Typhus fever : its causes, treatment, and cure, by hydropathy ... / [Shew].

TYPHUS FEVER:

ITS

CAUSES, TREATMENT, AND CURE,

BY HYDROPATHY, OR

PURE AIR, WATER, AND DIET.

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Recommended by the Glasgow Hydropathic Society, and Dedicated to the Sanatory Committee of the Glasgow Town Council and Police Board.

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PREFACE.

From the prevalence of fever in the city at present, the Glasgow Hydropathic Society are desirous of drawing more attention to the value of Pure Air and Water in cases of Fever, as from the experiments of Dr Currie it seems evident that Bathing in the first stage prevents it from passing into the other and more dangerous stages; and even when so far formed as to run its course, the severity of the attack is greatly modified, and danger lessened.

In the first stage especially, when the strength is unbroken, the cold bath may be taken with the utmost confidence, and whether it may be one or several Baths or washings, the safe rule is to repeat the cooling influence as often as the hot stage returns, and to bathe or sponge only when there is excess of heat. And in connection with these means, supply abundance of Pure Air, and only the simplest farinaceous food, and that only when the patient requires or desires it; following the same rule in allowing pure cold water as freely as thirst demands, and at the same time keeping the head cool and the feet warm.

TYPHUS FEVER.

Typhus is a form of continued fever; but, on account of its importance and frequency, a detailed account of its nature, symptoms, and treatment will be given.

It has been common among medical writers to divide typhus fever into two varieties—*typhus mitior* and *typhus gravior*. The first is the 'nervous fever' of most authors. It is known by 'slight shiverings, heavy, vertiginous headache, great oppression, peculiar expression of anxiety, nausea, sighing, despondency, and coma or quiet delirium.' The majority of cases of what are termed typhus and typhoid fever in this country come under this head.

Typhus gravior, called also *putrid fever*, *jail fever*, *hospital fever*, *camp fever*, *ship fever*, *spotted fever*, *petechial fever*, *malignant fever*, etc., as the name signifies, is the severer form of the disease. It is attended generally 'with rigors and heat alternating; little or no perspiration, pulse tense and hard, usually quick and fluttering, pain over the forehead and vortex, delirium succeeded by stupor, signs of incipient putrescency, petechiæ, vibices, hemorrhages,' etc.

In *typhus mitior*, the symptoms are of the same general character, only milder.

Within a comparatively recent date, it has been endeavoured on the part of some to be shown that there are two distinct diseases bearing the characters of typhus; to one of which the term *typhoid* has been given, the other being the true typhus. In typhoid fever it is maintained that the follicles of the intestines inflame and ulcerate, and that the abdomen is, in short, the real seat of the disease. It is unfortunate, indeed, that the term *typhoid* should have been applied to any distinct form of disease, inasmuch as it has been generally employed to indicate a condition of adynamic and cephalic disturbance, which may occur in many diseases, rather than to indicate any separate affection. The same remarks apply to the word '*typhus*,' which has been used very indefinitely by medical writers; but by the laity, the idea of a malignant contagious disease is always associated with it.

In the present work the word '*typhus*' will be used in its proper sense, and the word '*typhoid*' as an adjective simply. Typhoid signifies resembling typhus. That there is a distinct form of typhus, owing to ulceration in the intestinal glands, has not yet been clearly made out; and even if we were to admit such a distinction, it could lead to no useful practical result.

Symptoms.—Typhus comes on in a variety of ways, and not unfrequently in a manner similar to that of simple fever. There is languor, lassitude, and a feeling of general indisposition, accompanied by alternate chilliness and flushing; there is giddiness, more or less, with pain in the head, back, loins, and limbs; there is dulness and confusion of mind, and dejection of spirits, accompanied with weak and imperfect respiration; the eyes are suffused and the face flushed. If the symptoms go on badly, the mind becomes more and more affected, till at length there occurs a low, muttering delirium, from which, however, the patient may in many cases be aroused transiently by speaking to him in a loud tone of voice.

The *tongue* presents a variety of aspects in this as in other fevers. It may in one case be white, and in another absolutely black; it may also present all the various intermediate grades of light brown, dark brown, yellow, etc. It may be brown or dark brown in the middle, and white at each side, the edges, perhaps, being red. It may likewise be 'red, glazed and smooth, and dry.' It may also be cracked. It is not uncommon to see it dark at the back, while it is white or red at the top. When it is of a brown, reddish-brown, or black colour, there are apt to be collections of dark-coloured matter about the mouth, called in medical language 'sordes.' Such matter may consist of dried vitiated secretions from the mouth and throat, or from slight effusions of blood which coagulate in the mouth, presenting a dark appearance. The tongue is apt to be more or less tremulous in fever, the same as other parts of the body.

The animal heat sometimes becomes a good deal elevated, but not so much as the patient's sensations would seem to indicate. It is not uncommon for the temperature to rise in this kind of fever to 105°, 108°. and even 110° Fahr.; that is, twelve degrees higher than its natural state. The heat of a fever patient seems often to have something peculiar about it; it is a pungent or biting heat; and Sir Gilbert Blane says that this *mordant* heat, as it is termed, sometimes impresses upon the palm of the hand of the practitioner who has grasped the patient's wrist a glow of heat which lasts for hours, if the hand be not washed sooner. This is said to be more especially true of ship fever. Galen, when treating of autumnal remittent fever, says that the great mark of it is the mordacity and acrimony of the heat, which corrodes the touch just as smoke does the nose and eyes. There may be more imagination than reality about this; but the remarks are given for what they are worth. It sometimes, also, happens in fever, even of the continued forms, that the heat falls *below* its natural standard, particularly in the latter stages of the disease.

Until after the fever has somewhat subsided, the *pulse* is in general, like the temperature of the body, augmented. It may be full or hard, soft, small, or

weak, presenting, in short, in different cases, almost all the varieties of pulsation that can be conceived of. In some cases it becomes so feeble that it can scarcely be distinguished, constituting what is called a *fluttering* or *vermicular* pulse. The *quickness* of the pulse in typhus varies much in different cases, and from time to time in the same individual. In some extreme cases it has been known to become as quick as 200 in the minute. Such instances, however, are rare. The pulse, in fever, is seldom found to be more than 160; its more common range is from 100 to 140; in some cases it may be much less—in others more. The pulse should be carefully watched in fever, as there is no better index by which to determine the patient's condition than this.

