourers crowded in both from town and country; they constituted the great majority. Many of them were supplied from the public works, as from the repairs of the Liffey wall, the Custom-house docks, Dunleary and Howth. A tolerable large share were admitted from the distilleries, the breweries, and from the watchmen.

The tradesmen were the next in point of numbers ; shoemakers, tailors, bakers, smiths, bricklayers and painters ; their journeymen more especially were constantly found in our wards, and constituted some of the worst cases.

Servants in every station were admitted in considerable proportion, those more particularly in the employ of tradesmen, and still more those who were out of place, either from their dissipated habits, or from the general want of employment which then prevailed. Many of the worst cases were also furnished from this class. Some discharged seamen and soldiers were occasionally found in our wards. A very large proportion of the females were servants.

In the quarter commencing the 18th of March 1818, a large supply of fever patients continued to offer themselves to our hospital, both from town and from the country. The poor, and especially the better sort of tradesmen, who now began to appreciate the comforts of hospital treatment in fever, gave a decided preference to Steevens' Hospital. This partiality was founded partly on the long established character of the Institution, partly because a better diet was given to the patients, in some measure because dissections were less practised than at the House of Industry, where the Governors, with their accustomed liberality, listening to the suggestions of their Physicians, permitted the examination of the bodies of those

who died. The lower orders, however, soon began to be reconciled to morbid dissections, so much so, that next to Steevens' Hospital, they preferred the Hospitals of the House of Industry to the House of Recovery in Cork-street, where the Governors interdicted any examination of bodies.

Dissections were not practised much at Steevens', because I had not leisure to perform them, and on the morbid appearances after death in fever, I had sufficient opportunity to satisfy myself at the hospitals of the House of Industry. As already mentioned, I had few changes to make in the arrangement of the fever wards; from the experience of my predecessor, and the exertions of Mr. Plant, the apothecary, I was enabled to reduce the expenditure considerably, although in this quarter it was necessary to make purchases of linen and other articles; the consumption of provisions was also more accurately checked, and the waste of bedding and furniture effectually prevented. To a certain extent also, the system of ventilation and cleanliness, already established, was improved.

A much greater proportion of patients passed through the fever wards during these three months than either of the preceding quarters. The numbers returned in the quarter commencing the 18th March, and ending the 17th June 1818, were as stated in the following table :

In Hospital.	Admitted.	Total.	Cured.	Dead.	In Hospital.	Total.
March 18,	Men 394 Women 222			Men 7 Women 2	June 17,	
85	616	701	612	9	80	701

The proportion of deaths this quarter was unusually small, the mortality being in the proportion of one to sixty-nine. In this fine season the patients remained a shorter time in hospital ; the cases were less severe, but the epidemic continued to rage undiminished as to the numbers it supplied.

A large proportion of the males admitted this quarter were under twenty, whereas most of the women admitted during the same period were above that age, as appears from the table.

Spots or petechiæ still accompanied many of the fevers, but they were less observed than in the preceding periods. The fevers were for the most part of a more active type ; in many instances they were combined with inflammatory symptoms in the lungs. A number of *gastric* fevers were likewise observed, in which symptoms threatening inflammation of the stomach were obvious ; but still the great majority of those admitted complained of the head, and most of the fatal cases were occasioned by congestion or inflammation in

the brain, and consequent effusion of fluids, as was evinced by the appearances after death in those examined at the hospitals of the House of Industry.

On account of this change in the type of the fevers, a more active treatment became necessary. The lancet was more freely employed, and bleeding often repeated two or three times, but seldom to a greater extent than ten ounces each time. Leeches, which heretofore had not been much used, were now frequently directed to the temples when the head was much engaged, and to the stomach, when *gastric* symptoms predominated. The result of this treatment was a much more speedy issue of the malady, a mitigation of suffering, and a saving to those important organs upon which disease would otherwise have fallen with concentrated violence. Other advantages were also attributable to this mode of treatment; convalescence was sooner established, relapses were less frequent, and patients were sooner enabled to leave the hospital; besides this, that they enjoyed a comparative immunity from those other diseases which so frequently follow fevers.

Blisters were less used than they had been in the preceding quarters, as the symptoms which required them were less obvious, and the other measures superseded the necessity of their employment, but at protracted periods of fever they were often resorted to with the best effects.

The medicines most frequently given were powders, with rhubarb, jalap, and cream of tartar, first directed by Dr. Harvey. Six months experience had satisfied me of their efficacy ; they were not often rejected by vomiting, and they were not offensive to the stomach and bowels in the *gastric* and *dysenteric* forms of fever. The patients took them more readily than the senna mixture, and on a large scale they are much more economical. A bolus with calomel was given occasionally, and castor oil when necessary.

The majority of the mild cases were managed by cold or tepid ablutions, according to the season and other circumstances, giving them the powders already described.

Even at the end of nine months the fever still continued to press mostly on the males ; their cases were more severe, and the mortality amongst them continued rather more than amongst the females.

Amongst the recoveries this quarter we are to reckon five above seventy, and sixteen above sixty years of age. The men who died were all in the prime of life, all of them under forty-eight ; of the fatal cases one came in on the fourteenth day of fever ; he survived but three days : four were admitted above six days ill ; at such periods of fever it is scarcely necessary to remark, that medical treatment is less operative than at earlier stages.

