TANGANYIKA

I arrived at Dar-es-Salaam from Zanzibar on November 2nd and had the privilege of staying with H.E. Sir Edward Twining and Lady Twining. This afforded me an opportunity for preliminary discussion with His Excellency and Lady Twining before starting on my general tour of the Territory.

On the morning of November 3rd Dr. Davis came for me and I had a long talk at the Medical Headquarters with the Deputy D.M.S., Dr. Barrett. It was most encouraging to realise that leprosy was a real priority in the policies of the Medical Directorate. When this is said, I should add that the attitude of the Department is not one which views leprosy as a problem out of all proportion to other public health problems, but there is every effort to maintain a fair perspective, i.e., to organise leprosy control and relief in proportion to its rightful place, as one of the more important endemic diseases. The desire for a forward policy arises first as a result of the excellent pioneer work of Dr. J. Ross Innes, and, secondly, from the fact that with new and improved methods of treatment there is a real possibility of bringing the disease under control.

On November 3rd I left Dar-es-Salaam for Mbeya, where I was met by Dr. Evans, the A.D.M.S., of the Central region which comprises the South Highland Province and the Central Province. On the morning of the 4th November, after a preliminary discussion, I left by Government Land Rover for Makete, some 60 miles away.

I arrived at Makete at about 12.30 p.m. and after lunch I saw new cases. Among these was one extensive dermatitis (not leprosy), one case of fungus infection, and one indeterminate macular case, who also had a large hernia. I was told that one general hospital would not admit such cases because other patients would take their discharge if leprosy patients were also admitted. This, of course, is the usual argument for not admitting leprosy cases who are in need of immediate treatment for some concomitant medical or surgical condition. This has been shown to be an unnecessary fear. The A.D.M.S.'s attitude towards the admission of such cases into hospital is the correct one, and he states that leprosy cases are admitted into hospitals for acute conditions. It would be well, however, if the A.D.M.S. or appropriate officer, would issue a directive on this matter. There is no reason why leprosy cases should not be admitted into hospital, provided their stay within the wards is no longer than will alleviate or cure the acute condition which is complicating this disease. If the disease is non-infective — that is when tested by standard methods of

examination—the patient may be admitted into the ordinary ward; if infective, the case is either nursed under barrier technique or placed in the infectious diseases section of the hospital. In my experience patients with leprosy become restless and tend to discharge themselves if the hospital staff show signs of nervousness. If leprosy is treated like any other disease, e.g., tuberculosis, typhoid, syphilis, etc., the other patients will accept the fact of a case of leprosy in the ward without any alarm. I should say that I have found a willingness on the part of Medical Officers to admit leprosy cases, when necessary, into general hospitals.

On 5.12.52 I spent all the morning and afternoon examining the patients. As in other institutions there was a large number of arrested polyneuritic cases and many had healed or inactive macules. In addition, because of the proximity of the Nyasaland border, many cases sought admission from that Protectorate. While it is not possible to exclude such patients, only those cases which are active, and, preferably, infective, should be admitted, and the Nyasaland Government kept informed of the number admitted into the Tanganyika Settlements. I shall, at the end of this report, be suggesting what I consider should be guiding principles in the admission and discharge of patients in institutions in the Territory.

The patients in this settlement are, as is usual in the East African settlements, allotted a village in which to live. They build their own houses and are given an acre and a half of land, and are expected to feed themselves. The general dietetic condition of the patients was fair. There was no gross malnutrition, although there were some indications of a mild avitaminosis. The three villages are Upper and Lower Makete, and the village of Ngelia. The last is about five miles from the hospital—rather too far away for patients who were crippled and needed a considerable amount of surgical attention. I suggested that patients likely to need hospitalisation from time to time should be concentrated in the Upper and Lower Makete villages.

