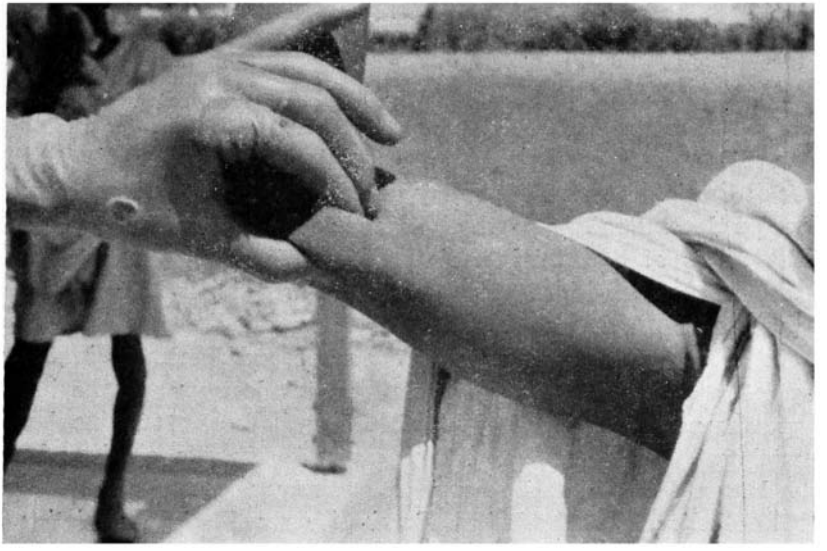
ANGLO-EGYPTIAN SUDAN

NORTHERN SUDAN

On April 6th I arrived in Khartoum where the Director of Medical Services kindly arranged for me to see the various medical institutions and the methods of dealing with leprosy. Leprosy appears to be a disease of minor importance in the North of the Sudan. Cases are treated in the outpatient department of the C.M.S. Hospital at Omdurman. I had an opportunity of seeing several of these patients and of visiting others in their homes.



Abscess of ulnar nerve at C.M.S. leprosy clinic, Omdurman—the only case of this condition out of thousands of lepers examined during the tour.

It appears to me that the present methods of leprosy control are adequate, though I would suggest that it would be an advantage if the C.M.S. had a small ward with two or three beds for the treatment of lepers who need temporary hospitalisation.

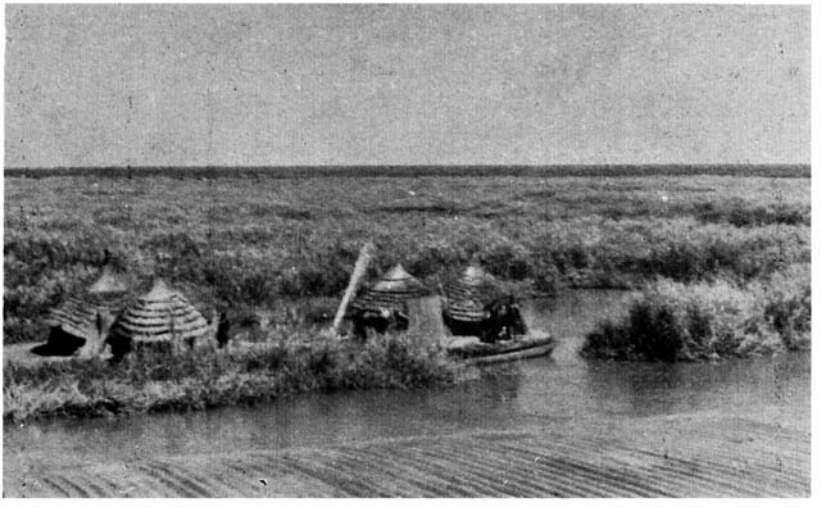
Owing to epidemic conditions, it was not found possible to visit Kordofan. I left Khartoum on the 9th and arrived at Terrekekka on the 21st April.

I had not an opportunity of visiting the small leper camp at Malek but discussed this with Archdeacon Shaw—I understand that leprosy is not a serious problem in this area. Possibly this may be partly the result of the hard conditions under which these people live and their semi-nomadic mode of life—these would

militate against the survival of infectious patients who would, under more favourable circumstances, live on and continue to infect others.

LI RANGU

From Terrekekka I was motored by Dr. Cruickshank (S.M.I. Equatoria) *via* Amadi to Li Rangu. Here I remained from the 22nd till the 28th and had an opportunity of studying leprosy as it is found in this large Leper Settlement. After examining with Dr. Woodman a large number of leper cases, I selected 39 for bacteriological examination with a view to establishing their classification and distinguishing potentially infectious from non-infectious cases.



A hamlet in the "Sud" by the side of the Nile near Malek (see p. 14).