As a sample of the *phrenetic* form of fever the case of a man æt. 22 may be mentioned ; he was

admitted on the sixth day of his illness. In the delirium of fever he quit his bed, and was in the act of throwing himself headlong from the upper sash of one of the windows in the gallery adjoining the ward ; he was saved from precipitating himself from a considerable height by the nurse, who held him by the leg in a state of suspension until assistance was procured to replace him in bed : this man, after affording some hopes of a favourable result, died on the sixth day after admission, on the twelfth day of his disease, symptoms of inflammatory affection of the brain having manifested themselves during the whole course of his illness. One male only, who was admitted on the fourth day of fever, was lost.

The two females who died were both under twenty, one of them six days ill before admission, the other five ; they both died of severe *pulmonic* diseases, co-existing with and subsequent to fever. Upon the whole the issue of this quarter was most fortunate, the proportion of deaths to the discharges being only at the unprecedented low rate of one to sixty-nine.

The next, or fourth quarter, commencing the 18th of June, and terminating the 17th of September 1818, gives a still greater number of admissions with the same accommodation of beds ; the mortality not quite so low, the proportion of deaths being under one in fifty-four. The returns are as stated in the annexed table.

In Hospital.	Admitted.	Total.	Cured.	Deaths.	In Hospital.	Total.
June 18,	Men 552			Men 13	Sept. 17,	
	Women 302			Women 5		
84	854	938	849	16	73	938

A considerably greater proportion both of the males and females admitted this quarter were under the age of twenty, although some were admitted at very advanced periods of life; amongst those who recovered were nineteen between the age of seventy and eighty, and a woman at the unusual age of ninety.

Of the men who died this quarter, one of them aged sixty, was a case of apoplexy. Another came in on the fourteenth day of fever in a comatose state; a third, a stranger and mendicant, famished and exhausted with fever on him for fourteen days before admission. A fourth, a servant of an eminent surgeon belonging to the hospital; he had been bit by a horse that died of hydrophobia; no hydrophobic symptoms however were observed in him. He appeared to labour under a disease in some respects the result of spirituous potation and partly of fever; he was firmly persuaded that he should die in consequence of the bite. He was discharged cured on the 7th of August, but he returned on the 15th in a relapse of fever, in that form in which the brain is much engaged; he died on the 20th. An examination after death how-

ever did not exhibit any morbid changes of structure that could account for his death.

The fatal cases were mostly under fifty, and about one-half of them under thirty, and with the exception of those mentioned, came in at periods earlier than the seventh day. One of these was an hospital porter, who was much exposed to contagion in assisting to carry the patients up stairs, and subjecting them to the usual process of cleansing; in his case severe affection of the brain appeared to be the cause of death.

The petechial form of fever was more prevalent this quarter than the preceding one, especially one where a thick measley efflorescence was observed. The *gastric* form, or that in which the stomach was chiefly affected, was seen in a few instances, hiccup having been amongst the urgent symptoms antecedent to death; but in the majority of fatal cases the head was much engaged, and death was supposed to occur from congestion or effusion in the cerebral organs. In some instances the spinal cavity appeared to sustain the chief force of the disease, the prevalent symptoms having been want of speech, tremor, inability to swallow or put out the tongue; few of such cases recovered; those who were saved under such circumstances received benefit from blisters to the nape of the neck and to the head, in addition to the other measures of relief already related.

Of the women's cases which terminated fatally,

one was an unseasoned nurse, æt. 41, who persisted in doing her duty for a week, whilst her tongue was white, and though she complained of loss of appetite, giddiness, and headach; she was averse to lie down, or submit to medical treatment. An alarming assemblage of symptoms followed this neglect; sudden prostration of strength, loss of speech, and of the powers of deglutition, with a small contracted pulse; and though her fever ran out in an *atactic* form for thirty-six days, she died, effusion into the *cerebral* and *spinal* cavities in all probability having occurred.

The other two were young women; one came in on the 5th, the other on the 7th day of fever. The first died of symptoms which denoted disease of the brain; the latter, in whom a consumptive disease had existed antecedent to the febrile attack. She died on the thirty-second day after admission, having sunk under cough and purulent expectoration.

The fifth, or autumnal quarter, commencing Sept. 18, and ending Dec. 17, 1818, gives a larger number than had yet been accommodated in the eighty-seven beds; the quarterly returns being as stated in the annexed table:

In Hospital.	Admitted.	Total.	Cured.	Dead.	In Hospital.	Total.
Sept. 18.	Men 443 Women 428			Men 11 Women 12	Dec. 17.	
80	871	951	841	23	87	951

This quarter differs from those which preceded it in more circumstances than one ; in its higher mortality, in its greater press on the females, and in some change in the symptoms of the fever. But still the mortality is considerably below that of the other hospitals, being only somewhat under one in thirty-seven, although many deaths, not from fever, were reckoned in the computation.

Of the males, more were admitted this quarter under the age of twenty than any other age. Of the females the admissions were mostly under thirty. Amongst the recoveries were three women at the advanced age of eighty, and one at the unusual one of one hundred, which may be considered as a singular occurrence.

Of the men, two came in insensible, and died the same day. One died of peritoneal inflammation. A fourth was admitted speechless, and lingered in the hospital for near a fortnight before he died. Two were affected with chronic dysentery, in that form in which the inner membrane of the bowels is ulcerated.