The hospital built from Red Cross funds was rapidly taking shape and when this is completed facilities for general medicine and surgery will be more adequate. In a community of nearly 1,000 patients a considerable amount of medical and surgical work is necessary and, in addition, obstretrical emergencies are bound to arise. The nursing staff is adequate in that both Mr. Hobbs and his wife are trained nurses. Mrs. Hobbs was dux of her year in the Nursing School. Every encouragement should be given to these two workers. For this reason, if no other, I look forward to the completion of the hospital, for without a properly equipped hospital the staff tends to get discouraged. Further, if a doctor is

to be content with leprosy as a whole-time, worthwhile vocation, he must have every facility to undertake his work.

On the morning of the 6th I examined further patients and checked the smears. As not infrequently is the case, I found this side weak. The stains were old, the microscope old and the technique poor. All these deficiencies will, it is expected, be corrected when the new hospital and laboratory are ready. In leprosy work today reliable bacteriological work is essential. This is particularly the case because the clinical response to sulphone therapy is so far in advance of bacteriological improvement that cases are liable to be discharged as healed, when in reality they are still bacteriologically positive.

Dr. Evans kindly motored me back to Mbeya on the 6th but before leaving we had a general discussion. The following points emerged.

1. The new hospital is to be equipped as for a District Government Hospital, the £15,000 to cover building and permanent fixtures. The grant for recurrent expenditure, which was only £850 (£2 10s. 0d. per year per patient) is to be doubled. There are to be separate indents for medicines. I suggested, and I will discuss this at the close of the report, when I consider the general principles of therapy, that two kilos of sulphetrone granules should be ordered for Makete as an alternative treatment.

2. The question of the influx of patients from Nyasaland was raised, and it was generally agreed that this should be discouraged, and that local Chiefs and the District Officers should be advised. This matter, however, might be a subject of negotiation between the two Governments. A more important matter needs consideration not only here, but elsewhere, both in East and Central Africa. That is the question of the arrested or quiescent and healed cases. In such cases the Medical Officer should give a certificate stating that the patient is healed, needs no further treatment, and is no longer a public health danger. Chiefs and District Officers should be encouraged to assist the rehabilitation of these patients in the life of the village. In the matter of the helplessly crippled, or those who, for various and legitimate reasons, cannot return to their village, special provision in after-care colonies should be arranged.

3. Both here and elsewhere in East and Central Africa, there is a tendency for District Officers and others to send for admission to institution patients who only have residual lesions, their leprosy having spontaneously healed but leaving the marks of previous infection. All admissions, therefore, should be through the District

Medical Officers, but the Medical Superintendent of Makete should make the final decision as to whether a case is suitable for admission. If such patients are returned to their village, then a statement in writing should be given, so that the local Chief or District Officer may know the reasons why a person is not a suitable case for admission. This means that in order that institutions may be of the greatest benefit in the control and treatment of leprosy admissions must be selective, and no inactive, arrested or healed case should find asylum in the institution.

4. Now that there is a Medical Officer, trained nursing staff and a good BELRA builder, the potential development of Makete is very great, and every effort will, I am sure, be made to prevent the institution being silted up with crippled and arrested cases, for then it will become a dump for those whom the Chiefs consider undesirable inhabitants of their village. The Administrative authorities, however, are well aware of this and only need the necessary assurance from the Medical Department.

5. The question of the care of those who are crippled, but still active cases, was raised. It was suggested that accommodation should be built near the hospital to shelter these patients, and that in instances where the patients were unable to cultivate a plot for their own use, communal shambas (gardens) should be organised, and the able-bodied inmates be required to cultivate these on behalf of the disabled. Thus such patients who are unable to grow their own food would be provided for, and meals could be cooked in a central kitchen and distributed to those in the chronic wards. Admission to the hospital would then only be reserved for acute cases, and for those needing immediate surgical care—e.g operations.

6. In this, as in many settlements in East and Central Africa, children are a real problem. Marriage should, I feel, be definitely discouraged. Permission should be given to marry by the Medical Superintendent on advice of the BELRA Welfare Officer (Mr. Alderson). Children should be kept in a creche until weaned, and then sent back to their outside village, or go out with the parents when they are discharged, whichever is the shorter.

