germs. The stools of two of the patients were then examined, and the same germ found so abundantly in the water was recognized in the stools. Of course, I cannot say that this germ was the cause of the disease. Fortunately, all of these cases finally recovered, and there was no opportunity to examine their spleens. I cannot refrain from mentioning a few facts concerning the symptoms. Delirium was a marked and persistent feature; it was not the low muttering delirium, but wild, causing the patients to attempt to get out of bed. The fever ran forty-two days. There was no eruption over the abdomen.

A sample of water from Wyandotte, Mich., illustrates how a source of infection may continue to spread the disease through months. Dr. E. P. Christian reports eleven cases occurring among those who used the milk furnished by one man. The first case occurred July 13th and the last Nov. 15th. Dr. Christian sent me some of the water from the well of this milkman, also some of the milk. The water was a pure culture of bacillus A, which with three other germs appeared on the plates made from the milk; while from the organs of the animals inoculated with the milk, bacillus A in pure culture was obtained.

Bacillus A, as obtained from water, differs from Eberth's germ in the following particulars:

(1) It is somewhat shorter and thicker than the Eberth germ which I obtained in the hygienic institute of Berlin. In the majority of the samples the length is about twice the breadth.

(2) The readiness with which the ordinary stains (as Bismarck brown) are taken is very variable; the germs from some of the waters taking the stains readily, while others are not so deeply stained as the Eberth germ.

(3) It is stained by Gram's method.

(4) It forms a plainly visible, white, raised, moist growth on potatoes.

(5) The colonies on the gelatine plates are very uniform, quite generally spherical, and never spreading over the surface.

(6) It grows on gelatine plates more rapidly than Eberth's germ.

(7) Its toxicogenic properties are greater than those of the Eberth germ.

I have studied the effect of heat on this germ in the following manner: A man, while drunk, fell down stairs and fractured his skull, from which injury he died in about three hours. The spleen was removed with aseptic precautions. With sterilized knives it was cut into pieces, which were placed in sterilized Esmarch dishes. Three pieces were inoculated with bacillus A from as many different sources, two with bacillus B, and one piece was left without inoculation. The dishes with their contents were placed in an incubator and kept at from 39° to 40°. Plate cultures were made from these pieces from time to time, and the germs thus obtained were compared with the bacilli as obtained from the water, and with Eberth's germ. The plates from the uninoculated piece of spleen have invariably remained sterile, showing that the organ contained no germs. As these cultures were made from time to time, the above mentioned peculiarities of growth, by which bacillus A had been so easily distinguished from Eberth's germ, were found to become less and less prominent, and finally they have so far disappeared that they can no longer serve for purposes of distinction between the organisms. After only seven days bacillus A has been so altered that its growth on potato can no longer be distinguished from that of the Eberth germ, with which the comparison was made. Bacillus A becomes less and less receptive to the ordinary stains, and I will show you slides made from the spleen after fourteen and sixteen days which have not taken any of the aniline stains, not even the carbolic fuchsin, as deeply as the Eberth germ. This is true even after the altered bacillus A has been exposed to the stain for seventy-two hours, while the Eberth germ was exposed less than five minutes to the same stain. Gram's method ceases to produce positive results. The length of the germ increases in proportion to its breadth, and in some cases long filaments have appeared. I have been much impressed in carrying on this work with the longer time necessary for colonies to develop on plates after heating the germ. It is generally stated, and I had always, before making these experiments, believed, that pathogenic germs develop more tardily than the ordinary saprophytic ones; but the longer this germ is kept at a fever temperature, and the higher that temperature is, the more tardily do the colonies appear on the gelatine plates. In short, I have been forced to the conclusion that the so-called