

There is much difference of opinion among bacteriologists concerning the identification of typhoid bacilli in the intestinal contents. The very close resemblance to the colon bacillus is the great difficulty. As bearing directly on this question, I quote the following from the recent Croonian lectures by Prof. Sidney Martin.¹³ "It has been said that inasmuch as the bacillus is not constantly found in the motions and is found in the urine, that there are not many bacilli in the intestine. There is nothing whatever in this argument. We can readily see that the bacillus might not be discharged in the fæces in sufficient numbers to be easily found. Moreover, if there is a great increase in the number of bacillus coli in the intestinal tract, not only is there great difficulty in finding the typhoid bacillus in the presence of large numbers of this micro-organism, but the more vigorous bacillus coli might actually beat out of the field the less vigorous typhoid bacillus."

One must also not lose sight of the fact that much of the toxæmia is, as I have before argued,¹⁴ in all probability due to the products of associated bacilli and to decomposition in the intestine.

In the case of the bacillus coli the probability is exceedingly strong that it plays a very considerable part in the production of the symptoms seen in typhoid. In a former paper I drew attention to the fact that the damaged intestinal wall opened the way for the migration of the colon bacillus from the intestine.¹⁵

The recent experiment of Sydney Martin¹⁶ would seem to have definitely settled the point. He extracted colon bacilli from the spleen of a patient with typhoid fever, and found that their virulence was much increased over that of colon bacilli from the normal intestine. He assumes, also, that the colon bacillus had been carried from the intestinal canal.

We have in this experiment an actual demonstration of the correctness of the view held by many that the bacillus coli becomes increased in virulence when associated with the typhoid bacillus. It is also confirmatory of the belief that the injury done to the intestinal wall by the specific bacillus opens the way for the colon bacilli. These facts being borne in mind, it is surely not difficult to appreciate the advantage of keeping the intestine as free as possible from bacilli of all kinds, even if one were to grant, in spite of evidence to the contrary, that the typhoid bacilli do not multiply and produce their poison to any extent in the intestinal contents themselves.

I believe, too, that in preventing decomposition and bacterial accumulation in the intestines, the liability to those bacterial invasions of the weakened body in the late stage of the disease, commonly spoken of as "terminal infections," is greatly lessened. Undoubtedly the invading bacilli in the vast majority of these cases come from the intestine.

The constant effort to facilitate elimination and keep the toxæmia at the lowest point throughout the disease of course con-