Of the females, three died of dysentery ; one, a child æt. seven, of hydrocephalus, admitted on the seventh day of that disorder. Three may be said to have died of *puerperal* fever, having been admitted after delivery, and having sunk under peritoneal inflammation in a chronic form. Two were admitted with their lower extremities in a state of mortification, one of them with the nose in the same condition : in these cases the brain appeared to be the organ most affected during the fever.

It should have been observed, that many of the women admitted were pregnant, not only in this but in the other quarters, and some of these suffered abortion ; with others the process of accouchement went on favourably in the ward ; nor do I find it noted that we lost any that were thus circumstanced, and none of the infants took the fever.

With those who came in pregnant at early stages of fever, the lancet was used, and purgatives given freely. To this simple mode of treatment I believe we are to ascribe the success which resulted in these otherwise formidable cases.

Dysentery was very prevalent at this period ; it is to this occurrence that the small increase of mortality which took place in Steevens' hospital this quarter is to be attributed.

In the early stages of that disease, bleeding at the arm once or twice, succeeded by leeches or

cupping on the belly, were the measures that contributed most to ensure success ; mild purgatives were also used with advantage, alternated with opiates and remedies to act on the skin. Where an active treatment was not early employed, inflammation of the *mucous* membrane of the bowels, and subsequent ulceration, was the result ; or the inflammation extending from the *mucous* to the *serous* membranes, the disease was exchanged for peritoneal inflammation.

But of those who were admitted in the ulcerative stage of dysentery, with fever superadded, although the greater number escaped the febrile stage of the disorder, the most of such ultimately died hectic and tabid ; a mild mercurial treatment, with Dover's powder, was of great service to many of this description ; opiate injections in some instances, and saturnine ones in others, afforded relief as palliatives. The balsams and turpentine also, when taken inwardly, appeared suited to certain stages of these complaints.

In the *gastric* form of fever, leeches were applied to the region of the stomach with advantage ; but in the severer forms of that variety of fever, I have found the lancet a more prompt and effectual remedy.

The press of fever at this period was heavy on the females ; the number presenting themselves daily was more than could be accommodated ; they were provided for therefore in other hospitals.

Except in the appearance of dysentery, the fever had not yet changed its type ; petechiæ and other eruptions were equally observed this quarter as in those which preceded. The cases of pulmonic inflammation, combined with fever, were in less proportion than in spring and in the beginning of summer.

The disease had now maintained itself for above twelve months, and various surmises were made as to its issue. Some had looked to the heat of summer to extinguish the *contagion* ; others expected that rain would meliorate the *atmospheric constitution* which they supposed in fault. The appearance of frost was equally hailed by others as the harbinger of more healthy times. Fever, however, still continued under all circumstances of season ; the sudden occasional increments, according to my own observations, appeared oftener after a run of wet weather than after any other change in the seasons.

Those who had inquired more minutely into the previous state of the population of Dublin, and the other large towns, as well as into the condition of the poor through Ireland, were disposed to attribute the continuance of fever to their *poverty* and *negligent habits*, but still more to the *privations* these classes of people had suffered in point of the comforts of *food, fuel, and clothing*, to the effects of *ungenial seasons*, and to the influence of the *depressing passions*. The intelligent physi-

cians, with whom I communicated in the tour of inspection which I made of the western district by the orders of Government, did not expect a change for the better, in respect to fever, until both the physical and moral powers of the lower classes were ameliorated, their constitutions recruited by better food and a more plentiful supply, and their minds cheered by the prospect of better times. The plentiful harvest of 1818 improved the stamina of the poor, but it did not tell until the spring following, and until the humane and well timed exertions of Government had arrested the march of the epidemic so far as it could be controlled by human means, having afforded ample hospital accommodation to the poor, and supplied the convalescents with nutritious food after they had left the hospitals.

In the sixth quarter, commencing the 18th Dec. 1818, and ending 17th March 1819, a number nearly equal to the last passed through our wards; the mortality was a little higher, being in the proportion of somewhat under one in thirty-two. This, in the winter season, and compared with other hospitals at the time, may be considered as exhibiting a very successful result. The numbers returned this quarter are as stated in the annexed table :

In Hospital.	Admitted.	Total.	Cured.	Dead.	In Hospital.	Total.
Dec. 18, 1818,	Men 549 Women 392			Men 14 Women 9	March 17, 1819,	
82	741	823	716	23	84	823

The fever, during this quarter, was fully as severe in its symptoms as at any former period. The women were admitted in a larger proportion, although the mortality fell less on them than on the men. The ages which furnished most patients at this time amongst the males were thirty ; amongst the females twenty.

The majority of cases amongst the men were of that description where the head is much engaged ; in some few instances the lungs were the seat of disease. The gastric form of fever was now rare, at least none died of that kind of fever.

The two first deaths were from failure in the lungs, the cases both terminated in pthisis ; they were admitted at periods too late for active medical treatment, one having been seven, the other eight days ill. In all the others severe headach, delirium, and coma preceded death ; none of these came in earlier than the fifth, and many of them after the ninth day. Two of these were admitted with cold extremities, the pulse having altogether failed : and one speechless and in articulo mortis.

It was a rule at all the hospitals not to refuse any who offered as long as there was accommodation ; those who were palpably dying were constantly received ; this helped to swell the mortality, but it diminished the quantum of contagion at the dwellings of the poor. Another regulation equally useful, deserves to be mentioned ; the bodies of those who died were not given to their friends for interment until twenty-four hours after their decease, after having been previously washed. When they became cold it is probable they ceased to be equally infectious as during life, whilst noxious exhalations were constantly given out from the lungs, skin, and other secreting and excreting textures.