The *appetite* is usually altogether absent after the disease has fully set in. Ordinarily, when there is a considerable degree of pyrexia present, the stomach is wholly unable to perform its function. In some cases individuals have gone two and even three weeks without any nutriment but water, recovering in the end perfectly well. Yet there have been cases of fever in which the appetite was voracious. Dr Satterly is quoted by Dr Elliotson as giving a case of a boy who laboured under typhus fever, attended by marked inflammation in the head, and in which the exacerbations of fever were always attended with a voracious appetite; so that in the midst of the fever he would eat four meals a day, and each meal sufficient for a stout labourer. Besides those four meals of meat and vegetables, he daily ate many pounds of dry bread, biscuit, and fruit. He had no sooner eaten a meal, than he denied that he had eaten anything, so that the more he ate the more he desired. If he was not fed the moment he requested it, he sucked the bed clothes and bit his fingers like a child. He discharged several very copious stools a day, which evidently saved his life, for he recovered perfectly.

Usually, as the fever declines, the appetite returns, and in most cases soon becomes voracious. It is necessary of course to guard against over-eating in such cases, although those who are properly treated by water are not apt to have a relapse, unless some very great impropriety is committed.

When typhus is communicated from one person to another, the period of incubation varies, it is supposed, the same as happens in small-pox, measles, etc. It is believed that it may occur almost immediately, in a day or two; and in other cases it lies dormant for several weeks, and even months. In such instances there is, of course, some doubt. The most common period of incubation in typhus, however, is supposed to be from one to two weeks.

The *duration* of typhus fever, as we see under the ordinary modes of treatment, is very variable. When it terminates favourably, it usually runs three weeks or more, there being about one week of its increment, another of its formed state, and a third of decline. But not unfrequently it lasts much longer than this period. There is no regular rule for it. It may terminate in seven or eight days; and it is asserted on such authority as Drs Currie, Good, and others, that it has been cut short by cold affusion the second or third day, and this even when it occurred in a malignant form. Fatal cases may end at any period

between the first paroxysm of attack and weeks or months after. More commonly death does not take place till from the seventh to the twelfth day.

Critical days.—It was held among the ancients that a favourable change in fever is more apt to occur in seven days than others. According to Hippocrates and Galen, the greatest number of fevers terminate on the 7th day, and many on the 14th, those two days being the most favourable. Among some of modern observers the tables which seem to have been collected would seem to favour the doctrine of critical days as held by Hippocrates and other eminent physicians. The majority, however, are against it.

Typhus fever may attack persons of any age; but it is most common with those in middle life. Infants and young children, as well as very old persons, are not so subject to it. It affects both sexes alike.

It prevails at all seasons of the year, although both extreme cold and extreme heat are known to be unfavourable to its production. Intense cold is probably less favourable to it than intense heat; but in the northern part of this country it generally seems to have a preference for the winter season, doubtless because the inhabitants house themselves up so closely and heat their rooms to so high a point. In warmer latitudes, where people live much in the open air, typhus is much less prevalent than with us here in the north.

Causes.—The question as to whether typhus fever is contagious, has been the occasion of a great deal of medical controversy. Typhus fever is beyond doubt sometimes contagious, that is, it communicates itself to others, though not to all who come within its influence. To some, then, it is contagious; to others not. It also springs up spontaneously often, we have every reason to believe, just as measles, scarlatina, hooping-cough, and even small-pox are known to do. It is well worthy of remark, that all writers and observers are agreed upon the important point that it is among the poor and destitute, and those who are poorly housed, fed, and clad, that typhus commits its most fearful ravages. Those who live in airy and well-ventilated houses, and in healthy localities, whether in city or country, are abundantly supplied with good and healthful food and water, and are not subjected to the more common causes of mental despondency, are seldom attacked with the disease. And when it does occur under such circumstances, it is much less liable to spread itself in the way of contagion than when it happens among those of the lower class.

It is not pretended that confinement in foul air is of itself sufficient to generate typhus in all cases; yet it certainly does often occur, and in its worst form, in situations where human beings are crowded together, especially in such places as prisons, badly ventilated hospitals, and the more confined parts of large cities, and in camps and ships.

So important and striking is this relation between pure air and health, and foul air and fever, that a few facts bearing on these points will prove instructive in this connection.

The terrible catastrophe which occurred in a prison of Calcutta, in 1756—'the Black Hole of Calcutta'—was one of the most frightful which has ever

been recorded. One hundred and forty-six Englishmen were thrust into a wretched prison only eighteen feet square, in which there were only two very small windows by which air could be admitted; but as both of these were on the same side, ventilation was utterly impossible. Scarcely was the door shut upon the prisoners when their sufferings commenced, and in a short time a delirious and mortal struggle ensued to get near the windows. Within four hours those who survived lay in the silence of apopletic stupor, and at the end of six hours *ninety-six* were relieved by death! In the morning, when the door was opened, twenty-three only were found alive, many of whom were subsequently cut off by putrid fever, caused by the dreadful effluvia and corruption of the air.

Dr John Griscom, of New York, the talented author of a work on ventilation, in giving a public lecture at an educational convention in Newark, New Jersey, in 1852, on the subject of Physiology, mentioned the following remarkable facts, of which he held in his hands ample proof, in a letter from a distinguished citizen of New Jersey: In August (1837 we think the reporter remarked), a ship arrived at Amboy, with a number of passengers down with ship fever. There was no hospital, and temporary shanties of rough boards, with canvas roofs, were put up, a mile and a half from the landing, near a pure spring of water. Thither the sick, eighty-two in number, were carried, under the full blaze of the sun. Some twelve of the number were then insensible, and no one expected them to live. A day or two after there came on a very heavy shower, perfectly drenching the sick persons, as their cabins were hardly any protection. Of course it was expected they would die by dozens, but, strange to say, *every one* of them recovered.