7. The question of keeping a herd of dairy cows should be considered, for if this is a suitable area, such a step is a great help in improving the nutrition of the patients, particularly the children The Veterinary Department, however, should be consulted in this matter.

8. All medical staff should be in Government employ, but the Welfare Officer and General Manager (at present Mr. Alderson)

might be considered to be BELRA's contribution. When this side of the work is completely organised, it seems to me that the P.W.D. could then cater for the maintenance of the buildings, and an Agricultural Supervisor might be appointed by the Agricultural Department.

9. Cases who are discharged, or who have been expelled for disciplinary reasons, should be forbidden to build shambas on adjacent land. Otherwise leprosy dumps will only arise over which there is no control. The co-operation of the Native Authority should be sought in this matter.

10. With regard to the laboratory, this needs re-organising, and it would be well to supervise closely the African technician. I believe that this institution is directly under the A.D.M.S.'s office, and this is as it should be. The D.M.S.'s co-operation is essential if the general medical and surgical work is to be efficient and a forward policy in the matter of leprosy encouraged in the district.

After returning to Dar-es-Salaam, where I had further discussions at the Medical Headquarters, I flew, on November 8th, to Lindi, where I was met by Dr. Merson, the S.M.O., of the Southern Province.

I met while in Lindi, the Provincial Commissioner, Mr. Pike, who very kindly offered to accompany me to Newala. Dr. Laufer, the District Medical Officer, arrived on Sunday evening, November 9th, and on the 10th we proceeded to Newala, where we stayed with the District Commissioner. This area is on the borders of Portuguese East Africa, and forms a high sandy plateau of some 2,000-3,000 feet. The whole plateau is waterless, and the main water supply is in the valley. The chief occupation of the villagers, therefore, is the carrying of water from the valley up the 2,000 feet escarpment! There has been a general migration from the valley to the escarpment, probably many years ago, for two reasons (1) The valley is malaria ridden, and (2) As a result of tribal wars the people felt safer, and were better protected from attack by unfriendly tribes. The Government has accepted the fact that the African population will not live in the valley by constructing a pump system whereby water is pumped from the river below up to the escarpment. The people, however, go down to the valley to cultivate their crops, but they will not live down there.

The new leprosarium then, is on the top of the escarpment and the first prefabricated buildings well under construction. I discussed with the Provincial Commissioner, who is very enthusiastic and keen, the general principles involved in the building of

a leprosarium. I personally believe the first necessity is water, and the Government has under consideration another pumping system. It is also possible to construct storage tanks to collect water during the rainy season for an emergency supply. The Government Boma (District Headquarters) has such a supply, with a capacity for 56,000 gallons.

In building a leprosy institution, while the patients should be housed in the African type of hut, it should be so arranged that those needing, or likely to need, most attention should be accommodated near the hospital. There should be an adequate hospital and a laboratory equipped for routine procedures such as blood, stools, urine and smears for acid-fast bacilli. It is hoped that a doctor will be recruited in due course, and that this institution will be the centre from which outpatient activities and village settlements will be supervised.

The present leprosy work is all outpatient work and is superintended by Mr. Heald, who is a BELRA Nurse attached to the U.M.C.A. The medical work is under the supervision of Dr. Taylor, who is in medical charge of the U.M.C.A., hospital, Lulindi. A great deal of hydnocarpus (chaulmoogra) treatment is being given. I was told that the patients were very enthusiastic about injections. I, therefore, suggested that hydnocarpus treatment should be reserved for those cases that showed residual macules, and these should be given intradermal injections, but that all active cases should be placed on sulphone therapy. I shall be discussing the general principles in relation to the choice of sulphones, but in so far as the patients are enthusiastic about injections and that equipment and facilities are available, it would be very simple to replace hydnocarpus therapy by parenteral sulphetrone. There is at present a very large stock of sulphertone tablets. I suggested that these should be called in, sent to Nachingwea, or other hospital, where there is a Seitz filter, crushed, filtered and put up as an autoclaved solution (50%) and distributed for injections.