The ages of those who died this quarter, ranged from twenty to fifty. The adult working population may, therefore, still be considered as the chief sufferers, although the epidemic at this period spared neither age or sex.

Of the nine deaths which occurred amongst the females, the first was peripneumony too far advanced to expect relief ; the second pthisis, supervening on convalescence from fever ; the third a woman of sixty, who suffered from a chronic disease in her head before she became feverish, she died comatose ; the fourth came in with her lips and nose mortified. Two died of relapses where a hydrocephalic termination appeared to take place, and one where the symptoms of fever

were mild, died suddenly in a paroxysm of *epilepsy*.

None died of the *gastric* fever this quarter; many instances of it had occurred, but this form of fever had now become very tractable, an appropriate plan of treatment having been ascertained at an early period of the epidemic; nor were there any fatal cases of *dysentery*.

The ages of the women who died were from seventeen to forty, with the exception of one of sixty; but there may be some inaccuracy with respect to the ages of females, who generally state them somewhat under what they really are.

During this quarter relapses became very frequent, or rather those apparently convalescent lay down for a day or two after a shivering, and a profuse sweat generally gave a full and final solution of fever. At this period also, the disease was shorter in its duration; this change in the character of the fever, along with the subsidence of the epidemic in many parts of the country, where a similar change in the type of the fever had occurred previously to its decline, afforded at length some prospect of a cessation of fever in Dublin.

That we were not disappointed in those surmises the event has shewn, as an account is now to be given of the last period these wards were kept open, commencing the 18th of March, and ending the 5th of July. At this time patients

ceased to be admitted, although the wards were not completely emptied until the 17th of August.

Towards the end of June the amount of the fever cases in the several Fever Hospitals had been reduced from near 1200 to about 400. The hospitals, therefore, of the House of Industry and the House of Recovery in Cork-street, affording sufficient accommodation, the Government having first ordered Sir Patrick Dunn's Hospital to be closed for fever patients, directed that Steevens' Hospital should not receive any more of that description after the 5th of July. This was a grateful piece of intelligence for the citizens of Dublin, who hitherto had to read in the daily papers a statement of the considerable numbers constantly admitted into the Fever Hospitals.

The annexed table gives a statement of this period, which commences the 18th of March, and ends the 5th of July, 1819. A smaller number of patients passed through the wards during this period than any of the three preceding quarters, although the period extends to a larger space of time.

In Hospital.	Admitted.	Total.	Cured.	Dead.	Total.
March 18,	Men 339			Men 11	
	Women 353			Women 11	
82	692	774	752	22	774

The mortality is under one in thirty-five; the deaths falling in equal proportions on the males

and females. Both sexes, in this period, were admitted in nearly equal numbers.

The demand for admission had been greater for females during this as well as the preceding quarter. It was easy to see, however, that the poor pressed less for admittance than at earlier periods of the epidemic. Admissions were fewer in the sixth quarter than in the fifth by twenty-eight; and in the last period there was a diminution of seventy-two, compared with the fifth quarter, which commenced in September, although it embraced a further space of time.

More patients aged twenty, and under it, were admitted during this period than at any other age, both of males and females, as may be seen by inspecting the table of ages at the end of this report. Eighteen persons above seventy recovered this quarter.

The ages of the patients who died this period varied from twenty to sixty-four, but the majority of them were between thirty and fifty.

Of the eleven men who died six were cases where the head was much affected. Most of them were admitted comatose, and after the sixth or seventh days of fever. In one the brain was evidently inflamed. He had been ill seven days, and survived only two. Only one man died of a pulmonic disease; he was admitted on the fourteenth day of his illness, and sunk after three days sojourn in the hospital.

There was one fatal case of erysipelas of the face ; the patient was admitted on the fifth day, with febrile symptoms apparently severe, his head much engaged. The erysipelas appeared after a blister to the scalp, and he died comatose on the ninth day. This disease was frequently observed in our fever wards about this time. Many of those who had blisters on the neck or scalp suffered from erysipelas, and in some instances those who had leeches applied to the temples ; but none fell victims to it but the one patient.

In the mild cases of erysipelas brisk cathartics, with diuretics and antimonials, were of service. In the severe cases blood-letting was practised with advantage, and in some instances repeated more than once.

There was no fatal case of the gastric fever, or of dysentery amongst the men at this time, although these forms of disease were still observed. The majority of the cases were unattended with petechiæ, and the short relapse preceded by shivering, succeeded by profuse sweats, and ending in a complete solution of the disease, was a very common occurrence.

Most of the fatal cases of the women this last quarter were admitted at late periods. One came in with the lower extremities mortified ; a second speechless and moribund ; a third died apparently of peripneumony ; a fourth having had a crisis of fever, became pthisical, and died after

a month's residence in the hospital. One died of dysentery; she was an old woman, admitted the eighth day of fever combined with that disease; the fever subsided, but she sunk *tabid* three weeks after, the inner membrane of the *rectum* having been found ulcerated on examination after death.

A young woman, *æt.* 25, died of the gastric form of fever. She was admitted on the eighth day of her illness, with vomiting and severe hiccup; her situation was so far ameliorated that some hopes were entertained of her recovery, the hiccup having ceased; but she ultimately fell a victim to the disorder.