Here, then, was an instance, showing in the most conclusive manner the good effects of pure fresh air in preventing a most dreadful and destructive disease. It is true 'the pure spring of water' and the 'perfectly drenching of the sick persons' had no small share of influence in the matter; nevertheless, the pure air of heaven was no less important than the watery part of the regimen. *Water-treatment, it should be remembered, implies not only water, but every natural substance and thing that can be made to act beneficially upon the system.*

Another remarkable instance, showing the effects of foul air in fevers, is given in Lectures on Military Surgery, by Sir George Ballingall. He observes: 'In the summer of 1811, a low typhus fever broke out in the fourth battalion of the Royals, then quartered in Stirling Castle. The season was the healthiest of the whole year, and the locality about the most salubrious in the country. On investigating the causes which could give rise to so much illness, under circumstances apparently so favourable to health, the mystery was speedily solved. In one room, twenty-one feet by eighteen, SIXTY men had been placed; and in another of thirty-one feet by twenty-one, SEVENTY-TWO men; or, in other words, a greater number of human beings had been crowded into one place than the air which it contained could by possibility keep alive! To prevent absolute suffocation, the windows were thrown open during the night, from which a cold air

streamed in upon those nearest to them. The natural result of this crowding was typhus fever, to which inflammation of the lungs were superadded in those exposed to the cold draughts.

'The two together proved very fatal. Had the officers who assigned quarters to these unfortunate men been acquainted in the remotest degree with the laws of respiration, and with the fact that one pair of lungs requires the use of fifty-seven hogsheads of pure air in twenty-four hours, they would, I believe, as soon have thought of ordering the men to be shot as of exposing so large a proportion of them to almost certain death from an easily avoidable disease.' The simple fact added by this writer, that '*in less crowded apartments of the same barracks, no instance of fever occurred*,' speaks volumes to a reflecting mind on this subject.

The chief causes of fever assigned by medical inquirers are, as before remarked, dense population, bad ventilation, and destitution. But the late Dr Combe argued, that however destitution or any other cause may operate remotely, the *immediate* cause is deficient ventilation. In proof of this theory, he made, in 1841, the following observations:—'There was in the suburbs of Glasgow a large house, called from its mode of construction and the vast crowd of human beings who lived in it, the *Barrack*. It is said that nearly five hundred persons, chiefly poor Irish, lived in this building, each family having one, or at most, two little rooms. At one time fever was never absent from the Barrack; *five had been seen ill at once in one room; and in the last two months of* 1831, *the cases in this single house were fifty-seven.* During the five years, ending with 1849, there were 55,949 cases of fever in the whole city; consequently it will be observed, this house with, say 480 inhabitants, ought to have had, as its fair proportion, 112 cases, the population of the city being considered as at a medium 240,000. But,' continues Dr Combe, 'how does the case really stand? Early in 1832, at the recommendation of an ingenious surgeon of the district (Mr Fleming), a simple tin tube, about two inches in diameter, had been led from the ceiling of each room of the Barrack into a chimney of a furnace connected with a neighbouring factory, by which means a perpetual draught was established upon the atmospheric contents of every room, and its inmates compelled, whether they would or not, to breathe pure air.' The consequence—for we cannot but consider it as the consequence—was, that during the ensuing eight years, fever was scarcely known in that house, although it was at times very prevalent in the city. Mr John Pearson, of England, an able medical observer, who took great interest in establishing and promoting the fever hospital, informed Dr Dunglison, 'that when he was surgeon of the Lock Hospital, he uniformly observed when more than a certain number of patients were admitted in any of the wards, fever became more prevalent in the establishment; and that from repeated observation of this fact, he was induced to restrict the number of beds in each ward, and never afterward witnessed the recurrence of fever in the house.'

'In cases of camp fever,' says Dr Stokes, 'it has been repeatedly observed, that when the camp was broken up, and the sick separated into different parties, the fever totally disappeared, although the patients might be exposed to bad weather and the jolting of carriages.'

It is to be laid down as a well-established fact, and one of great importance to the human race, that foul air is one of the worst, and probably *the* most prolific, of all the causes of typhus. It is very seldom that we see a fever happening in a healthy locality where due attention is paid to ventilation. True, we do now and then hear of bad cases of typhus, or malignant form of fever, in healthy localities, such, for example, as are to be found in various parts of England. But how do people in such parts ventilate their houses? None at all, we may well say, especially in the winter time, when the whole object seems to be to exclude pure air as much as possible from the house; and it is at such times, as before remarked, that malignant fevers are most apt to prevail. In the summer the doors and windows are more likely to be thrown open, and hence in the warm seasons fevers are not so common. It is to be remarked likewise, that in our cities we seldom find a case of fever among those who inhabit large houses. True, those even are poorly ventilated in proportion to what they should be; but then the rooms occupied by the rich are large and airy, and their houses are proportionably much larger than those occupied by the poorer classes. As a consequence, fevers, especially of the malignant and more dangerous kinds, are seldom to be found among the higher orders of society.

Treatment.—Boerhaave, the most learned physician of his time, held as a theory that fever was caused by a *lentor* (something cold) in the blood. This theory—for it was only a theory—caused, for about two centuries, one of the most erroneous modes of practice that ever crept among the already multiform and barbarous jargons of the medical art. Alas! what erroneous theories and practices which the human mind could by any possibility invent, have not been put forth to torture human nature with! Every one who has arrived at adult age can well remember, how, a few years since, no fever patients—none with inflammatory disease of whatever kind—could touch a drop of cold water at the peril of life. 'It will be the very death of you,' exclaimed the practitioner. The anathemas against no poison could not be more imperative than this against pure cold water in fever. Now and then, however, there were those who, spite of physicians, nurses, and attendants, broke over all bounds in their phrensy, and betook themselves to this best of all remedies. And what was the result? Were these patients killed by the dreaded element? Every one knows the proper answer to the question. And now, thanks to Priessnitz, the temperance reformation, and the light of advancing science, this horrible practice of which I have been speaking is consigned forever, I trust, to be remembered only among the things that were.

Whenever a general feverishness, from whatever cause, is brought on in animals, they not only instinctively drink water, but immerse themselves in it,

if it is possible for them to do so. It is said that in some countries wild pigs become violently convulsed by eating henbane, and that by going into water and by drinking it they recover. And when animals become feverish from mutilations or mechanical injury, they seek lying upon the damp ground in the cool air, and even in mud and wet, and go not unfrequently into the water.

Do not these facts prove beyond all cavil THAT WATER IS GOD'S OWN REMEDY FOR FEVER.

