the education of feeble-minded and infirm children, and to the physical training system, mainly on military lines, which was so thoroughly carried out in Swiss schools.

THE EPIDEMIC OF BERI-BERI IN THE BOER CAMP AT ST. HELENA.

IN reference to Dr. Patrick Manson's paper on the prophylaxis and treatment of beri-beri, being the opening contribution to the discussion on beri-beri in the Section of Tropical Diseases at the Manchester meeting,[1] Dr. W. A. Wheeler, Civil Surgeon in Charge of the Boer Camp in St. Helena, has described his experiences of the epidemic of this disease which occurred among the Boers there. The facts, as he believes, fully agree with Dr. Manson's theory as to the production of the disease by place infection.

At first only a few isolated cases of beri-beri occurred in the camp at Dead Wood Plain, but at the time of his arrival there in May, 1902, the disease had become epidemic, and a new isolation camp was established, of which he had command, and in which he had on an average 75 cases to treat.

In regard to etiology, Dr. Wheeler believes that all the causes ordinarily ascribed might be eliminated. As far as alcoholism was concerned the Boers were well known to be a temperate race, and as prisoners of war they had no possible means of obtaining alcoholic drinks, and every man returning to camp after leave of absence was strictly searched. Rice was at no time issued as part of the rations. Arsenic was carefully tested for in the drinking water with a negative result, and if any had been present in tinned foods the home troops would have suffered equally, as the rations for soldiers and Boers were identical. Malaria was ordinarily unknown in St. Helena, and although it was common in some parts of South Africa, yet careful questioning of each patient in no case elicited a history of this disease.

On the other hand, the conditions existing among the Boers would lend great countenance to the theory of place infection, resulting in the development of a toxin outside the body. The Boers had been confined to one camp of 3,000 men for over two years. The greatest care was taken as regards drainage, latrines, removal of night soil, etc.; but, even so, the ground could not possibly have escaped being fouled during this long time. Again, the large majority of those attacked were old men (50 to 70), men who in their own country had been accustomed to a free active life, but who now, as prisoners, moped, took no exercise, ate and slept too much, and stayed mostly day and night in small huts with every aperture closed. They never washed their bodies and never changed their clothes. Conditions such as these, in conjunction with fouled ground, would naturally bring about a state of affairs favourable to the production of a toxin. The mosquito could be eliminated in this case, for the camp was at an elevation of 2,000 ft., and a strong sea breeze was constantly blowing. Dr. Wheeler had never seen a mosquito there, but vermin of other kinds were there in plenty.

The theory of place infection was also strongly borne out by the fact that, on moving the invalids to a site hitherto unoccupied, a most rapid and marvellous improvement took place. The earlier cases had been sent to Jamestown Station Hospital (at sea level), and a fair number of these died; but, after the establishment of the isolation camp at Dead Wood Plain, there was not a single death; every man recovered completely, some in a week or so, others more slowly.

The treatment consisted solely in this change of location and in giving extra diet—1 tin of milk, 2 oz. of oatmeal, and 3 oz. of whisky to each man.

As regards the ordinary diet, it was at no time deficient, and was identical with that of the home troops (encamped on the same ground)—namely, fresh meat four days a week, tinned meat two days, vegetables and potatoes on alternate days, bread, sugar, and coffee. It is true the vegetables were compressed, and the potatoes were often not too good.

With regard to the water supply: on careful analysis this was found to be rather suspicious; both free and albuminoid ammonia were too high and there was too much chlorides; it was, however, passable. However, after the outbreak of beri-beri among the Boers and of enteric among our troops only distilled water was supplied.

With regard to the clinical symptoms: every case, with two exceptions, was of the dropsical variety, and in many cases there was rapid oedema of the scrotum and penis. The scrotum often swelled so enormously as to require punctures. There was no retention, no albuminuria, no marked anaemia, no marked paralysis (except in two cases mentioned above); but always numbness and often complete anaesthesia of the legs, great pain over the tibiae and the sternum, and in the worst cases dyspnoea. Appetite was good and the bowel functions normal. The spleen was not enlarged.

In about 30 per cent. of the cases the gums were spongy and the calves of the legs hard. The two exceptional cases showed marked ataxic symptoms, rapid emaciation, and a lemon tint of the skin like that of pernicious anaemia. But these also recovered entirely.

The following points were of most importance as bearing on the question of place infection: (1) Nearly all the patients were old men (50 to 70) worn out by hardships and mental anxiety; (2) the proverbial dislike of ordinary Boer to cleanliness and ventilation; (3) the prolonged residence on the same camping ground, though the sanitation and food and water supply were carefully looked after; (4) the total absence of any similar disease among the home troops encamped on adjacent land, equally crowded, sleeping on bare ground, but accustomed to bathing parades and by nature cleanly; (5) the epidemic of enteric among the troops at the same time as the outbreak of beri-beri occurred among the Boers; (6) the marked recovery of even the most acute cases after their removal to fresh ground and the addition to the ordinary diet, as compared with the considerable mortality among those at first sent to Jamestown.

Colonel Williamson, P.M.O. Capetown, laid considerable stress on the fact that 26 out of 78 cases then in the beri-beri camp had come from the Potchefstrom district of the Transvaal, where a mild form of beri-beri was supposed to be endemic. But it is hardly likely that a man could carry a latent disease for three years.

In regard to Dr. Manson's observations on the relation between beri-beri, sleeping sickness, and malaria, Dr. Wheeler writes: "After having been in constant attendance on the beri-beri camp for two months, I went down to Jamestown one day when I was not feeling very well, having had subacute malaria for a few days. In Jamestown I remarked to another medical man that I had a severe pain in the calf of my right leg, and jokingly said, 'I believe I have got beri beri myself.' I did not feel inclined for lunch, and walked back to camp, a distance of six miles up an ascent of 2,000 ft. When I arrived home I collapsed completely, went straight to bed, and did not waken for twenty-four hours; then I slept again for three whole days without food or drink. On the fourth day I wakened in hospital perfectly well, except for slight numbness in the right arm and leg, and pain in the wrists. Drugs or alcoholism could be entirely excluded (I have always been strictly temperate), and the causation puzzled everyone. For myself, I put it down to sheer exhaustion, but the paper referred to has suggested a possible connection with beri-beri. I was never unconscious; only always wanted to sleep. Three days of constant feeding made me absolutely well again, in fact in better form than I had been for a long time."

"During a residence of six years in tea districts in India I have naturally seen a large number of cases of the disease known there as beri-beri, and of malaria in all its forms. I have also as a visitor seen the form of beri-beri common in Singapore; but this epidemic in St. Helena has exhibited features very different from those in the other countries. The acuteness of the cases, the rapid recovery on removal to fresh ground, the absence of all factors hitherto considered causative, with the notable exception of that of fouled ground and personal uncleanliness, is most remarkable."

[1] BRITISH MEDICAL JOURNAL, September 20th, 1902, p. 830.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first meeting of the winter session of this Society was held on October 8th at Bolingbroke Hospital, Wandsworth Common, Surgeon-Major Robinson, President in the chair. Dr. Guthrie Rankin, Senior Assistant Physician to the Royal Hospital for Children and Women, read a paper on the Treatment of Dyspepsia by Antiseptics, which was followed by an animated discussion.