An old woman, who was habitually asthmatic, died of fever on the twelfth day of her illness, unable to resist the severe complication of symptoms.

A young woman, who relapsed after an apparent convalescence, died hydrocephalic on the nineteenth day of her illness. Indeed most of the fatal cases were of this description; the cerebral organs having in a considerable majority of instances sustained irreparable injury during the early stages of fever.

But the destructive changes induced by the fever were not confined to the head. In fact the disease fell with most violence on whatever organ was least able to bear its concentrated attack; according, therefore, as a patient had unsound lungs,

a weak stomach, or a diseased liver, the complicated disease had in a great measure the seat of its chief attack predetermined.

I should have mentioned that an *icteroid* form of the epidemic, or jaundice in combination with fever, was no unusual occurrence in our wards; it was met with mostly in the summer months, but there was no fatal case of this description. Our principal shop porter, an hospital serjeant, who performed the venesections, and was otherwise much exposed to contagion, after having gone through the fever severely twice before at distant periods, had it lastly in this form; but his recovery was equally complete in this last instance as in the two former ones.

Where a number of important organs were severely pressed at the same time, as the brain, the lungs and the stomach, the danger was less than when the whole force of the disease fell upon one with undivided and concentrated violence. In such cases, provided patients were admitted at early periods, it was satisfactory to see the advantages resulting from an active and energetic practice, and how soon they became convalescent.

The symptoms in the varied forms of this epidemic have been described with such accuracy by those who have published fever reports, that I shall not swell these pages by a recital of them.

There was one form of fever, however, which particularly attracted my notice, because there

could be no doubt as to its source ; that I mean with which the nurses and other attendants on the sick were attacked. This I shall briefly describe. It commenced with giddiness or rather staggering, dull headach, which afterwards became intense, loss of appetite, and a white chalky tongue. Many thus circumstanced apprehended they had merely caught cold, a degree of *coryza*, or running at the nose, having in some instances occurred ; some felt better the next day, on taking a little medicine, and were averse to lie down for a few days ; they felt less inconvenience in the erect posture and in the cool ward than in bed : after this preliminary stage a rigor sometimes took place, at other times it was not observed. The pulse was not always accelerated at this stage, but it was small and indistinct ; the skin looked sallow, nor were the alvine secretions much disturbed. A patient thus circumstanced was in imminent danger, severe determination to the head or congestion, to use the language of Armstrong, * having occurred. I do not pretend to say whether this congestion or determination was *venous* or *arterious* in the first instance. That it was not always *venous* appeared clearly from the inspection of the cerebral organs of the greater number who died of this form of fever, inflammation of the brain and its membranes having often followed the

* Armstrong's Practical Illustration of Typhus Fever.

symptoms just mentioned. In other instances that there was no inflammation was equally evinced by the appearances after death, no change of structure being observed; in a great majority, however, of the fatal cases where determination to the head existed previous to death, fulness of the arteries of the brain, and marks of inflammation were discernible. After the symptoms just described had continued a few days, a violent degree of reaction took place, with a complete development of febrile excitement; and on the third, or at all events on the fourth or fifth day, a patient thus attacked was not unfrequently beyond the reach of medical treatment; delirium, a fixed and glassy eye, loss of senses, loss of speech and of the power of swallowing, immediately set in. The majority of such patients had petechiæ in different forms; either a mottled or marbled skin, or the measley efflorescence, or the distinct dark petechial ecchymosis.

Some of the nurses, thus attacked, had severe disturbance of the stomach concurring with the determination to the head, approaching even in some instances to inflammation of the stomach. When partial relief was afforded to the head, the stomach affection was more palpable, and when the stomach was relieved by the appropriate treatment, the state of the head again claimed attention. But in no instance that I observed of this

severe form of fever, was the symptom of head-ach* absent.

There was an appearance which I do not find mentioned by others, I have frequently observed in the late epidemic, as well as in the fevers of Dublin for years back, a slight branny desquamation of the cuticle, especially after long and protracted disease; also that such patients were liable to frequent relapses, and that such occurrences were best prevented by frequently using the tepid bath.

With patients in the form of fever above described, wine and cordials at the early periods, notwithstanding the excessive prostration of strength, were always given with the hazard of accelerating the fatal event.

In the onset of such attacks a full bleeding at the arm, or opening the temporal artery, afforded a better prospect; and so fully convinced of this were the nurses, that they used to importune me to direct these measures of depletion for them, of the utility of which, they were persuaded from their own observation and experience.†

* In a registry which I kept, of every patient admitted into three fever wards at the House of Industry under my care in the course of twelve months, in order to ascertain the organ most usually pressed in fever, out of 755 patients

550 complained of the head,

129 ————— of the chest,

76 ————— of the stomach.

† Dr. Mills makes the same remark in his essay on the utility of bloodletting in fever.

Shaving the head and the cold affusion after bleeding, rendered the future progress of the fever more tractable ; for it was nearly unattainable by any means that were tried with this description of patients, and at the periods they were consigned to treatment, to cut short the fever or bring it at once to a solution ; medical assistance went chiefly to prevent destructive changes of structure in important organs. With those, however, who immediately submitted to active treatment, the disease became mild in a few days, and there are a few instances where the symptoms subsided at once.

Purgatives of course were constantly given in this fever, and tepid effusions were practised when the weather was too cold, or where patients at advanced periods were supposed too feeble to withstand the shock of the cold affusion.