Dr Watson, in speaking of the natural tendency to health in fevers, asserts that he agrees most entirely with Dr Pitcairn, who, being asked what he thought of a certain treatise on the subject, declared, 'I do not like fever curers; you may *guide* a fever, you cannot *cure* it. What would you think of a pilot who attempted to quell a storm? Either position is equally absurd. In the storm you steer the ship as well as you can; and in a fever you can only employ patience and judicious measures to meet the difficulties of the case.'

But is it not true that we can not only modify the symptoms of typhus fever, rendering the patient's sufferings vastly less than they otherwise would be, *but actually cut short the disease;* that we can, I think hydropathy has already most conclusively proved. As bearing on this point directly, I shall here introduce several cases from that excellent author, Dr Currie, who wrote about fifty years since. In his Reports he commences by giving an account of some cases from his friend Dr Wright. He says:

'On the 1st of August, 1777 (says Dr Wright), I embarked in a ship bound to Liverpool, and sailed the same evening from Montego Bay. The master told me he had hired several sailors on the same day we took our departure, one of whom had been at sick quarters on shore, and was now but in a convalescent state. On the 23d of August we were in the latitude of Bermuda, and had had a very heavy gale of wind for three days, when the above-mentioned man relapsed, and had a fever, with symptoms of the greatest malignity. I attended this person often, but could not prevail with him to be removed from a dark and confined situation to a more airy and convenient part of the ship; and as he refused medicines, and even food, he died on the eighth day of his illness.

'By my attention to the sick man I caught the contagion, and began to be indisposed on the 5th of September; and the following is a narrative of my case, extracted from notes daily marked down. I had been many years in Jamaica, but, except being somewhat relaxed by the climate and fatigue of business, I ailed nothing when I embarked. This circumstance, however, might perhaps dispose me more readily to receive the infection.

'Sept. 5th, 6th, 7th.—Small rigors now and then—a preternatural heat of the skin—a dull pain in the forehead—the pulse small and quick—a loss of appetite, but no sickness at stomach—the tongue white and slimy—little or no thirst—the belly regular—the urine pale, and rather scanty—in the night restless, with starting and delirium.

'Sept. 8th.—Every symptom aggravated, with pains in the loins and lower limbs, and stiffness in the thighs and hams.

'I took a gentle vomit in the second day of this illness, and next morning a decoction of tamarinds; at bed-time an opiate, joined with antimonial wine; but this did not procure sleep, or open the pores of the skin. No inflammatory symptoms being present, a drachm of Peruvian bark was taken every hour for six hours successively, and now and then a glass of port wine, but with no apparent benefit. When upon deck, my pains were greatly mitigated, and the colder the air the better. This circumstance, and the failure of every means I had tried, encouraged me to put in practice on myself what I had often wished to try on others in fevers similar to my own.

'Sept. 9th.—Having given the necessary directions, about three o'clock in the afternoon I stripped off all my clothes, and threw a sea cloak loosely about me till I got upon the deck, when the cloak also was laid aside. Three buckets full of salt water were then thrown at once on me; the shock was great, but I felt immediate relief. The headache and other pains instantly abated, and a fine glow and diaphoresis succeeded. Toward evening, however, the febrile symptoms threatened a return, and I had again recourse to the same method as before, with the same good effect. I now took food with an appetite, and for the first time had a sound night's rest.

'Sept. 10th.—No fever, but a little uneasiness in the hams and thighs—used the cold-bath twice.

'Sept. 11th.—Every symptom vanished, but to prevent a relapse I used the cold-bath twice.

'Mr Thomas Kirk, a young gentleman, passenger in the same ship, fell sick of a fever on the 9th of August. His symptoms were nearly similar to mine, and having taken some medicine without experiencing relief, he was desirous of trying the cold-bath, which, with my approbation, he did on the 11th and 12th of September, and by this method was happily restored to health.'

The doctor proceeds:

'On the 9th of December, 1787, a contagion fever made its appearance in the Liverpool Infirmary. For some time previously the weather had been extremely cold, and the discipline of the house, owing to causes which it is unnecessary to mention, had been much relaxed. The intensity of the cold prevented the necessary degree of ventilation, and the regulations for the preservation of cleanliness had been in some measure neglected. These circumstances operated particularly on one of the wards of the eastern wing, employed as a lock hospital for females, where the contagion first appeared. The fever spread rapidly, and before its progress could be arrested, sixteen persons were affected, of whom two died. Of these sixteen, eight were under my care. On this occasion I used, for the first time, the affusion of cold water, in the manner described by Dr Wright. It was first tried in two cases only, the one in the second, the other in the fourth day of fever. The effects corresponded exactly with those mentioned to have occurred by him in his own case; and thus encouraged, the remedy was employed in five other cases. It was repeated daily, and of these seven patients

the whole recovered. In the eighth case, the aspersion of cold water seemed too hazardous a practice, and it was not employed. The strength of the patient was much impaired by lues, and at the time of catching the contagion she laboured under ptyalism. I was not then aware that this last circumstance formed no objection against the cold affusion, and, in a situation so critical, it was thought imprudent to use it. The usual remedies were directed for this patient, particularly bark, wine, and opium, but unsuccessfully; she died on the sixteenth day of her disease.

'From this time forth I have constantly wished to employ the affusion of cold water in every case of the low contagious fever in which the strength was not already much exhausted; and I have preserved a register of 153 cases in which the cure was chiefly trusted to this remedy.'

Before proceeding to explain particularly the manner in which Dr Currie used water in fevers, he describes a fever which broke out in the 30th regiment, and the treatment adopted. It commenced about June 1st, 1792.

'Such men as were sent to the guard for misbehaviour were confined in a dark, narrow, and unventilated cell. Several men were put there for drunkenness, and suffered to remain twenty-four hours. The typhus fever made its appearance among these men, and spread rapidly among the rest. The Liverpool Infirmary being full, a temporary hospital was fitted up at the fort. In two low rooms, each about fifteen feet square, were fourteen patients labouring under the fever. One was in the fourteenth day of the disease, two in the twelfth, and the rest from the ninth to the fourth day. In every case there was cough and mucous expectoration. Those who sustained the disease eight days, had *petechiæ* on the skin (spots resembling flea-bites, denoting great prostration). The debility was considerable from the first, and, as Dr Currie says, had been increased in several cases by bleeding, before the nature of the disease was understood. The pulse varied from 130 to 100 beats. The heat rose from 101 to 105 degrees Fahr. There was great pain in the head, and in several instances low delirium.