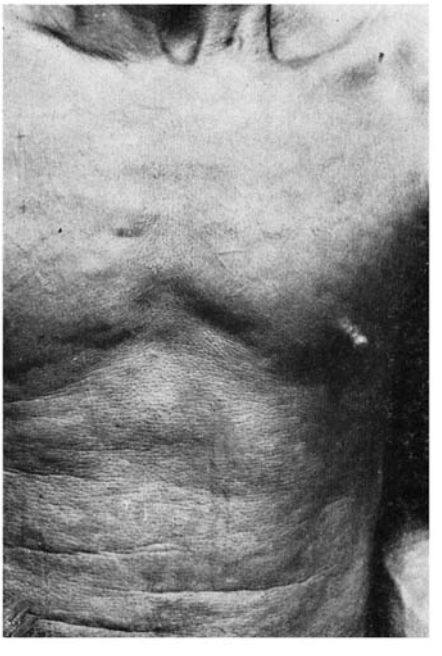
While there is a fair proportion of lepromatous and infectious cases the large majority are of the neural type, being either tuberculoid or secondary neural. A striking feature is the frequency of tuberculoid cases, a type formerly supposed to be uncommon except in North India, Japan, and a few other places. Treatment is given to selected cases. The chief reliance is placed upon injections of "Sodium Gynocardate" given once a week in a 3 or 4 per cent. solution intramuscularly.

Cases needing hospital treatment on account of complications, trophic ulcers, etc., are lodged in wards in the neighbourhood of the treatment room.

By way of occupational therapy, the lepers cultivate their own fields and give their labour one day per week on the common work of the settlement.

A separate area of the settlement is set apart for segregation. In this area, which houses some 200 patients out of the 1,200 of the whole settlement, the infectious cases have their huts, and

Above is a common form of tuberculoid lesion (S. Sudan).



A rapidly advancing lepromatous type becoming diffuse (S. Sudan).

there are also some disabled and deformed patients in whom the infection has more or less died out. The former help to attend to the latter.

The Li Rangu settlement represents what is in some important respects a unique experiment in the control of leprosy. This settlement, and that at Yubo, were primarily formed for lepers found during a complete Sleeping Sickness survey of the Zande tribe, which was made 7 years ago. The population of the settlement thus represents all types of leprosy in the proportions in which they occur in the area. This is in marked contrast to settlements in other places which contain larger proportions of certain types, such as nodular or deformed cases.

The aim of this wholesale segregation of the leprous population was to remove, as far as possible, infection from the area. To what extent this aim has succeeded may be judged from the fact that in 1937 there were 295 new cases admitted to the settlement, of which 63 were of the infectious or lepromatous type. It is difficult to account for these as patients already infected 7 years previously and in whom the disease has developed subsequently, although a few may belong to this category. The fact that so many have progressed to the infectious stage without previous detection is probably due to the insidious progress of the disease in patients with low resistance in whom early signs are apt to escape notice.

In contrast to this, the more resistant cases form more easily recognised early signs of a tuberculoid or of a trophic type.

There are also 2,558 non-infectious patients (early and arrested cases) in the Li Rangu area who are registered and live outside the settlement, but the majority of the 63 infectious cases admitted in 1937 were not from among these.

While much has been achieved by the Li Rangu settlement towards the control of leprosy, much more might have been hoped for if an adequate staff had been available. Dr. Woodman and the Sudanese Medical Officer have their hands full with the general medical work of the district and can only give a small proportion of their time to leprosy.

Bacteriological and other laboratory examinations of leper patients have been found impossible for lack of staff. For the same reason occupational therapy could not be developed to a fuller extent.

SUGGESTIONS

For the adequate development of the settlement I consider that there should be three full-time leprosy workers: a doctor, a general supervisor to develop the settlement and organise agriculture and industries, and a trained African laboratory assistant.

The general supervisor should, I consider, be a European expert in leprosy work, similar to those working under B.E.L.R.A. in West Africa. Even if the first two of these are not forthcoming the last should at least be supplied, as bacteriological and other laboratory examinations are urgently required.

With regard to *treatment* I would suggest :

(a) The further development of occupational therapy; but this however seems impossible without further staff.

TYPES OF LEPROSY IN S. SUDAN.

Leprous alopecia is common among the Mongolian races. Here are two out of several cases found at Lui, Southern Sudan. Below is a typical lepromatous case at the same place.

(b) The careful selection of suitable patients for treatment with chaulmoogra oil, injections being limited to patients who are physically fit and who are able to tolerate daily adequate physical exercise.

(c) The use of the pure oil of Hydnocarpus wightiana. This and the ethyl esters of the oil are generally acknowledged to be more effective than solutions of sodium salts of chaulmoogra. The oil must however be of a suitable nature such as that supplied by certain Indian firms. This oil, especially if ordered in bulk is exceedingly cheap. If kept free from air and stored in full bottles, it will remain pure and almost painless for over a year. (In this connection see the recommendations of the International Leprosy Congress, held at Cairo in March, 1938, *Leprosy Review*, Oct. 1938).

