CORRESPONDENCE.

MOSQUITO-PROOFING BARRACKS OF BRITISH TROOPS IN INDIA.

TO THE EDITOR OF "THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS."

DEAR SIR,—As A.D.M.S. Lahore District in 1924-26 I was pleased to see Major Campbell Munro's article in the JOURNAL OF THE ROYAL ARMY MEDICAL CORPS for October, dealing as it does with a very interesting period. On my arrival at Lahore in early November, 1924, I was met with the situation as described by Major Munro. The British Infantry Battalion at Lahore had been in the Station for three years and was in a very bad state of health. I remember that shortly after my arrival at that Station, the D.M.S., Major-General O. L. Robinson, C.B., C.M.G., paid us a visit and himself inspected the Infantry Battalion on parade; out of a strength of 650 there were 60 in hospital, 80 at the Malaria Treatment Centre, Kasauli, and 160 attending for post-malarial treatment at the Medical Inspection Room; and of the remainder, many men were recovering from their previous attacks and were anaemic and debilitated; at the parade several men had to be sent away as they were obviously in the early stages of another relapse. The situation at Amritsar was even worse, the British Infantry Company showing an admission rate of 1,712 per 1,000.

Much work has been done, and was done every year in the antimalaria campaign, with somewhat depressing results. At my first visit to Amritsar I inspected the fort and was surprised to find that the British soldiers, only a few in number, gunners of a strength of about twenty, were singularly free from malaria in comparison with their comrades of the infantry in cantonments some few miles away. The fort looked an ideal breeding place for mosquitoes; it is surrounded by a moat, and in close proximity are shallow ponds, well trampled round the edges by cattle. Also the fort is near the town, containing a teeming native population. Anophele larvæ were found to breed in the moat. Somebody, at some time, had fly-proofed or mosquito-proofed the actual barrack rooms the British troops used in the fort and also the dining rooms and canteens. I never could ascertain when this was done. The gauze used was a bigger mesh, I should say about eighteen or twenty to the inch, and in accordance with modern teaching, rather too big to exclude anopheline mosquitoes. However, I am not at all certain that the mosquito will push or bore through a wire gauze mesh as he is reported to do through an ordinary mosquito net. At any rate, there was the wire gauze, and the men said they were not bothered by mosquitoes in the barrack-rooms. I used this as a proposition in support of the proposals we put forward for sanction to attempt an extended programme of proofing at Amritsar, and the barracks and hospital were completed in December, 1925. The fumigation of the barracks was carefully done by Captain McGorty, M.C., who was in medical charge of the Station; incidentally the photograph produced in Major Munro's article was taken by him and is a view of the British Military Hospital, a building.
whose general architecture is similar to that of the barracks. I visited Amritsar during the hot weather of 1926, and could not find mosquitoes in the barracks or hospital. I always adopted the method of making for the darkest corner and disturbing it with a stick to stir out any mosquitoes, and I compared conditions at Amritsar with those in 1925, when I had a lively recollection of finding the V.D. treatment room, which was a particularly dark room, buzzing with mosquitoes; so much so that I asked the medical officer to put in a trap for identification purposes. In 1926 I could not find any mosquitoes. I do not wish to convey the impression that mosquito-proofing is "fool-proof" and can exclude any mosquito, but the more I saw of it, the more I was convinced that the mosquito is not such a persistent insect as we think in his search for food, and it is not a case of swarms of them flying round and round the building trying to get in at any possible crevice. However, to illustrate the want of "fool-proofness," on questioning a corporal in a barrack-room, I asked him was he ever bitten, and he replied, "Yes! I have been just lately, and I know why." On further questioning, he offered at once to show me, and he did; just outside one of the proofed bays was a chatti, and at the top of the verandah bay there was a tear in the netting that had not yet been patched; on looking into the chatti I found two or three inches of water at the bottom of the vessel simply solid with larvae! On the whole I was most agreeably impressed by the care the men took of the gauze wire both at Amritsar and at Lahore, and I am quite sure that the men appreciated what had been done. I frequently questioned N.C.O.'s and men at Amritsar and Lahore and never got a "grouch" against the proofing. The situation can be summed up in: (1) Relief at not having to use a mosquito net; (2) electric punkahs could be lowered to swing just above their bodies; (3) absence of flies and other pests.