'Our first care was to clean and ventilate the rooms, which were in a high degree foul and pestilential. Our second was to wash and clean the patients themselves. This was done by pouring sea-water over the naked bodies of those who were not already greatly reduced: the whole heat was steadily above the temperature of health. In those more advanced, whose debility was great, we sponged the whole surface with vinegar, a practice that, in every stage of fever, is most salutary and refreshing.

'Our next care was to stop the progress of the infection. With this view, the guard-house was first attempted to be purified by washing and ventilating, the greatest part of the furniture having been burned or thrown into the sea. All our precautions and exertions of this kind, however, were ineffectual; the weather was wet and extremely cold for the season; the men on the guard could not be prevailed upon to remain in the open air; and from passing the night in the infected guard-room, several of the privates took the infection. In several

of these the fever ran its course, and in others it was immediately arrested by the affusion of sea-water. No means having proved effectual for the purification of the guard-room, it was shut up, and a temporary shed erected in its stead. Still the contagion proceeded. On the morning of the 13th the whole regiment was drawn up at my request, and the men examined in the ranks. Seventeen were found with the fever upon them. It was not difficult to distinguish them as they stood by their fellows; the countenance was languid; the whole appearance dejected, and the eyes had a dull-red suffusion. These men were carefully separated from the rest, and subjected to the cold affusion, always repeated once and sometimes twice a day. In fifteen of the number—seventeen—the contagion was extinguished; the two went through the regular disease.

'On the same day the commanding officer, at my request, issued an order for the whole of the remaining part of the regiment to bathe in the sea; and for some time they were regularly mustered and marched down at high water to plunge into the tide. These means were successful in arresting the epidemic. After the 13th of June no one was attacked. In all, fifty-eight had the disease, of which twenty-two went through the regular course of the fever; and in twenty-six, the disease seemed to be cut short by the cold affusion. Of the thirty-two, two died. Both of these were men whose constitutions were weakened by the climate of the West Indies; both of them had been bled in the early stages of the fever; and the one of them being in the twelfth, and the other in the fourteenth day of the disease when I first visited them, neither was subjected to the cold affusion.'

This fever is generally termed, in popular language, the nervous fever, and when particular symptoms appear, putrid fever. It is usually caused in situations where there is want of cleanliness, and more especially of ventilation; and when once cured, it is propagated by contagion. This is described by Dr Currie as the common fever of England. It had usually one exacerbation (augmentation), and one remission or abatement in the twenty-four hours. The exacerbation was usually in the afternoon, and the remission toward morning. According to Dr Currie, the safest and most advantageous time for the affusion of cold water is when the exacerbation is at its height, or immediately after the declination is begun; and this had almost always led him to adopt it from six to nine in the evening; but it is perfectly safe to use it at any time of the day, according to Dr Currie, '*when there is no sense of chilliness present; when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration.*' This rule respecting perspiration, as we shall hereafter see, relates only to that caused by two much exertion.

These rules are really so plain, that it is difficult to see in what way any one could be at a loss in knowing how to proceed, at least safely, in the affusion of cold water in typhus fever; and yet Dr Currie's method has been considered as being one which required a great amount of skill to determine when it should be used.

Dr Currie afterwards says in reference to this fever, when epidemic, 'that a great number of cases occurred in which the disease was suddenly cut short by the use of the cold affusion on the first and second day of the disease. The good results were so uniformly, so precisely similar to what had been related, that a detail of cases would be unnecessary.' He says, also, 'that when an epidemic is spreading, and the danger is known, patients will take the alarm, on the first attack, and the power as well as the utility of such a remedy as the cold affusion, in such situations of general danger, will be easily imagined. It cannot be employed too soon after the first attack, provided the original chill is over and the hot stage is firmly established.'

In cases in which the affusion was not employed till the third day of the fever, he had seen several instances of the same complete solution of the disease. He had even seen this take place when the remedy had been deferred till the fourth day. Some cases are given to show the effect on the third and fourth days. 'Jan. 17th, 1790, A. B., aged 19, a pupil of the Infirmary, caught the infection in attending the fever ward. When I saw him, in seventy-eight hours, the fourth day of the disease, he had all the usual symptoms—headache, thirst, furred tongue, pain in the back and loins, with great debility. Heat 101 degrees, pulse 112 in the minute. A bucketful of salt water was poured over him, as usual, at noon. His heat sunk to 99 degrees, and his pulse to 98. A profuse perspiration followed, with the cessation of all feverish symptoms. This intermission continued for several hours, during which he enjoyed some comfortable sleep, but at five in the afternoon was again seized with feverish rigors, followed by heat, thirst, and headache, as before. An hour afterward, the hot stage was established. Heat 100 degrees, pulse also 100. The same quantity of cold water was again thrown over him, with similar effects. His pulse fell immediately to 80 the minute, and became more full. The heat became natural. The following night he took twenty drops of laudanum, and slept well. On the 18th, the second day of treatment, at noon, the pulse was 96 and soft, skin moist, but a little above the natural heat; the tongue a little furred, and the head ached. He also complained of thirst. The same remedy was again applied. He was greatly refreshed by it. The pulse fell to 90, the skin became cool, the thirst went off, and all the feverish symptoms vanished. On the 19th, the third day of treatment, his pulse was 88, his heat natural, the thirst and headache gone, and appetite improving. The ablution was repeated for the last time, at six in the evening. On the 20th he was further improved. On the 21st had some debility. On the 22d was free from complaint. This patient, during his fever, took no medicine. The affusion was used four times.'

Another case we cite: 'Feb. 2d, 1792, S. C., a healthy man, forty-four years of age, about seventy-two hours after the attack, came under treatment. Pulse 100; heat 104 degrees; other symptoms as usual, but the pain in the head and back particularly severe. Two minutes after the affusion, pulse 90; heat 100 degrees. The patient felt great refreshment, and was entirely relieved of the

pain in the head and back. In the evening, however, the exacerbation of the fever was severe, and the headache returned with violence. He passed a restless night. At four in the morning the affusion was repeated by his request. At nine a gentle perspiration covered the surface of the body, the pulse 84, the tongue moist, the skin cool, and the pains of the head and back entirely gone. In the afternoon the fever returned, though in a less degree. The affusion was repeated the fourth time with the same happy effects; after which there was no return of the disease.

