

PREVENTION OF TYPHOID FEVER.

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You all, no doubt, remember the terrible scourge of typhoid fever that visited Plymouth, Pa., only a few years ago, during which 1,104 persons were stricken down with this foul disease, of whom 114 died, while the actual cost of that epidemic was carefully estimated at \$97,120.25, all in hard cash, saying nothing of the loss to that village from 114 deaths, whose yearly income, when in health, amounted to \$18,419.52, to all of which is yet to be added the sorrow and suffering that cannot be measured in dollars and cents.

An investigation into the cause of this greatest of modern local epidemics by so eminent an authority as Dr. Benjamin Lee, Secretary of the State Board of Health of Pennsylvania, showed that in a house on Girard Avenue, in Philadelphia, a blacksmith was taken down with typhoid fever in September, 1883. After a few days, however, he was removed to the Episcopal Hospital, from which he was discharged on the 13th of the following October.

In the following May or June, 1884, a street car conductor, who was boarding at the same house on Girard Avenue, was taken down with the fever, and also taken to the hospital for care and treatment.

In the following July, a huckster, boarding at the same house, was attacked with typhoid fever and sent to the same hospital.

Here were three cases, all boarding at the same house, and all taken down with typhoid fever, the attacks ranging over a period of about eleven months.

A CASE OF AERIAL INFECTION.

Dr Lee tells us that from all the information he could gather by personal inspection and diligent inquiry of neighboring physicians and other observant citizens, he had not the slightest doubt that, while there were numerous and glaring unsanitary conditions in the vicinity, the real cause of the cases of typhoid fever occurring in this ill-fated house on Girard Avenue was to be found in the grossly defective cesspool, with its foul exhalations, completely shut in from lateral air currents, and pouring through open doors and windows into the kitchen and dining room, to be inspired by the inmates, or, worse still, to be absorbed by the food in course of preparation for the table, and thus brought in contact with the alimentary mucous membrane. "It is proper to state in conclusion," he adds, "that the dangerous character of this particular cesspool cannot be abated or removed by any amount of cleansing or emptying, however frequently performed. Its complete abolition alone can bring safety to the household."

THE COURSE OF THE CONTAGION.

"Into this house, with its history of fever and its foul environment, late in December, 1884, came David Jones, fresh from his mountain home, overlooking the vale of Wyoming, to visit his city brother and spend his Christmas holidays. Forth from this house, early in January, 1885, again he went, but went not as he came. A poisoned blood now coursed through his veins, and shortly after returning to his home he was prostrated with what his physician soon pronounced typhoid fever, and lay on his back for many weeks in his cottage on the banks of a little stream which supplies the reservoir of the town at the foot of the mountain.

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"This little town at the foot of the mountain was Plymouth, a mining town of some 8,000 or 9,000 inhabitants, situated on the right bank of the Susquehanna River, three miles below Wilkesbarre. As a large part of the town is upon a side hill, the surface water readily finds its way into the Susquehanna.

"No system of sewers and no effect at systematic drainage have ever been introduced, and the borough council seem singularly apathetic in the matter of sanitary reform. The drainage from each house is into cesspools situated in the back yard, or, in some cases, it is even into the streets themselves, which, in parts of the town, have not a proper arrangement of gutters for disposal of this drainage.

"It was found, on further investigation, that the house in which the young man lay with typhoid fever he had contracted at his brother's house in Philadelphia was situated so near the stream supplying the water reservoir at Plymouth that, as soon as the weather permitted a sufficient thaw to allow the frozen accumulations of weeks of defecation from this one case to reach this stream, only a few yards distant, with the conformation of the ground favoring its course to this water supply, a local epidemic of such magnitude ensued during the following April and May of 1885, and continued until the following September, that it is scarcely paralleled in modern history, and at the same time making this 'one of the most instructive as well as one of the most terrible instances which ignorance and negligence have contributed to the records of disease.'"

THE FEVER FOLLOWS DRY SEASONS.

Professor Vaughan, in speaking of the Iron Mountain epidemic, to which I have already referred in this paper, says: "It is well known that typhoid fever follows dry seasons, and is coincident with low water in wells. They are, on an average, 1,000 deaths and 10,000 cases of sickness from this disease annually in Michigan. These figures can be greatly reduced if people will cease polluting the soil about their houses with slops, garbage, cesspools, and privy vaults, and will see that their drinking water is pure beyond all question. When there is any doubt, the water should be boiled and kept uncontaminated afterward. While the germ most frequently finds its way into the body with the drinking water, it may be taken in with any food, and even with the air. The earth, air, and water about our homes must be pure, if we escape this disease altogether. When cases of typhoid fever occur, all discharges should be thoroughly disinfected."

THE EFFECT OF PURE WATER IN MANSFIELD.

Since Mansfield has practically ceased the use of water from wells throughout our city and adopted the use of water supplied by the powerful artesian wells drilled just north of our city, and which have been given the flowery title of "wonderful artificial geysers," a chemical analysis of which was made by Professor C. C. Howard, of Columbus, and showed the water to be unusually pure (and more recently pronounced by the Professor, in a private letter to the writer the purest water that he has examined for any city in the State of Ohio), the prevalence of typhoid fever in our city has greatly diminished; only one death from this disease having been reported during the summer and fall, and but a few cases having occurred in the city and they were all in persons who used well water, which is all more or less contaminated with organic filth throughout the principal part of our city, which certainly demonstrates to any unbiased mind that typhoid fever is a preventable disease, and can be prevented by the use of pure water.

SIX FACTS TO BEAR IN MIND.

Before closing this paper, allow me to call your special attention to a few facts: