

fever is frequently endemic when the temperature has been below the freezing point for several weeks, and the ground covered with ice and snow during that time, so that if malaria is the cause of the disease, it must have been latent in the persons attacked for some time.

Now it is a well known fact that malaria may remain latent and cause intermittent fever and other forms of malarial poisoning long after the individuals affected have been exposed to its influence; but there is no reason why such latent malaria should cause in a number of people, at about the same time, the most severe continued fever without manifesting any of its milder effects in other persons who have been living under the same conditions.

Most practitioners who have had much experience with continued fevers will agree that the so-called typho-malarial fever is difficult to separate from typhoid fever on the one hand, and malarial fever on the other. That its specific cause is probably similar to and exists under the same conditions as that of typhoid fever. Many will also concur in the opinion that typho-malarial is a term that is both inaccurate and misleading.

The following history will serve to illustrate the danger which may arise from the difficulty in separating malarial from non-malarial fevers. Waterworks were established in the Town of Sarnia in the year 1876. The supply pipe was placed in the River St. Clair, in close proximity to the outlet of a large sewer; but as the pipe extended for some distance into the channel, and the current was strong, it was not considered by those in charge of the work, that the water would be contaminated. It was noticed, however, that typhoid fever was more prevalent during the next two years than at any time before. In the spring of 1879, the supply pipe was broken by an ice jam; no attention was paid to the occurrence, and during the following summer, cases of continued fever became very numerous, many of them fatal. Unfortunately at the beginning of the outbreak the disease got the name of malarial fever. The water supply was, however, also accused of being the source of the trouble, and some samples of water, taken from the river and from hydrants in different parts of the town, were sent to Toronto for analysis. A report came back from Prof. Croft to the effect that the water was remarkably pure. This confirmed in their

opinion, those who believed that the fever was due to malaria. The water pipe was repaired and extended for a distance of a hundred and twenty feet into a channel forty-two feet deep, in which the current ran four miles an hour. The number of cases of fever did not diminish in the least, and there was no doubt that a large proportion of them were uncomplicated cases of enteric fever of a severe type. The water was again analysed more than once and declared perfectly pure. The disease continued for four years, there being constantly present in the town from four or five to forty or fifty cases. Notwithstanding the fact that competent chemists had pronounced the water pure, there were many reasons for believing that it contained the germs of fever, and the town authorities finally decided to close the sewer which emptied near the waterworks, and to direct the sewage to a point some distance further down the river. This was done and the town at once became free from continued fevers, and the disease has very seldom occurred in the place since.

Concerning malarial continued fever, it may be said to have two characteristics which distinguish it from all other forms of continued fever. 1st. It almost invariably yields to sufficient doses of good quinine. 2nd. When a person has once been attacked by this disease he is very liable to subsequent attacks, the reverse being the case in typhoid and typho-malarial fevers.

THE EXTERNAL APPLICATION OF SULPHIDE OF CALCIUM IN SMALLPOX.

BY J. A. M'ARTHUR, M.D., C.M., WINNIPEG, MAN.

Several years ago, Surgeon-Major C. J. Peters, of the British army of India, experimented with sulphide of calcium as an external application in smallpox, and although the cases were few in number, six, I believe, yet such were the favorable results in each and every case, that he was induced to give an account of the treatment adopted. So favorably impressed was I with the success of the treatment, that I resolved to employ it, the first opportunity that occurred.

On the 10th day of April last, I was instructed by the Provincial Government to proceed to the town of Emerson and take charge of a case of smallpox that had recently broken out in that place.