There seems to be a large number of cases of leprosy in the district. Again I stressed the need not only for selective admissions, but the necessity of stopping treatment in those cases in whom the disease was healed, and who only had residual lesions (macules or residual polyneuritic signs).

Another problem, and in this area a serious one, is the large number of patients who filter over from Portuguese East Africa. It appears that much money and time is spent on cases coming from this area and, while it seems hard not to treat such cases, I believe, particularly in relation to the non-infective cases, all persons coming from outside the territory should be refused admission, unless infec-

tive, and that all quiescent and healed cases should be repatriated. The co-operation of the Chiefs and Administrative Officers on both sides of the border is essential in this matter.

The diet in this area appears to be poor. Cassava is grown extensively largely because of its value as a commodity for export. Cattle cake is made largely from this root. The people therefore are encouraged to increase the area under cassava cultivation, and sometimes this results in reducing the cultivable area for beans and millet. It, however, is believed that the growing of cassava does not have much bearing on the present dietetic state. This is hardly likely to improve until the water supply is enhanced.

From Newala we motored to Ndanda, visiting the U.M.C.A. Hospital at Masasi on the way. This is a new general hospital under the Superintendency of Dr. Taylor, the Senior Medical Officer of the Mission, and is severely handicapped for lack of staff and funds.

We proceeded on November 12th from Newala to Ndanda. This is a large Roman Catholic leprosarium of the Benedictine Mission and forms one of the two largest institutions in Tanganyika Territory. The other is at Peramiho, which I, unfortunately, was unable to include in my itinerary. I was most impressed by the excellent work being done here. There was good clinical work, and some of the clinical photography was excellent. Sulphones are being used, but hydnocarpus oil injections are being given to outpatients. This should be changed and only used for cosmetic purposes, and then intradermally. When there is intolerance to Dapsone (DDS) or oral therapy is inadvisable, parenteral sulphetrone (50%) should be the alternative. While at Ndanda I saw all the patients. Again I found many who either need not have been admitted, or could be discharged, without detriment to themselves or to the community at large. I also saw many of the ulcers and discussed technical matters with Sister Mary Lucas, who is a medical graduate. In the evening we had, with Sister Mary Lucas, Sister Thecla (the Senior Doctor) and others, discussions on classification, treatment and operative procedures in leprosy.

I left Ndanda at 8.30 in the morning and motored to Mnero via Nachingwea, again accompanied by Dr. Laufer. Mnero is a Roman Catholic general hospital in the charge of Dr. L. D. Stirling. Dr. Stirling has a large outpatient clinic, and at the time of my visit there were 201 leprosy cases. This was not an outpatient day, but in spite of this nearly all the cases turned up for examination, indicating the enthusiasm for leprosy treatment and the influence of Dr. Stirling on these patients. I examined patients all the morning, and again discussed the question of healed and arrested cases

and their disposal. The hospital itself has a well equipped operating unit and Dr. Stirling stated that from time to time, leprosy cases needing immediate medical and surgical attention are admitted.

This work at Mnero is a model of the type of work a general hospital can do in relation to the treatment of leprosy. As there appears to be a considerable amount of leprosy in this area, it would be well worth considering the question of some form of segregation camp for the infective cases. I would like personally to congratulate Dr. Stirling on the work that is being done, and on the enthusiasm with which it is being conducted.

On November 14th I returned to Dar-es-Salaam, stayed with the Director of Medical Services, and spoke at the Tanganyika Society meeting.

I left Dar-es-Salaam for Morogoro at 10 a.m. on the 15th, arriving at 5.30 p.m., and was met by Mr. and Mrs. Powell and by Dr. Spicer, the A.D.M.S. of the Central and Southern Province. I motored straight out to Chazi that same evening.