OTHER LEPROSY INSTITUTIONS

On April 29th I visited with Drs. Cruickshank, Woodman and Chacar the leper camp at Meridi. There were 89 patients whom we examined.

On the evening of the same day I went to Lui and on the following morning, along with Drs. Cruickshank and Casson, examined the 87 patients at the leper camp. Of these the majority were found to be cases in which the disease had died out. Twenty were lepromatous cases of more or less infectivity.

On May 2nd I also examined along with Dr. Cruickshank the patients at the leper camp at Yei, and also those at three of the dispensaries under Dr. Casson; some of the principle types of leprosy, especially the neural cases, appear to differ from those with which I am familiar in India and elsewhere, and would repay careful pathological examination.

GENERAL SUGGESTIONS FOR FURTHER DEVELOPMENTS

It is now becoming generally recognised that one of the most important factors in the control of leprosy is the employment of wisely-planned educational methods.

The spread of infection may be limited to a certain extent by compulsory or voluntary segregation in institutions, but in highly endemic areas control is difficult or impossible to attain until the people themselves realise the nature of the disease and its spread, and co-operate voluntarily and intelligently in taking the simple precautions necessary. Responsibility must accompany education in leprosy control if it is to be effective.

Dr. Cruickshank has put forward a plan for further development of leprosy work in the Equatorial Province which aims at

educating the people and throwing responsibility for segregation on local authorities. He proposes that :

(a) Chief's Courts be given responsibility to segregate in small camps all infectious cases of leprosy in their own areas.

(b) After the first survey has been made and infectious cases listed, the Chiefs and Elders be responsible for selecting infectious cases.

(c) Relatives be responsible for helping patients, but an allowance might be made in their support, at least to begin with.

(d) Relatives be allowed to pay occasional visits to the camps.

(e) Children as far as possible be handed over to healthy relatives.

(f) Where there is a Chief's dispensary in the neighbourhood the dispenser supervise the camp.

(g) Once a year a medical inspection be made, when cases that had become non-infectious might be discharged and accompanying diseases treated.

This scheme, which would supplement and not replace existing leper settlements, appears to be based on the right principles. Its success would depend on the intelligence and willing support of the Chiefs and their courts, and care would need to be taken in choosing the most suitable Chiefs' Courts for the initial experiment. It seems to me, however, that success would also depend upon the amount of European supervision available—especially at the beginning—and that a whole-time European's services would be called for.

He would make an initial survey of existing leprosy, and at the same time find out where local support would be most promising. He would then set about instituting the first Chief's Camp and, if successful, later form others in succession.

For this purpose a qualified medical practitioner would not be necessary. I would suggest a health worker of the right type who had already been trained in anti-leprosy work. Health workers of this kind have been sent out by the combined committee of the British Empire Leprosy Relief Association and Toc H to Nigeria and other places, and it is possible that this committee might be able to supply one for the Equatorial Province of the Sudan if requested to do so. It is generally acknowledged that men of the type already working in Nigeria are highly suitable for anti-leprosy work; they volunteer largely from altruistic motives, are carefully selected by the committee, and work on a sub-sistance allowance comparable to that given by missionary societies. Most of them are attached to leprosy institutions

which are financed chiefly by Government but conducted by missions : they are thus under the direct supervision of the mission doctors.

I would suggest that, if it is decided to adopt experimentally the above scheme, the most suitable location for a health worker would be in connection with the Church Missionary Society at Lui, for the following reasons :—

(a) Leprosy appears to be common in this area.

(b) This mission has in the past taken a deep interest in anti-leprosy work and has its present leper settlement and the good will of the people.

(c) The scheme of leprosy control might fit in with the system of dispensaries under the mission and be supervised by the mission doctor during his visits to the dispensaries.

If the scheme as modified above is approved the Church Missionary Society might be consulted as to their willingness to entertain a suitable health worker, and the British Empire Leprosy Relief Association as to whether they could supply such a man. If an appointment were made, it might in the first instance be for a short period, to be prolonged later if found to work well. Once the success of the scheme had shown itself a second health worker of the same type might be appointed to Li Rangu where he would act as general supervisor to develop the settlement and organise agriculture and industries (see suggestions above).

Acknowledgments. I wish to express my warm appreciation of the kind hospitality and help of Dr. Pridie, the Director of Medical Services, at whose invitation I came and who arranged my itinerary and facilitated my visits to the various centres. I wish also to thank the various officers, especially Drs. Cruickshank, Woodman and Casson, who spared no effort in making my tour a success.