

ENTERIC FEVER—IS IT INVARIABLY A WATER-BORNE DISEASE?

BY SURGEON-GENERAL RICHARD H. QUILL.
Army Medical Staff.

IN my article under the above heading which appeared in the September (1906) number of our Journal, I hoped I had shown good reason for the belief that no reasonable connection could be traced between the water supply and the epidemic of enteric fever which, in 1900, broke out among the Boer prisoners of war incarcerated at Diyatalawa Camp, Ceylon. In so far as Major Norman Faichnie is concerned, my hope, I regret to say, has not been realised. That officer, in his article published in the March number of our Journal for 1907, still hugs the opinion that an impure water supply was responsible for the epidemic referred to. Major Faichnie is so confirmed a "water bigot," that I feel any further attempt to convert him to my belief of the origin of the "Diyatalawa epidemic" would be fruitless. I propose, therefore, here to do little more than correct some cardinal errors which I find in his recent contribution to the subject at issue.

On the faith of certain information collected from Ceylon correspondents, Major Faichnie throws considerable doubt on the accuracy of statements made in my previous article on the source of the water supply for Diyatalawa Camp. I can only adhere to my original statement, and in its support quote as follows from the "Medical Report on the Prisoners of War in Ceylon, for the year ending August 10th, 1901," addressed to the Colonial Secretary, Ceylon, by Sir Allan Perry, the Principal Civil Medical Officer.

"Water Supply of Diyatalawa Camp.—The water supply of the camp was derived from two sources on the adjoining mountain range, viz., the springs of Roehampton and Kahagala. The Kahagala source furnished all the water for the camp *for a brief period*, the Roehampton supply, a little later, was used concurrently with the Kahagala supply *until October 26th, 1900*, on which date the Kahagala supply *was held in reserve*, and the Roehampton Spring *exclusively used*, an arrangement which has continued up to date, *i.e.*, August 10th, 1901."

I draw special attention to some points in connection with the foregoing official statement.

Major Faichnie, as the result of his Ceylon enquiries, lays great

stress on his belief "that an impure water supplied the Diyatalawa Camp for most of the time the Boer prisoners of war were in occupation, and that the epidemic of enteric fever which occurred among them was the direct consequence of that impure water supply." Now what are the facts?

Assuming for the moment that the Kahagala source (the mis-named Hapartall source in Major Faichnie's article) was impure, such impurity could not have been responsible for the intensity and prolongation of the enteric fever epidemic which attacked the Diyatalawa Camp. Why? *Because the assumed impure supply was cut off on October 26th, 1900, i.e., at the very commencement of the epidemic, when only a few sporadic cases of fever were arresting attention. It was during November and December, 1900, that the epidemic was at its height, but during those and subsequent months the only water supplied to the camp came from the Roehampton Spring, an accepted pure source, and the one which at present supplies Diyatalawa Camp with drinking water. This statement of fact hardly fits in with Major Faichnie's belief: "that the great primary factor for the cessation of the epidemic under reference was the cutting off of a supply of impure water."* Unfortunately for such a belief, I have, I think, conclusively shown *that the assumed impure supply was cut off before the epidemic had commenced, and that an admitted pure water supply was in use while the epidemic was at its height.* Further, as a matter of fact, the Kahagala source, so far as my recollection goes, was not cut off on account of a suspected impurity, but simply because it was not required, the Roehampton supply being in itself sufficient. I need only mention the fact that the Kahagala source was held as a "reserve supply" to disprove the view that any suspicion of its impurity was entertained. Before I leave this "Kahagala source," the alleged impurity of which is the "hole in my armour" which Major Faichnie believes he has found, I should like to say that the water from that source did not pass through the iron pipes which conveyed to camp the Roehampton supply. I mention this to prevent the surmise that the pipes conveying the pure Roehampton supply were, in the first instance, fouled by the alleged impure Kahagala supply.

As to the Roehampton source which supplied the camp with water from October 26th, 1900, up to date, I do not gather from Major Faichnie's article that he impeaches that source as impure. The dangers, if any, which threatened that supply during the period the Boer prisoners of war occupied the Diyatalawa Camp exist

still, yet we do not find that enteric fever in epidemic form has re-appeared. Indeed, it is not conceivable that the sanitary authorities at Diyatalawa would permit the use of a water of suspicious purity, therefore I feel justified in assuming that the Roehampton supply satisfies Major Faichnie.

With regard to the proximity of tea estates to a water supply; undoubtedly such proximity is undesirable, but before excretal impurities on an estate can be convicted, during the rainy season, of starting an epidemic of enteric fever by fouling a neighbouring water supply, we must prove that the fouling material contains the contagium of enteric fever. In that connection it is to be recorded that the Principal Civil Medical Officer of Ceylon (I quote from his official report) did not neglect to make careful enquiry as to the existence of enteric fever in the villages and tea estates in the neighbourhood of the Diyatalawa Camp. No fever approaching the enteric type was found to exist among the estate coolies; and further, it is well known that enteric fever rarely if ever attacks the Malabar coolies who form the bulk of a tea estate population. The foregoing investigation is a further check to the theory of Major Faichnie.

I do not think I need make any further observations in refutation of the doubt which Major Faichnie has seen fit to throw on the belief of those who had to fight a formidable epidemic of enteric fever, and who spent many laborious hours in investigating its origin, and in rebutting its presence. Inasmuch as the brunt of the epidemic fell upon the Boer prisoners of war, the main portion of the work in connection with that epidemic fell upon Sir Allan Perry, Principal Civil Medical Officer in Ceylon, and his very able Assistant, Dr. Garvin, of the Ceylon Medical Service, who was in medical charge of the prisoners' camp; should this article come to be read by either of those gentlemen I hope they will join with me in repudiating the views of a critic so intoxicated with the water-borne origin of enteric fever that he can admit no other possible existing cause.