'Thus it appeared,' says Dr Currie, 'that the cold affusion, used on the third and fourth days of the fever, does not immediately produce a solution of the disease, but that it instantly abates it, and by a few repetitions brings it to a happy termination in two or three days.'

The above cases, so clearly and candidly stated, and by so able a writer, prove beyond a doubt that we can, in many instances at least, cut short typhus fever, and that by so simple a process as affusion. With such facts on record, we may well say, how is it possible that any well-informed medical man can doubt that fever may be not only modified, but actually cured? I am led also to remark that if a process so simple, when applied at the proper stage of the attack, is capable of cutting short a pestilential disease, what are we not to hope for when our medical rulers shall become wise and candid enough to allow of a fair trial of the whole force of hydropathic treatment in the fever wards of our hospitals? They know, every one of them, that we hydropaths, as they call us, would gladly work night and day in the public institutions of this kind, 'without money and without price,' till we could establish the merits of the new method.

In practising these ten years in this city, I have had numbers of opportunities of treating the different forms of typhus. I have adopted almost all conceivable ways according to the hydropathic method, and have been successful in almost every instance. In some cases we have been able to do what we would; in others, only what we could. Some are so afraid of water, we can do but little; and some have such poor conveniences and so little help, that we can adopt hardly more than a sort of *nursing* course, and poor enough at that, often among the poor of this great city. I have effected some admirable cures in typhus by tepid water alone, and not a great amount of that. In other cases we have used wet-packs, ablutions, shallow-baths, etc., etc., to the fullest extent, and with the best of success. The editor of Dr Good's 'Study of Medicine,' asserts, that he saw many cases of typhus fever in the Military Hospital at Canterbury, in England, treated entirely by sponging the body with cold water, and making the patient drink copiously of the same cheap article, and that the success of the plan was on the whole very satisfactory. This goes to show that the most 'heroic' treatment is not always absolutely necessary in this disease, although such treatment, when judiciously and skilfully managed, does the work in a much shorter time.

I make here a remark which I wish to be well remembered in regard to the

time it requires to cure typhus. Those especially who have not access to a hydropathic physician, and must depend upon their own resources, will be likely to become discouraged if they regard what they read in some of the books. In general we can get a patient out of typhus in the course of two weeks. In some cases we can do it much sooner, as Dr Currie also did. But be the time longer or shorter, we should not be discouraged. Experience proves that water is the best remedy for fever, as well as the most speedy in its effects.

Priessnitz gave directions for treating ship fever, which are the following:—

1. 'Envelop the patient in one or more heavy wet linen sheets, according to the heat and strength, the sheets not much wrung out, and to be frequently renewed, as often, at least, as they begin to grow dry. There must not be much covering over the sheets. In severe cases the patient should be kept in the wet-sheet the most of the time until the fever is broken up. As much fresh air as possible is to be admitted into the room. The sheet should always be doubled, and wet towels applied to such parts as the armpits, between the limbs, and wherever one part comes in contact with another.

2. 'The cold-bath is given three or four times in twenty-four hours, and even oftener, should there be much heat. If the patient is very weak, the water is used mild, but never higher than 77 degrees Fahr., and this should be diminished from time to time until it can be borne cold. The bath should, if possible, be administered to the patient in a reclining posture. At the same time the back of the head and neck should be bathed in water of the same temparature as the general bath, ending always with the water cold. The surface of the body should be rubbed constantly while the patient is being bathed, and the bath continued until the temperature of the armpits is the same as the rest of the surface.

3. 'As the patient becomes able to take nourishment, give cold milk, fruit, and farinaceous food in small quantities, always cold, and at intervals of the usual meals. Great care is necessary in the food. Water at all times to be drank according to the dictates of thirst.

4. 'Use the umschlag, or wet girdle, all the time when the patient is not in the wet-sheet.

5. 'Injections, or clysters of pure water, are to be given if the bowels do not act naturally without; the water cold, if the patient is not very weak, one pint at a time.

'The object of the whole treatment is to supply the body amply with coolness and moisture, in order to counteract the tendency of the disease to dry up and consume the natural juices.'

The above are the directions that Priessnitz gave for publication in English and American papers, with the hope that some good might thereby be done. The ship fever, so called, is neither more nor less than severe typhus fever. Were he called to such cases as have been treated a length of time already by other modes, his directions would of course be somewhat different. If a patient

has been all but killed with drugs, or if the disease has been allowed to go on until the strength is exhausted, and the patient has become delirious, then the treatment is modified. But even in such cases let the surface be sponged over with tepid water, as at 85 or 90 degrees Fahr., and see what relief will follow. Get permission of your doctor to do this; no one will object, only he will want a little vinegar or spirits and the like put with it; whereas the pure thing is the safest and best for the surface as well as the internal parts. Put also the great wet fomentation about the body, to act as a soothing poultice; this no physician will object to either. Have a mattress for the patient to lie upon—never a feather bed; and use the hair or straw pillow, instead of the heating, debilitating, and in every respect injurious feather pillow, which is in universal use. There is truth in the old maxim, 'Keep the head cool.' Instead of worrying and irritating the delicate internal organs with cathartics, administer daily, if need be, clysters of pure tepid water. I repeat, no well-informed physician will object to any of these things. Get thus what water-treatment you can. Nature and good nursing have cured many—drugs very few.

The advantages of fresh air in fevers is wonderful. I was told by the learned Dr M. Barry, of Edinburgh, that one summer, in that city, the hospitals were so filled that it became necessary to erect tents in the open air to accommodate patients having the ship fever; and it was found the mortality was much less in these airy, out-dour places than in the more comfortable hospitals. Could all fever patients be, from the first, kept perfectly clean, have constantly a full supply of cool, fresh air, pure soft water to drink as the thirst indicates, and be nourished in the most careful manner, how few would die with fever!

One of the most striking effects of water, and, I may add, of all the phenomena observable in nature, is the *revivifying* power of this remedy. Even when life has appeared to be extinct, in not a few cases has it been known to restore the individual. The benevolent Howard has given us facts on this point.