In a fever ward of children which I attended at the House of Industry, I employed the warm bath constantly in all stages of fever, and during convalescence ; and I thought this practice both prevented relapses and secured recovery.

When venesection was used during the first few days of this fever the pulse, from having been small and feeble, expanded, and became more full and sensible to the touch. If a compromising line of practice was adopted, and if patients were blooded not to the extent that afforded relief, or else if it was practised at periods too ad-

vanced for the strength or vital powers to bear, a want of success was the result, and discredit was thus brought on the practice.

A short relapse was often the sequel of this form of fever, and in some instances tedious recurrences of the disease were observed. When a relapse set in with severe symptoms, and that there was no material objection, the lancet according to my experience was the best remedy; and on such occurrences the blood drawn was for the most part buffy, whereas on the first onset of fever it had been free from such appearance. In some instances I had to regret not resorting to this practice in relapses, the termination of which ultimately became either hydrocephalic or pthisical, according to the tendency or predisposition of the individual.

It is unnecessary for me to detail the further progress of the symptoms in this fever; they are too well known to require description; the early symptoms, in my apprehension, claim more immediate attention.

It has often surprised me how soon patients recover from this form of fever, even after a second or third relapse, and after so complete a prostration of the animal powers; many I have seen resume their ordinary occupations immediately on their convalescence. It was for the most part however otherwise with such as had some constitutional disease in complication with fever to

contend with. One female patient proved an exception to this remark ; she had been placed in a chronic ward for a consumptive complaint, which appeared hopeless ; after some time fever appeared, and she was transferred to the fever department, and singular to state, she not only surmounted her febrile attack under so discouraging a combination, but she left the house free from any pthysical disorder.

The disease mostly proved fatal to such as had been given wine or distilled spirits before they were carried to the hospital ; a kind of *delirium tremens* accompanied the fever, and succeeded it if they happened to surmount its attack, and a nervous and anomalous train of symptoms became established for a long time afterwards.

From what has been advanced it is easy to collect the treatment which succeeded in the severe cases ; that which was followed in the mild cases has been already explained. It may here be remarked, that although mild cases in general recover under almost any mode of practice, yet many of those whose diseases were rendered moderate, by the favourable circumstances of cool wards, clean and comfortable beds, plenty of drink, and early medical assistance, very soon became of a different character if allowed to remain in heated and close rooms where infection is concentrated, and where the proper treatment is neglected. Indeed no case of fever can be said to be so mild as not to

require constant medical superintendence ; even under the most auspicious circumstances, affections of the brain and other important organs are apt to supervene at all periods of fever, which if they are neglected the patient is soon out of the reach of medical assistance. Shaving and washing the head, which was practised almost indiscriminately, afforded great advantages not only in point of cleanliness and in preventing determinations to the brain, but it facilitated the adoption of other measures at subsequent periods, such as the application of leeches, of blisters, and of refrigerating lotions.

An accurate analysis of the fatal cases and of the organs more immediately threatened with destructive changes antecedent to death, cannot but prove instructive and useful ; it is only by a close attention to those organs which experience teaches us to have suffered most, and of the symptoms which denote the morbid changes, that we can hope to succeed where similar fatal terminations are apprehended.

Of not less importance do I consider the examination of those who have died of fever. The anatomical researches on this subject, connected with the previous histories of the diseases which have been collected during the late epidemic, have in my opinion much advanced the pathology of fever and improved the practice, and though we

still have much to learn, I apprehend we are now in the right road.

On the subject of the morbid appearances found in those who die of fever, all those who are hospital physicians, and who have either practised or superintended dissections, are fully agreed. A few of those who have not seen bodies opened themselves, but who rely on the opinions of others, founded on the examination of such subjects as are generally brought to the dissecting room, without knowing the previous history of the disease, have taken a different view of the question.

I witnessed myself most of the examinations which took place at the hospitals of the House of Industry, not only of those who died in the Hardwicke and Whitworth hospitals, but those who fell victims to fever in the Richmond Penitentiary, which at that period accommodated about 500 patients.

The appearances which I observed in the brain and its membranes were fulness and distention of the vessels, the arteries as well as the veins, the former often appearing as if subjected to an anatomical injection; extravasation of blood was seen in a few instances, sometimes under the arachnoid, and again at the base of the brain; effusion into the ventricles and under the arachnoid was frequently witnessed, as well as into the spinal canal; a thickening and opacity of the arachnoid and of the pia mater was not an unusual occurrence,

and lymph was often thrown out, sometimes a wheyish fluid, and again a gelatinous substance. These membranes occasionally manifested more unequivocal signs of previous inflammation, exhibiting their surfaces superficially ulcerated and covered with a purulent discharge. Some other varieties in the appearances found in the brain were observed, but they were mostly of the same character.

In this account of the morbid changes in the brain in fever, I find I am supported by Drs. Percival, Cheyne, Mills, Bateman and Duncan, in their respective accounts of the late epidemic; similar views are also taken by the French writers on fever, in the "*Dictionnaire de Sciences Medicales*," supported by the dissections of Baron Larrey and other French anatomists.

The authorities of Dr. Macartney and Mr. Kirby are adduced by Drs. Barker * and Stoker, † in their respective Fever Reports to support a different opinion. The subjects ‡ which these distinguished anatomists examined were brought for dissection in both instances to an anatomical theatre; their previous history was not always known further than that they were supposed to be cases

* Trans. Medical Association, Coll. Physic, in Ireland, vol. II. p. 574. † Ibid. p. 431.