I was most impressed by the work at Chazi. The whole institution was well organised. The hospital and treatment centre are thatched, but are neat and clean, and within easy reach of the Resident Superintendent's house. These buildings are temporary, but there is ample space for their replacement by permanent buildings when finance is available. Many of the patients' houses are in a poor state of repair, but when the large number of inactive cases is discharged, this will give an opportunity for Mr. Powell to reorganise the housing and get better houses erected. There is plenty of fertile ground for agricultural purposes. One of the serious problems in this institution is the number of healthy children. A creche is badly needed, for no healthy child should be allowed in an institution after it is weaned.

I saw all the patients and found that out of the 513 cases at present in the institution, some 200, or nearly 40% were inactive cases and could be discharged, as these are no danger to public health. This again emphasises the need for careful selection of cases. In connection with the discharge of inactive cases, the support of the Administrative Officers and the Chiefs must be sought, and the reasons why such cases should not be admitted explained. The question of the crippled case and those unable to return to their villages will be dealt with subsequently in this report.

A great need is the services of a visiting doctor. It is fortunate that recently an orthopaedic surgeon has been posted to Morogoro, only some 50 miles away, and arrangements have been made for him to visit Chazi. I met Dr. Hodges while in Morogoro and he

is very keen to investigate the surgical possibilities of the institution, and, if necessary, transfer patients to the Government Hospital, Morogoro, for operative treatment. Apart from surgery particularly appertaining to leprosy, the incidence of hernias and hydroceles is very large and much surgical work is needed. For the present, however, with Mrs. Powell, who is a trained nurse and physiotherapist, and Mr. Powell as Superintendent, the medical work can be well undertaken if Dr. Hodges can regularly visit this institution and give advice.

The general hospital work was excellent and there was, unlike other institutions, an adequate supply of bandages. The bacteriological work was poor, stains unsatisfactory, and the microscope was not in good repair. As I have said, particularly with the introduction of sulphone therapy, adequate microscopic facilities are essential.

With regard to dressings, many institutions find that supplies of dressings are difficult, for even parcels of old rags are liable to be charged customs duty. BELRA has been assured that duty can be reclaimed if charged on such parcels; but it has been suggested by Lady Twining that all material, dressings, old clothes, etc., should be sent earmarked for leprosy institutions through the Red Cross, and then customs duty does not need to be paid.

I believe Chazi is potentially one of the best institutions in Tanganyika, and when the new hospital is built and an effective liaison established with the Goverment Medical Officer, the work here should be extremely good. I trust the Government will approve of the erection of a creche for young babies—there is sufficient ground for this in the present hospital area.

I left Morogoro for Dodoma on November 18th, arriving early on the morning of 19th, and was met by Dr. Thom. After breakfast Dr. Thom kindly accompanied me on my safari to Singida, Manyoni and Mkalama. On our way to Singida we called in at the C.M.S. station at Makutupora, accompanied by Dr. Powys, the Senior Medical Missionary. It was unfortunate that Miss Faith Ward the pioneer missionary at Makutupora was away on furlough, for it is never possible to get an adequate impression of an institution when the Senior Officer is absent. There were, however, one or two points which I consider need comment. In the first place, as in other institutions, some 30% of all the cases were either arrested or inactive. Those who could not be rehabilitated or returned to their village should be accommodated in the buildings near the hospital and form an after-care colony or eventide home, as suggested by Dr. Thom. All those who are able-bodied or who can be sent back to their village should be returned to ordinary

life. This institution was organised much more on the lines of Indian leprosy settlements; that is the patients lived in wards and not in native huts under African conditions. This meant that more money was actually spent on food. Those patients who lived in native huts seemed to me rather far away, and, therefore, difficult to supervise. Dr. Thom's suggestion seems to be a sound one in relation to this and other institutions. Crippled cases should be kept in wards near to the hospital unit; the able-bodied should live in compounds not too far away, and go to the nearby shambas for agricultural work.

