

years do not belong to them as much as to the grain.

Underneath the Hempstead Plains there is a plateau of water that filters in from the ocean. Before Garden City was purchased by Mr. Stewart, John Kellum, who was a patient of mine, had the geological surveys made. In Mr. Kellum's house there was a tank built that held 10,000 gallons of water. Windmills pumped the water up, and pipes delivered it over a hundred acres, and still it was impossible to take all the water from that well. All of the Hempstead Plains and all the land through there is sandy soil. The germs of typhoid fever from bodies that are buried in that neighborhood can easily filter through the ground and be carried so as to permeate our water. Only a short while ago, at Ridgewood, we have been protected by the authorities, from having our water contaminated by a Hebrew burial ground. Their present burial ground was not large enough, and they wanted to acquire another hundred acres of land. This would bring it up to our pumping stations.

I take leave to trespass upon the time of the Society by reading one case where typhoid fever germs were carried thirteen miles, where it percolated through oolitic stone. That this filtered through and was not an underground stream was shown from the fact that salt was put in, and the next day the salt passed through, so that the water was contaminated with the salt, and after the salt ran through clear; a day or two afterwards, flour was put there and it did not go through, and with it, iodine, which is a test of starch, failed to reveal any of it. The case is a little long, but it covers the question so thoroughly that I beg the pardon of the Society while I read it.

"The record of the outbreak at Lausen, in the Canton Baselland, in 1872, is of great value as illustrating this and other facts in the pathogenesis of enteric fever. From the time of the passage of the allies armies, in 1814, Lausen had suffered on epidemic of typhoid fever. Isolated cases had never spread the infection. During the seven years preceding 1872 not a single case of typhoid fever had occurred.

"This village is situated on the Jura, in the valley of the Egolz, and consists of one hundred and three houses, with eight hundred and nineteen inhabitants; it was remarkably healthy, and resorted to on that account as a place of summer residence. With the exception of six houses, it is supplied with water by a spring with two heads, which rises above the village at the southern foot of a mountain called the Stockhalder composed of oolite. The water is received into a well-built covered reservoir, and is distributed by wooden pipes to four public fountains, whence it is drawn by the inhabitants. Six houses had an independent supply—five from wells, one from the milldam of a paper factory.

"On August 7, 1872, ten inhabitants of Lausen, living in different houses, were seized by typhoid fever, and during the next nine days fifty-seven other cases occurred, the only houses escaping being those six which were not supplied by the public fountains. The disease continued to spread, and in all one hundred and thirty persons were attacked, and several children who had been sent to Lausen for the benefit of the fresh air fell ill after their return home.

"A careful investigation was made into the cause of this epidemic, and a complete explanation was given.

"Separated from the valley of the Egolz, in which Lausen lies, by the Stockhalder, the mountain at the foot of which the spring supplying Lausen rises, is a side valley called the Furlenthal, traversed by a stream, the Furlenbach, which joins the Egolz just below Lausen, the Stockhalder occupying the fork of the valleys. The Furlenthal contained six farm houses, which were supplied with drinking water, not from the Furlenbach, but by a spring rising on the opposite side of the valley to the Stockhalder.

"Now, there was reason to believe that, under certain circumstances, water from the Furlenbach found its way under the Stockhalder into one of the heads of the fountains supplying Lausen. It was noticed that when the meadows on one side of the Furlenthal were irrigated, which was done periodically, the flow of water in the Lausen spring was increased,