‡ "A great proportion of the subjects for anatomical lectures in Trinity College during last winter appeared to have been of the present epidemic, as they had petechiæ on the surface." Ibid. p. 574.

of fever, because spots were observed on the skin. This alone, however, must be allowed to be a very equivocal foundation to establish that they were fever cases ; it is not always easy in a living subject to discriminate between febrile petechiæ and other eruptive appearances on the skin ; the distinction, I believe is at least equally difficult in the dead body.

In the fever reports just cited, congestion in the venous system of the brain more especially, is stated to be present in fever ; and it is added, that as the appearances which are usually the result of inflammation were not observed in the subjects thus examined, “that the congestions observed after typhus fever differ from those of genuine inflammation.”*

It may be observed that this kind of venous congestion readily takes place in any subject if, during its removal, the body is not kept at least in a horizontal position, and if the head be allowed to hang in a depending posture, fullness of the veins of the head is immediately induced. If this circumstance be coupled with the doubt which must remain as to the actual disease of which the subjects which were thus examined died, I apprehend no inference should be drawn as to the condition of the vessels of the brain in fever from examinations made under those circumstances.

* Dr. Barker's Report.

I regret that I am obliged thus to differ from those intelligent friends of mine, for whose opinions I entertain the highest respect. The decision on this difference of opinion however must in fact depend on the rigid test of experimental inquiry, and the point be determined, not by dissections where the slightest doubt remains whether they were fever cases, but by examinations made on a large scale, where all the circumstances are known from the beginning. Indeed this has already been done to a considerable extent by Dr. Cheyne in his second Medical Report of the Hardwicke Fever Hospital.

Where the organs in the cavity of the chest were most pressed during fever, the fatal cases almost invariably exhibited changes of structure, which all anatomists allow to be the result of inflammation ; recent adhesions of the *pleura*, exsudation of wheyish or sero-purulent fluids, effusions of lymph and formation of false membranes, besides analogous changes of structure in the *mucous*, *bronchial* and other textures. Tubercles were often found in the lungs in every stage, nor did the heart and its membranes escape : in a man who died in the Whitworth Hospital of a severe relapse, the pericardium was found full of a wheyish fluid, and the heart * covered with a recently formed coating of lymph.

* This heart is preserved.

In a considerable number of those examined the liver was found tuberculated and diseased in a variety of forms ; but this is not surprising, when we consider the number of intemperate drunkards, with worn out viscera, who occupy that great depot of poverty, the House of Industry, and who, when afflicted with febrile symptoms, are from thence transferred to the fever wards. The diseased state of these organs could not with propriety be regarded always as the only cause of fever, although it was certainly instrumental in hastening the death of the patient. In many instances however the serous membranes covering the liver were found with fresh coatings of coagulable lymph, serous effusions and recent adhesions were also observed, and these appearances could be connected with severe local pains, and other symptoms of inflammation, which must have existed shortly antecedent to death.

In the gastric form of fever, at least in the severe and fatal cases, the *mucous* coat of the stomach, and in some instances that of some portions of the intestines, was found after death slightly inflamed. If the symptoms which denoted these occurrences were neglected, the *serous* coats and the *peritoneum* soon became involved ; numerous instances of such appearances are on record in our hospital journals, and portions of the morbid parts are preserved which illustrate these appearances.

In those who died of the various forms of

dysentery combined with fever, it is scarcely necessary to say that inflammation was present at some stage of the disease, and that erosion and ulceration were the result. On the subject of a tuberculated or warty appearance of the villous coats of the intestines, which was another form of deranged structure occasionally met with, especially with children, I have already offered an opinion in another * place, so that I shall not repeat it here. Those however who wish for authentic information on the diseased appearances to be found in those who die of fever, will find it in a tabular form, in Dr. Cheyne's † Second Report of the Hardwicke Fever Hospital. There are also some fever dissections given by Baron Larrey, in that interesting volume in which he describes the fever which occurred amongst the French troops on their retreat from Moscow, and by Broussais.‡ But the anatomical preparations made at the House of Industry form an incontestible chain of evidence which ought to convince the most sceptical, that in the severe forms of the fatal cases of fever there is something more than *venous congestion* to be attended to.

Were I disposed to increase the size of this Report I could easily do so, by giving in detail an account of a considerable number of dissec-

* Dublin Hospital Reports, Vol. II. p. 286.

† Ibid. p. 1.

‡ Histoire de Phlegmasies Chroniques.

tions, but it would be only to repeat others similar to those already published. The subject however is still under investigation, and probably may come before the public at some future period, after a still greater mass of authentic evidence has been collected.

It is very possible in the onset of fever, that congestion or distention of the vessels of the brain, in addition to other derangements of the cerebral system may be present, but that it is by no means limited to the venous system ; this congestive state however soon passes into the inflammatory in the severe cases, unless measures are taken to prevent it. Far be it from me to say that inflammation is the cause of fever, or that it is necessarily present in every instance, the contrary I believe is the fact in the greater majority of the mild cases ; but the appearances mentioned, and the important changes of structure induced, warrant me in asserting, that in the greater number of severe cases legitimate inflammatory symptoms sooner or later become evolved, and that it is by looking to these that the mortality in fever on a large scale is chiefly to be prevented.