There was attached to the hospital a small sick-bay and laboratory. Dr. Backhouse, a recent recruit from Australia to the main Mission at Kilimatinde, took much interest, and if the hospital unit is enlarged more medical attention in the work would be possible. Serious operative cases could be transferred to Kilimatinde, but this is rather far away for use by all cases needing hospital treatment.

I suggested that the technician should be transferred to the main Mission hospital for a refresher course. My general impression was that too much reliance had been placed on him, and hence he was somewhat over-confident as to his capabilities. There were several patients who needed orthopaedic operative treatment, and I suggested they might be sent to Morogoro for such treatment. Miss Bangham, the Sister relieving for Miss Ward, stayed at Makutupora. This was important, for it ensured that a Nursing Sister, or some responsible person, was available, for the Mission Station is rather far away for close supervision.

We left on the same afternoon for Singida, calling on the District Commissioner at Manyoni on the way. At Singida we met Dr. Schuppler, who is an excellent surgeon and has studied under one of the best Orthopaedic Specialists in Vienna (Professor Bohler). Dr. Schuppler accompanied us to Mkalama the next day, when I was able to demonstrate the need for operative work.

The Mkalama Institution is somewhat similar to Makutupora, but better staffed. The staff consists of a Nursing Sister in Charge (Miss Fossil), another visiting Nursing Sister (Miss Kjellein)—both from the main Mission Hospital—and a Mr. and Mrs. Petersen, who give general supervision, particularly on the spiritual side. Mrs. Petersen, before her marriage, was the Sister in Charge of the Leprosy Institution. The institution is similar in its arrangements to that at Makutupora. The houses, which are well built, in the vicinity of the laboratory should be reserved for those cases who need constant attention, or are likely to need some nursing care. It is unfortunate that the leprosy institution is twelve miles from

the main hospital, for this makes detailed medical supervision difficult and a tedious journey each day for the Sister in charge. In case of emergency, however, there is a rest room at the Settlement. The more able-bodied patients should be housed under conditions more suited to their village environment. A considerable amount of land is available for cultivation, and is being used in this way.

The more permanent buildings have been damaged, some seriously, through a recent storm. The treatment room, laboratory and hospital are adequate for the purpose provided cases needing more detailed medical care or major operation can be transferred to the Mission Hospital for treatment for their acute condition. I would again emphasise the importance of using local general hospital facilities for the treatment of acute conditions. By adopting this measure in cases of leprosy who need temporary hospitalisation two objects are achieved. Firstly, not only the African, but the hospital staff, come to look upon leprosy in the same way as they do tuberculosis or any other mildly infective disease needing temporary admission into hospital. Secondly, when a hospital is in the vicinity of a leprosy settlement, apart from giving the staff a better insight into leprosy, an important endemic disease, there is afforded a considerable economy in not needing to have anything more than a sick-bay in the leprosy settlement, and the patient receives, what is his inalienable right, expert hospital care. The laboratory technician appears to have been well trained and is keen to better his knowledge. I found a tendency for him to mistake contaminations and artefacts for M.leprae. The general principle to adopt in examining smears for M.leprae is—when in doubt the acid-fast material, or particles, are not the M.leprae. A little further instruction and supervision would help this technician greatly. Again, where a general hospital is within a few miles of a leprosy institution, it seems to be a wise policy to look upon the laboratory staff of each institution as one, so that technicians can serve periods both in the leprosy settlement and in the general hospital.