'I might mention,' says Howard in his writings, 'as an evidence of the advantages of the baths in prisons, that I have known instances where persons supposed to be dead of jail fever (typhus gravior, or malignant typhus fever), and brought out for burial, on being washed with cold water, have shown signs of life, and soon after recovered.'

Howard, when at the county jail in Hertfordshire, was told of a prisoner, who on being pumped upon in the yard when in a state of apparent death from the jail fever, recovered; and he declared afterward, that he had known other instances of the same kind.

Some four years ago an account was published in the papers of a singular case of resuscitation, by means of water, in the State of Wisconsin. The account was as follows: 'Captain Hood, a well-known citizen of Beetown, Dane County, had a little child taken sick, which, after much suffering, and with all the usual indications of the final struggle with death, received its parents' parting embrace in the presence of other friends. The glazed eyes of the little sufferer

were closed, and a bandage was applied to support the under jaw, as is customary. After a lapse of some twenty or thirty minutes, a woman in attendance, who was aiding in the ablution and laying out the corpse, commenced by sprinkling cold water in its face. Strange to tell, the child opened its eyes, began to recover, and is now in the enjoyment of full health.'

Another important effect of water *is its power of quelling delirium*, if this have not existed for too long a time. Multitudes of cases have occurred in which patients have stealthily gone into cold water, when the height of delirium was upon them, and have been quickly restored to their senses. Some amusing facts of this kind might be given, one of which I quote from Dr Baynard, who wrote one hundred and fifty years ago.

'A Turk (a servant to a gentleman) falling sick of a fever, some one of the tribe of treacle conners being called in, whether apothecary or physician I can't tell, but (according to custom), what between blister and bolus, they soon made him mad. A countryman of his that came to visit him, seeing him in the broiling condition, said nothing, but in the night-time, by some confederate help, got him down to the Thames' side, and soundly ducked him. The fellow came home sensible, and went to bed; and the next day he was perfectly well. This story was attested to by two or three gentlemen of undoubted integrity and worth; and I doubt it not, but believe it from the greater probability; for I'll hold ten to one on the Thames' side against treacle, snake-root, and all that hot regimen which inflame and exalts the blood, breaks its globules, and destroys the man.'

Dr Good, also, in alluding to the fact of the system being in a very torpid state in nervous fevers, and that consequently it is very little liable to be injured by cold applications, cites, from the Philosophical Transactions of 1768, the case of a patient at Lucca, given by Dr J. Benevuti, and which bears on this point. 'On the ninth and tenth day from the incursion of a malignant fever, he was thought to be in great danger. On the eleventh day he expressed a wish to go to sleep, and desired the attendants to withdraw. On their return he was found to have left the bed; and three days afterward was discovered in a hut in a vineyard, about two miles from the house, having just recovered his senses, and as much wondering how he came there, as those who had traced him out. It appeared, on further inquiry, that he had descended from his chamber by the window, in his shirt alone, and in a great perspiration, and had walked all the way in the snow, with which the ground was then covered, and had swallowed a large quantity of it to quench his thirst. Yet neither the cold air nor the cold beverage affected him otherwise than benefically. He continued well from this time.' Facts of this kind speak well, certainly, both for the efficacy and safety of water-treatment.

There are several other circumstances relating to the treatment of typhus fever, all of which are highly important in this place, and which will be briefly noticed.

In fevers, as well as in other severe inflammatory diseases, in which the patient is obliged to remain in the horizontal posture much or most of the time, the feet are certain to become more or less cold. The most salutary method of warming them is for an assistant to rub them with the dry hand till warm, or warm foot-baths in bed, by drawing the knees up and putting the feet in a small tub, covered with the bed-clothes. Wrapping them in warm flannel is also advisable; and so likewise a bottle of warm water or a warm brick, but not *hot*, as we so often read in the old-school books, and, I am sorry to add, sometimes in the new.

The custom of having *watchers* with the sick, as it is practised in the country, is often productive of evil. Two or three persons remaining during the night with the patient in the sick room serves to contaminate the air, and besides watchers are in the habit of keeping apartments by far too hot, if it is in the winter season. The patient should have the largest and most airy room that can be obtained; and it should be kept at a much lower temperature than would be agreeable to persons generally in health, and those whose duty it is to attend to the sick person should remain in another apartment most of the time, so as not to render the air foul about the bed.

In case the patient is not so weak as to render it impracticable to move him often, it will be of essential service to change his bed and body clothing four times in the twenty-four hours. It is not absolutely necessary that the articles be washed so often as this; they may be hung out in the open air, or put before a stove or fire to ventilate. But they should also be washed often, much more so than is generally practised. If the strictest cleanliness is observed in all these matters, it will not only contribute essentially to the patient's comfort, but will aid materially in his restoration to health.

It has been customary to recommend giving fever patients nourishment, not only several times during the day, but also during the night. This practice is often a mischievous one, hindering the patient as to his recovery, and causing, in some cases, a dangerous relapse. Those who recommend such a course do not seem to take into view the fact that for digestion to go on well and healthfully, even when one is not sick, the stomach must have time to do its work. We know that ordinarily from three to four hours is required for food to pass through the process of chymification, and that the stomach, in order to perform its functions properly, must have a period of rest after a portion of food has been digested. Now this rest is even more necessary in sickness than in health. The patient ought certainly not to have food oftener when he is sick than when he is well; and regularity in taking food is also of the utmost importance. Three times in the twenty-four hours is certainly often enough, and will in general be found the better rule.

In all severe cases of typhus, the period of convalescence requires much care and prudence on the part of the physician and attendants. True, in water-treatment there is nothing like that danger of relapse that there is in the old

mode; still 'prudence is always the better part of valour.' The mildest and blandest forms of nutriment only should be given, and the bowels should, as a general thing, be made to act daily by tepid injections, if these are necessary. The mere exercise of the bowels in this way is useful even if little or no fecal matter is made to pass them. The quantity of water used should depend upon the patient's strength. Cathartic medicines of all kinds should be most sedulously avoided, for it is admitted that they not unfrequently cause dangerous consequences under such circumstances. In fevers of this kind the bowels are often in an ulcerated condition. In such cases, harsh measures could scarcely fail of exercising a pernicious influence. The debilitating night-sweats which the convalescent fever patient is apt to be troubled with, are much more effectually combated by ablutions and spongings with cool or cold water than with the mineral acids, the tonics and bitters of various kinds that are by some recommended in these cases. Why, a good sponging of the surface with cold water is a hundred-fold more tonic to the skin, and consequently to the whole system, than any conceivable drug preparation administered internally can be. Besides, drug tonics soon wear out and become worse than useless debilitants, which water does not. If the patient can have his bed linen changed toward morning, or after he has slept some hours and become somewhat restless, it will be of great service to him, preventing the night-sweat and helping him to obtain sound and refreshing sleep, on which his recovery very much depends.