The actual proofing was carried out by the R. E. (the C.R.E., Lieutenant-Colonel Goodwin, D.S.O., took a great interest in the work and was of great assistance to us). The opinion expressed by many that the plan described by Major Munro would make the barrack-rooms intolerably stuffy and hot by excluding air, was not supported by the troops; in fact I was often told that the burning winds of the hot weather before the monsoon broke were not felt so much in the proofed rooms; I suppose on the same principle as shutting up one's own bungalow excludes heat. In the 1926 hot weather I made some late afternoon visits to barracks at Lahore and then to unproofed lines as a contrast. One could not help being very much impressed by the difference; in the lines (proofed) I went to all the fireplaces and tried to stir mosquitoes out of them; one knows what happens in one's own bungalow if you put a stick up the chimney, one gets a cloud of mosquitoes out of such places, but in the proofed lines I could not get any, as in these particular barracks the chimneys were sealed up at the top by a specially designed wire-gauze cap that clamped on the chimney exit. The choice of gauze is most important. We took our ideas from all the available literature on the subject published with reference to the work done
in the Panama Canal zone, and asked for a sixteenth-inch mesh rust-proof, brass, wire gauze; but in the Military Station Hospital at Lahore and the barracks at Amritsar we had to use a stock that was available in R.E. parks of too delicate a consistency, being very light and springy, which though protected by rabbit netting was much too easily torn, whereas later on when the Napier lines were done the gauze was stronger and much more satisfactory. It always struck me as somewhat extraordinary that mosquito-proofing of barracks had not been attempted in India, so many points seemed to indicate that it would be successful. In Lahore itself the Mayo Hospital wards are protected and many of the private bungalows also, though the system of doing it is not so complete as that now adopted in barracks, yet the inhabitants are freer from malaria than our troops. Everything at Lahore seemed to point to “personal protection” as against extensive antimalaria work, which is complicated by the invariable question of cantonment boundaries, as work done inside cantonments can be so easily negatived by conditions outside. Not that antilarva work can be ignored because of increased personal protection. I am convinced that the combination of both measures is the ideal, as has been found in the Panama zone. A great amount of work was done at Lahore in the malaria season of 1925 to 1926, and many practical results were obtained. The cantonment contained many disused wells not now necessary as the water is a good pipe supply; a campaign against unused wells was carried out and the R.E. sealed them up with concrete tops. Dhobi ghats were energetically dealt with, a very interesting result was that those with a piped water supply used the old well as a drainage sump to carry off the excess washing water to prevent flooding of the surrounding ground. In the hot weather of 1926, Lieutenant-Colonel F. A. H. Clarke, R.A.M.C., O.C. British Military Hospital, was indefatigable in hunting down all breeding areas, and Captain Sahai, I.M.S., as antimalaria officer, got through an immense amount of good work. I sincerely hope that 1927 will show as good results as 1926 in both Amritsar and Lahore, and that an extended system of proofing may perhaps remove from Mian Mir its unsavoury reputation summed up by “U.P.A.” in one of his interesting and entertaining articles in the Journal, as being famous for: (1) pre-mutiny bungalows; (2) the well-stocked cemetery. I am, etc.,

Colchester,

November 1, 1927.

N. J. C. Rutherford, Colonel.

“LIAISON IN A WAR OF MOVEMENT.”

TO THE EDITOR OF “THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.”

DEAR SIR,—One has been very much struck with the able exposition of field medical problems in Lieutenant-Colonel Garbowski’s article, “Evacuation in a War of Movement” (Journal of the Royal Army Medical Corps, October, 1927), and particularly by the stress he lays on “inter-communication and liaison between the medical field units and their “opposite numbers” in the combatant formations. I think all of us who have had to face these problems on service will agree with him.