if you were to bring the epidemic of diphtheria or of scarlet fever or measles among those susceptible, you would at once find that large numbers of comparatively healthy, well-fed children would suffer as well as the others. The facts in regard to the hospital, and the facts as to the feeding of the infants outside the hospital, point very strongly to the one cause of the disease—that is that the babies are poisoned by the administration of food which is poisonous in its character.

Another leading feature in the incidence of the disease is also calculated to mislead those who have not the opportunities of very carefully watching and observing the facts. The fact that it arises in the summer, and that there is suddenly a cry that the babies are dying with epidemic diarrhœa, or with the diarrhœa or vomiting which is so well known in all the London hospitals—those facts incline us to look upon it as a disease characterised by its suddenness of attack and its intensity of onset. It is not a sudden disease; it does not arise spontaneously or very quickly. It is, generally speaking, the result, the final result, of gastric and intestinal disorder. The fatal attack is the final expression of pathological processes which have been going on for some weeks, very often for months, past.

A Filth Disease.

What is the disease? It is a filth disease, arising from the consumption of filth, and the fact that very large numbers of babies are attacked is only to be explained by the fact that very large numbers of babies are consuming filth. By filth I mean, for example, the ordinary milk supply of London. We must realise the meaning of the condition of milk as it affects the infant at the present time.

The state of affairs at the average farm where milch cows are kept is exceptionally filthy. The cowhouse is dirty, and in a great majority of cases insanitary in the extreme. Everything is permeated with cowdung; the cows are covered with filth; the floor on which they stand is covered with an oozing mass of excreta. The diet of the cows is characterised by the exclusion of wholesome food, and by the substitution for it of brewers' grains, oil cake, and other products, having a definitely prejudicial effect on the milk.

In November, 1903, Dr. George Newman, Medical Officer of Health for Finsbury, published a report on the milk supply of that borough. He found 90 per cent. of the milk had been brought from country farms. As a rule, the cowsheds were ill-lit, overcrowded, and badly drained. Of the milk shops, 52 per cent. were found to have sanitary defects, and 73 per cent. of the vendors failed to keep the milk covered. The average number of bacteria in uncovered vessels was 2,370,000 per cubic centimetre. Pus and dirt were found in a large number of cases. Dr. Eastes examined 186 samples of milk from all parts of the kingdom. Pus, or muco-pus, was found in 134 samples, blood in 24 samples. According to the results of the examination, 80 per cent. of the milks were unfit for human consumption.

Milk is the finest medium for the development of bacteria, the result being that the development of bacteria in milk when not properly dealt with is enormous. Let me remind you of the rate of development of a single germ in milk. At 44 degrees Fahr, the development of a single germ is as follows:—in two hours, 4; in three hours, 6; in four hours, 8; in five hours, 26; and in six hours, 435. That is at a temperature of 44 degrees F. Now, let us take it at the temperature at which it comes from the cow—between 97 degrees and 100 degrees F. The rate of development is:—in two hours, 23; in three hours, 60; in four hours, 215; in five hours, 1,830; and in six hours it is 3,800.

If you take milk and expose it at a temperature of 70 degrees for 15 hours, the bacteria that have developed number seventy-two millions per cubic centimetre. That factor of the development of bacteria in milk is, of course, of the utmost importance in regard to the purity of milk, because it is not only the question of the bacteria that are in the milk doing the injury, but you must understand that the development of such bacteria entails the injury of the milk by the production of toxins due to the vital processes of the bacteria. Once milk has been affected by the growth of bacteria, it is quite impossible that it can be of any good, and it must be a poison. Another important point is that sterilisation will do little, if any, good. The toxins present in the milk as a result of such a development are there, whether you boil the milk or whether you do or not, and all you do by sterilising it is to give the baby dead bacteria instead of living bacteria. In the circumstances, it is better if you are compelled to administer such milk to an infant, to boil it, but it is more useful to put it into the drain, for which it is only suitable. We must all realise that sterilisation, however carefully conducted, can never make dirty milk into clean milk. The essential thing is really pure milk.

(To be concluded.)

previous page next page