

most common and most potent is impure water. On every occasion on which the disease has visited this country this connexion has been made more and more apparent. The large towns which suffered to such an alarming extent from the earlier visitations, escaped almost entirely when last the disease existed in this country. The visitation of 1866 consisted of a series of limited outbreaks in country villages and suburban districts. The explanation of this is simple. Our large towns, instead of drawing their water-supply from streams polluted by sewage, as they did during the earlier visitations of cholera, now have the water brought from sources free from the possibility of all such contamination. In addition to this, their drainage has been immensely improved.

The sanitary authorities of our towns are now so thoroughly alive to the importance of possessing a good water-supply and efficient system of drainage, and have probably been so stimulated by the excellent precautionary recommendations recently issued by the medical officer of the Privy Council, that I think we may indulge the hope that our towns are likely to escape the disease in 1871, as they did in 1866. Our chief anxiety should be for the rural and suburban districts, where there is no sanitary board or officer of health, where manure heaps are common, where the drainage is on the surface, and where the water is chiefly got from wells, probably in close proximity to a manure heap or surface drain, and, if so, sure to be contaminated by impurities whose presence renders those who use the water more liable to be attacked by cholera. It was in such localities that the disease appeared in 1866; it is such localities that are now in danger. How can the danger be guarded against? It is vain to expect that every cottar and labourer should have the water which he drinks analysed, and yet analysis is the only means by which such impurities can be detected, for it cannot be too generally known that water may be odourless, colourless, tasteless, and pleasant to drink, and yet be contaminated by sewage or other decomposing organic matter.

There is one means by which, it seems to me, the threatened localities may be to some extent known, and the danger to them in some degree averted. We know that the conditions, or local sanitary defects, which favour the production of cholera are also those which tend to produce enteric or typhoid fever. The latter disease we have always among us. Let every house in which it has appeared, and every village in which it occurs, look well to their drainage and water-supply, for the same circumstances which rendered them liable to enteric fever lay them open to the attacks of cholera. Should this disease visit our towns, it may safely be predicted that it will most prevail in, possibly be entirely limited to, those in which enteric fever is endemic. This is a point on which many medical men can give wholesome warning and advice. Let the inhabitants of every house and locality in which enteric fever (or even diphtheria or malignant scarlatina) has occurred, be cautioned to see that the water which they drink is pure and wholesome*, and that their drains and waterclosets are in good order, and an important step will have been taken towards keeping from our doors one of the most fatal diseases with which we have to deal.

I am, Sir, your obedient servant,

Dundee, August 21st, 1871.

T. J. MACLAGAN, M.D.

DROWNING.

To the Editor of THE LANCET.

SIR,—On Aug. 11th I was hastily summoned to a case of drowning. I found a young man about nineteen years of age lying on his back on the beach, and men engaged in rubbing his limbs. The face was livid, and there was froth about the mouth and nostrils. The eyes were open, the conjunctiva congested, and pupils dilated and fixed. There was no pulse, no respiration, and no other signs of life. On percussion, both sides of the chest were dull, but less so in the subclavian regions. The patient was turned on his face, and a quantity of clear water and froth thereupon issued from the mouth and nostrils. He was then turned on his side,

* The mode of conducting a qualitative analysis of drinking water, given in Parkes's Practical Hygiene, is so simple that anyone may readily satisfy himself as to the purity or impurity of a given specimen.

and the Marshall Hall method continued steadily for three-quarters of an hour. Up to the last a little froth issued from the nostrils when pressure was applied to the spine in the prone position. From time to time I examined the chest, and found the upper (right) lung gradually clearing, until at last it gave forth quite a natural resonant sound on percussion, whereas the lower lung remained perfectly dull. After using the Marshall Hall method for ten minutes, by which time I thought most of the water had come from the upper lung, I had the upper arm (for the patient was kept on one side—the left—the whole time) raised up over the head in the manner described by Dr. Silvester, when more air entered the tubes, and more froth was expelled on compression of the thorax when the body was pronated. I could hear the râles in the chest during the artificial respiratory movements. The face became less livid, but this was the only apparent change which occurred during our efforts. The heat of the body was kept up to at least 90° by the heat of the sun. I had no galvanic apparatus at hand.

After careful inquiry there is no doubt that the patient had been under water for twenty minutes, for he was bathing half a mile from the town, and this distance had to be traversed, and a boat rowed to the spot, before assistance could be afforded. He was found near the bottom, face downwards, in a sort of stooping position, and rose readily to the surface when an oar was placed beneath the body.

This case, although unfortunately unsuccessful in its results, was most valuable as an experiment. Like others which I have seen, it affords proof that water *does* enter the chest; that before air can be introduced the water must be removed; and that for this purpose no method hitherto suggested can equal the Marshall Hall method, as it is both simple and sure to effect its object. Moreover, it proves that the application of the Marshall Hall method for no more than two to five minutes, as proposed by the committee of the Medico-Chirurgical Society, will not suffice to clear the lungs.

Stretching the pectoral muscles, by raising the shoulder, undoubtedly increases the inspiratory action; but in issuing rules to the public I think this is better omitted, as tending to confusion; whereas it is impossible for anyone to misunderstand the simple instructions of the Marshall Hall method.

The general press now almost daily records cases of death by drowning, in which, because the *appearance* of death is present, its reality is assumed, and no intelligent efforts in the way of resuscitation are made, although in many instances the bather has only been missed for a very few minutes.

I would suggest that the profession should press upon local authorities the urgent importance of having a good boatman at much frequented bathing-places, who should be well instructed (drilled from time to time) in the Marshall Hall method; so that, whilst the medical man on his arrival may adopt other means as he thinks proper, the most important step will already have been taken.

In the case now recorded, the boatman did nothing but convey the body along shore for half a mile in his boat, instead of at once going ashore and commencing the work of resuscitation.

I am, Sir, yours obediently,

Folkestone, August 28th, 1871.

ROBERT BOWLES.

THE GRIEVANCES OF A PUBLIC VACCINATOR.

To the Editor of THE LANCET.

SIR,—At this time, when so much is written and talked against vaccination, the following remarks will show how Government officials help to encourage us in our work.

Up to last year the vaccination of the whole of this district was most thoroughly done. I have from about seventy-five to ninety births in the year in my district and about thirty births in a workhouse I hold, altogether some 120 children to vaccinate. My rule was to vaccinate one morning in every week. Should no children be brought I took some lymph in tubes and waited until the following week, when, if no children were brought that day, I always knew where one or two were to be found, so I visited them.