If the attack has been a severe one, the patient must exercise a good deal of patience in his recovery. Above all, he should not be carried away with the assertion that all fever patients may be cured in a single week! When everything is managed the best it can be, it may require even months for his full recovery. Especially if the bowels have been ulcerated will it require time for him to gain his full strength. He should all along exercise the greatest prudence and caution in everything, and allow of no unreasonable draught being made upon either his corporeal or mental powers; and if he will but fulfil the order of nature in all these things, it is for his encouragement to remember that if he gets well through his attack, and does no violence to his system, his health will in the end be benefited by the ordeal he has passed through.

We here insert the following letter from a humble farmer, who seems to have discovered a mode of treating fever somewhat similar to that of Dr Currie, and the unfailing result was quite in accordance with the great principle of cooling thoroughly with water in the most efficient and simple manner attainable in the circumstances; and whenever there is fever heat, or a recurrence to the hot stage, the rule, with the accessories of abundance of pure air and plain diet, or no diet, but plenty of pure cold water to drink, seems to embody the sum and substance of treatment in the first and following stages of it:—

'East Prairie, Mississippi Co., Mo., *Nov.* 30, 1850.

'Messrs Fowlers and Wells:

'I am a farmer, in my seventy-fifth year. I have taken your Journal since January last, and have taken Wilson & Co.'s little Dispatch for two or three years, and have always sent to him for any books he advertised on the Water-Cure, with the request that he would send me the best and plainest he could procure. I think I have seven or eight of them, but in none of your Journals, nor in them, do I see where fevers have been treated with the success that I have treated them with for more than thirty years, and I have never failed in a single case to make a perfect cure in a few minutes. Strange as this may seem, it is nevertheless a fact, and this is the reason why I trouble you with these lines. I have no interest in deceiving you or any other person; and as for having my name published in your Journal as a great Water-Cure doctor, I wish you not to publish this, but give it to some person of your acquaintance in whom you have confidence, who will give it a fair trial, or to several, and if it succeeds, as I know it will, publish the fact in any person's name you please except mine.

'I have treated all fevers, fever and ague, &c., alike. My plan is simply to bathe at the time the fever is the highest; if the fever has passed its highest point, and is going off, I let the patient alone until it returns. I know nothing of wet sheets, bandages, &c.; but when the fever returns, or gets as high as I think it will go, I put the patient in a hogshead that I keep for bathing. I have him go entirely under water, head and all, for three or four times, keeping his head under each time as long as he can conveniently hold his breath; then let him dabble in it up to the chin until the heat is reduced to the natural temperature, and the patient feels comfortable; then let him come out and wipe dry with towels, put his clothes on, walk about, lie down, or do as his inclination leads; eat what he will, drink what he pleases; as for rubbing, I do nothing of the kind. I pay no attention to the temperature of the water, the object being to bring the patient to the natural heat, and this can be done in fifteen or twenty minutes.

'When I have no convenience for bathing, and, in fact, sometimes, as a matter of preference, I pour water on the patient's head, instead of bathing; and, surprising as it may seem, this always has the same effect that bathing has, and I do not know that it takes longer to cool the body in this way than it does by bathing. I have the patient lie with the head over the edge or side of the bed, so that the water will not wet the bedding. I then get a bucket of the coldest water, place it under the head, and pour the water over the back of the head from one temple to the other, and patient lies with the face downward. I pour it on moderately, and at the height of the fever; I think it will have little effect if done at any other time. Pouring water on the head in this way will cool the whole body nearly or quite as soon as going all under water, as before directed. If the water is not poured on long enough at first, the fever will return in a few

minutes, but repeat the pouring then as at first. I have known the fever return twice before it was finally driven away.

'The next day after the treatment the patient is capable of attending to business as usual, and I do not recollect a case in which the patient had another attack the same season. There is one thing I cannot understand—how pouring water on the head should relieve the stomach of bile; but so it is; let the patient be ever so sick at the stomach, and incline to vomit ever so much, in two minutes after you begin to pour water on the head, the stomach is relieved, and there is no more of that trouble. As before stated, the cure is completed in a few minutes, and it is a permanent cure, and a cure that all persons can perform at home without any inconvenience. The shortest time I have seen noted in any of your books to cure the fever and ague is five days, and that with your wet sheet, etc.; I am sure this plan is a great deal easier, and much quicker; and again, these books give no directions when to commence the treatment, which I am certain is a material point. I am sure if my mode is not employed as directed, at the height of the fever, it will fail. As stated in the beginning, I am no doctor, neither did I make this discovery myself. I lived forty-two years on the Sciota bottom-lands, in Sciota county, Ohio, the most noted place for bilious complaints perhaps in the world. A physician who had attended my family, being about to move away, I asked him whom I should apply to after he was gone, in case of sickness. He then told me how to apply water in all cases of fever. I have now tried it more than thirty years, and have never failed.

'The effect the cold-bath had on me last spring, in the worst dysentery I ever experienced, which I learned from Dr Shew's Water-Cure for the cholera, no person would believe. I could name a great many cases of different kinds of bowel complaints, which have been successfully treated with Water-Cure; but it is a very smart undertaking for me to write a few lines, my hand is so unsteady, and I fear it will be a greater task still for you to read them. But I thought it was a duty I owed the community to make known my experience in the treatment of fevers with water, especially as there is a considerable stir at this time about the Water-Cure. But I have found that almost ninety-nine in a hundred have been opposed to the application of cold water in any case whatever. The few who have tried the cure as directed, have never failed to get well speedily; yet, even they would almost always, on the next attack, apply to a drug-doctor. In the cases of small children, I have induced their mothers to hold them in a bucket or tub of water, and wet their heads continually for five minutes. I have never known this fail to cure the chills and fever; let it be done also when the fever is at the highest,

'I am respectfully yours, etc.,

'Abraham Millar.'

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