I examined all the patients in Mkalama and found rather a larger percentage of arrested and quiescent cases here than in other institutions. The percentage of cases that did not need active treatment was approximately 60%. This problem of the rehabilitation of cases fit for discharge is serious, not only here, but elsewhere in East and Central Africa. There is a general tendency to keep cases, especially the non-infective group, under treatment long after all the lesions are healed, and, similarly, to admit early cases in which patches are residual. In other words, greater dis-

crimination is needed in this matter. The result of the present policy is that institutions tend to become silted up with cases for which little can be done, and the more active cases, particularly the lepromatous group, are unable to be treated as inpatients, as there is no accommodation for them. The question of caring for the homeless and crippled needs careful consideration. There is a humanitarian and Christian duty towards such persons, whether they have been crippled by leprosy or through some other cause. Admittedly, in a highly developed country this is the responsibility of the State, but even in Britain, without the active help and support of Christian philanthropic societies, it would be impossible adequately to deal with crippled and disabled persons. In less developed countries Social Services are not so well organised, for financial considerations demand that the main effort must be expended on dealing with acute conditions, and the care of the crippled and maimed is largely left to responsible persons in the community, or to philanthropic individuals. This means, therefore, that until the State is able to afford well developed and organised Social Services, persons discharged from leprosy homes, if handicapped, have either to be looked after by the village authorities, or Missions should be encouraged to establish eventide homes for such persons. In order that the African village authorities can be persuaded to assume responsibility in this matter the co-operation of the Chiefs and District Officers is essential. It is suggested that before any patient is discharged a copy of the discharged patient's certificate is sent to the District Commissioner, and he, through the proper authority, contacts the local Chief, who is asked to take care of the disabled person about to be discharged.

If there is no one willing or able to care for such a person in the village, he should be transferred to a home for the care of the crippled and mutilated. There is always room for the establishment of such eventide or crippled homes and Governments should encourage Missions to assume the responsibility for such work, and help them where possible, with financial assistance. The fact remains that as long as leprosy exists this work will be necessary, but it should not be confused with the more practical aspects of treatment and control. Nevertheless, institutions and hospitals should always be ready to admit temporarily the healed or arrested case for emergency treatment. With regard to the healed case, who is not crippled, but shows stigmata of the disease in an innocuous scar, Chiefs should be educated to the fact that such patients are fully able and fit to return to their villages and assume normal life.

While at Mkalama I had the privilege of Dr. Schuppler's help,

as well as that of Dr. Thom. Dr. Schuppler is an experienced orthopaedic surgeon, and expressed his great interest in the possibility of orthopaedic measures in leprosy, and would be willing to attempt to restore function to paralysed limbs.

Before leaving Singida, I visited the Government Hospital and witnessed the skill and originality of Dr. Schuppler's repair of an upper jaw smashed through a lion maul—this was a remarkable piece of operative skill.

I returned to Dar-es-Salaam on November 24th and was met by Dr. Davis and was taken to the Dar-es-Salaam Club. In the evening I was invited to dine at Government House, where I was able again to appreciate the keenness and enthusiasm of Sir Edward and Lady Twining for a forward policy in leprosy control. My stay in Dar-es-Salaam was spent in discussing policies with those at Medical Headquarters. I also had an opportunity of discussing the Rural Leprosy Scheme, which Dr. Thomas has proposed for Mwanza. The scheme is sound and deserves a trial, particularly in regard to the possibility of the organisation of an E.A.H.C./BELRA Research Unit. I also was able to see something of the treatment in the Settlement near Dar-es-Salaam. The institution has the drawbacks of all urban institutions—it has limited space, and there are a considerable number of arrested cases. Isonicotinic Acid Hydrazide was being used, but it is doubtful whether the conditions are such as to be favourable for this work. Nevertheless, the Medical Specialist is keen and anxious to make the best use of the facilities available.

While in Dar-es-Salaam I also met Dr. Mackie, the Government Pathologist, who expressed his great interest and willingness to co-operate in any investigations in connection with the histopathology of leprosy.

