

milk. "On making gelatine-peptone cultures, one drop of the original milk yielded 400 colonies of bacteria after five days' culture at common temperatures, while the same milk rendered very feebly alkaline with lime yielded 250 colonies. Another sample yielded, per drop, 43 colonies after four days and 3,500 colonies after six days. This milk alkalized by lime gave 14 colonies in the four days and 211 colonies in the six days. After heating for ten minutes in sterilizing flasks at 100°C ., both the original and the alkaline milk were practically sterile, developing from 1 to 4 colonies per drop after four days culture. Raw milk, after heating to 68°C . for an hour, proving to be practically sterile (1 to 2 colonies per drop), the experiment was tried at keeping the temperature at 68°C . for six minutes, when the same result was obtained. On cooling and diffusing the cream which the heating had brought to the surface, the appearance and properties of the milk heated to this temperature in no wise noticeably differed from raw milk."

A difficulty arises in securing the proper amount of heat, if we are to have this degree of sterilization carried on in the household. At my suggestion, Mr. Dyer has made a series of experiments with milk contained in glass flasks and heated in an Arnold sterilizer. Having, at the outset, the water in the sterilizer and the milk in the flasks at ordinary temperatures, placing the sterilizer over a brisk Bunsen gas-burner, it took about twelve minutes for the milk in the flask to reach the temperature of 155° . If, now, the gas be turned out, and the cover of the sterilizer be placed slightly ajar, and the milk left in for another five minutes and then removed to a cool place, all the sterilization necessary will have been effected, and none of the deleterious changes will have taken place.

In feeble infants, when the digestive powers are very weak, Dr. Leeds recommends the combination of peptonization with sterilization, the temperature never being allowed to exceed 68°C . Once the temperature rises over 75°C . changes occur which interfere with the digestibility of even the peptonized milk.

In some families even sterilization as directed above, cannot be obtained, either from ignorance or poverty, and in such cases