I have digressed perhaps too long from the object which I had proposed to myself, merely to give on account of the epidemic, so far as related to Steevens' Hospital ; the importance of the subject, and the opportunities I have had of seeing

the disease on a great scale, have led me to say more than I had intended.

I have not dwelt as much as I might on the causes of the epidemic, and on the previous circumstances of the description of persons who suffered most, as I have already stated my opinion on these subjects in a Medical Report which I presented to the Government, by the command of his Excellency of the Lord Lieutenant, and which has been printed by order of the House of Commons; I shall therefore close this Report, aware that many things have been omitted, requesting those who read it to recollect, that it is not a systematic treatise on fever, but an historial account of what occurred in the fever department of Steevens's Hospital, including a period one year and eleven months.

The annexed two tables specify the ages of all those who were admitted in quarterly periods. They afford some data for estimating the time of life of those who supplied most fever patients, and of course the description of persons upon whom the epidemic fell most severely.

MALES.

Ages.	Under 10	20	30	40	50	60	70	80	90	100	
Sept. 17, Dec. 17 1817.	9	90	109	45	31	23	7	2			
Dec. 18, Mar. 17 1818.	15	87	80	60	39	18	12	3			
March 18, June 17.	21	133	115	51	35	26	10	4			
June 18, Sept. 17.	31	211	127	89	45	29	18	1			
Sept. 18, Dec. 17.	26	140	128	63	58	16	9	2			
Dec. 18, Mar. 17, 1819.	15	103	124	62	38	19	10	1			
March 18, August 17.	27	93	90	57	43	14	17	1			
Total males	144	857	773	427	289	145	83	14			2732

FEMALES.

Sept. 17, 1817, Dec. 17.	6	40	61	27	20	3	2				
Dec. 18, Mar. 17 1818.	14	59	72	31	16	4	3	2			
March 18, June 17.	12	75	80	31	12	4	6	1			
June 18, Sept. 17.	24	128	79	33	24	17	5	1	1		
Sept 18, Dec. 17.	27	139	149	57	31	15	6	3		1	
Dec. 18, Mar 17, 1819.	30	122	111	53	27	12	5	2			
March 18, August 17.	23	124	112	56	14	14	18		2		
Total females,	136	687	664	288	144	69	45	9	3	1	2046
Total of both sexes,	280	1544	1437	715	433	214	128	23	3	1	4778

The two following tables shew the ages of those, of both sexes, who died each quarter, and point in the abstract the ages which suffered most deaths, so far as the number reported here is concerned.

MALES.

Quarters.	Under 10	20	30	40	50	60	70	Total.
First,		4	9	4	7	6	1	31
Second,		1	4	2	2	1		10
Third,		1	3	1	2			7
Fourth,	1	2	3	1	1	4	1	13
Fifth,	1	2	3	2	3			11
Sixth,		1	4	2	4	3		14
Seventh,			3	3	3	2		11
Total males.	2	11	29	15	22	16	2	97

FEMALES.

First		1	4	5				8
Second			1		1	1		3
Third,		2						2
Fourth,		2			1			3
Fifth,	2	3	6				1	12
Sixth,		1	4	2	1		1	9
Seventh,		1	4	2	2	1	1	11
Total fe- males.	2	10	19	7	5	2	3	48
Total of both sexes,	4	21	48	22	27	18	5	145

The two subjoined tables give a summary view of the admissions, discharges, and deaths, in quarterly periods, the first during Dr. Harvey's attendance, the second during that of Dr. Crampton.

1.

	In hospital.	Admitted.	Total.	Cured.	Dead.	In hospital.	Total.	Mortality.
Sept. 17, to Dec. 17, 1817.		Men 318 Women 159 <hr/> 477			31 8 <hr/> 39			under 1 in 10,
Dec. 18, to Mar. 17, 1818,		Men 324 Women 203 <hr/> 527			10 3 <hr/> 13			under 1 in 40,
	81		608	508	13	87	608	

2.

March 18, June 17.		Men 394 Women 222 <hr/> 616			7 2 <hr/> 9			
	85		701	612	9	80	701	1 in 69.
June 18, Sept. 17.		Men 552 Women 303 <hr/> 854			13 3 <hr/> 16			Under 1 in 54.
	84		938	849	16	73	938	
Sept. 18, Dec. 17.		Men 443 Women 428 <hr/> 871			11 12 <hr/> 23			Under 1 in 37.
	80		951	841	23	87	951	
Dec. 18, Mar 17. 1819.		Men 349 Women 392 <hr/> 741			14 9 <hr/> 23			Under 1 in 32,
	82		823	716	23	84	823	
March 18, August 17.		Men 539 Women 553 <hr/> 1092			11 11 <hr/> 22			Under 1 in 35.
	82		774	752	22		774	

The two appended tables give a summary view of the admissions, discharges, and deaths, in general, during the first period; the first during Dr. Harvey's attendance, the second during that of Dr. Cunningham.

I.

Period	Admitted	Discharged	Died	Remained in Hospital
From 1st to 15th Dec. 1815	10	10	1	1
From 16th to 31st Dec. 1815	10	10	1	1
Total	20	20	2	2

II.

Period	Admitted	Discharged	Died	Remained in Hospital
From 1st to 15th Jan. 1816	10	10	1	1
From 16th to 31st Jan. 1816	10	10	1	1
Total	20	20	2	2