I visited the Mwanza-Shinyanga area of Tanganyika Territory from Entebbe, as there is a regular air service between Entebbe and Mwanza. I arrived at Mwanza at 11.20 a.m. on November 26th and made contact with Dr. Foster, the A.D.M.S. of the Lake Province. The next morning Dr. Foster motored me to Kolondoto, near Shinyanga, the large leprosy settlement of the Africa Inland Mission. This is where the late Dr. Maynard did such good work some 20 years ago. Dr. Covell (the son of Sir Gordon Covell, the Malariologist), the D.M.O. of Sukamaland, accompanied us to Kolondoto. Unfortunately, owing to the time at my disposal I was only able to spend a few hours at Kolondoto. We saw most of the cases and discussed details of therapy, etc., with Dr. Barnett.

As in other institutions, there were a number of cases whose lesions were healed, and who from the public health standpoint

were no longer a danger. This question of the healed case is an administrative problem of importance. It is a fact that the arrested and crippled case, who cannot be re-absorbed into the community, has a rightful claim for compassion. It is just such persons, who are unfortunate, that merit the care and attention of philanthropic institutions, and such an appeal is naturally met by Christian Missions, particularly those interested in leprosy work. This means that there should be a section of every Mission home devoted to handicapped persons. Whether the Government is able to support such work depends on how far it is able to give financial help for the care of the disabled, but the first concern of the authorities is to support, as far as possible, all measures which directly contribute to the control of leprosy, and, where financial resources are limited, grants must naturally be given for the care of those patients who constitute a public health problem. In so far as a certain proportion of these advanced, arrested cases need hospitalisation from time to time, the hospital in the settlement, or a nearby general hospital, might be given special financial consideration for such cases when admitted for temporary medical or surgical treatment. How far financial aid of this kind can be given is a matter of negotiation between Missions and Government.

Before I left Kolondoto there was a conference in the Mission Superintendent's office, in which Mr. Maynard, Dr. Barnett, Medical Officer of the A.I.M., Dr. Foster, Dr. Covell, the D.M.O. Shinyanga, and the District Commissioner and myself took part. Matters of administration were discussed, and I trust I was able to help clear up certain difficulties, which had arisen between the Government and the Missions over matters of policy. The medical work is up to a good standard and the patients here could be used as additional clinical material for therapeutic trials of new drugs.

While at Mwanza I visited the E.A.H.C. Unit for Research, and met Colonel Laurie. I was greatly impressed with the plans and scope of the new research laboratories. Colonel Laurie himself welcomed the idea of stationing the Leprosy Research Unit at Mwanza. While the question of a site for this unit, on the value of which all agree, remains open, the following appeared to me to be reasons for giving serious consideration to Mwanza as the headquarters of the Leprosy Research Project.

1. Dr. Ross Innes and the BELRA unit would be more than welcome.
2. All routine laboratory work can be done by the existing staff.
3. Immediate laboratory accommodation for Dr. Ross Innes, and the likelihood of a house being available in the near future.

4. Laboratory space and an office not only available, but plans exist for providing laboratory accommodation for visiting research workers.
5. Availability for consultation with expert pathologists, bacteriologists, statisticians, etc.
6. There are plans for an African Hospital, where beds would be provided for leprosy patients undergoing special tests.
7. The possibility of building, within a short distance, accommodation for the housing of 100-200 leprosy cases chosen for special research investigation.
8. The proximity of an island where immunological research, and, possibly, a preventive scheme, backed with therapy, can be organised as a pilot unit.
9. There exists reasonable access (a fairly good road which will eventually become an all weather road) to a large and developing leprosarium at Kolondoto.
10. In connection with the contemplated African Hospital it may be possible to plan for orthopaedic and physiotherapy units.
11. The keenness of the Director (Colonel Laurie) to co-operate, and the enthusiasm of the local and central Governments.
12. The economy of development, with very little expense involved in accommodating staff, and minimum of expense for apparatus.
13. The relative proximity of Makerere College, the staff of which maintains the closest touch with Colonel Laurie.
14. A pure research centre, with no responsibility for routine teaching.

Since writing this report certain difficulties have arisen with reference to the proposed Research Centre, and until these have been overcome no firm suggestion is possible with reference to its creation. It's need and importance is universally recognised.