History of the Foundation and the First Decade's Work of the British Empire Leprosy Relief Association.

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(*Continued from Vol. V, No. 2.*)

Formation and Work of the Indian Branch of B.E.L.R.A.— As the result of a visit of Mr. Oldrieve to India, the Viceroy, Lord Reading, issued an appeal in January, 1925, in which he said : " I have convinced myself by personal observation that wonderful work is already being done in India on behalf of the lepers and for the prevention and cure of the disease. I ask all classes to join with me now in an earnest campaign to combat this dreadful disease." The result was remarkably good, for approximately £150,000 was raised, the interest on which has furnished an annual income of about £9,000 a year, with which the following advances have been made in less than one decade.

Organisation occupied the first year. Central and Provincial Councils were appointed and it was decided to hand over half the total income to the Provincial Councils in proportion to their original subscriptions to the Viceroy's fund, and this has been continued ever since as far as possible. Executive and Medical Committees were also formed.

Research has been throughout one of the main interests of the Central Council, which has largely financed the work of Dr. E. Muir, as a whole-time leprosy research worker in the Calcutta School of Tropical Medicine, and his staff. In 1927, Dr. J. M. Henderson was appointed to work with him and was succeeded on his retirement, in 1932, by Dr. Lowe, of the Dichpali Leprosy Institution. The research work done in Calcutta includes important improvements in treatment, such as the use of injections of Muir's creosoted hydnocarpus wightiana oil, a very cheap preparation suitable to Indian conditions, and avenyl, a combination of mercury and the oil, for use in cases complicated by specific disease. Work has also been done on the reactions produced by potassium iodide, thryroid extracts, the red corpuscle sedimentation test as a guide to prognosis and treatment, intradermal injections of hydnocarpates, together with much research in the pathology and bacteriology of human and rat leprosy. An average of £1,400 has been spent yearly on research during eight years.

Training Doctors in the improved treatment of leprosy has been an important feature of the work, for the Provincial Governments have deputed many of their medical officers to undergo short courses of training at the Calcutta School of Tropical Medicine, and latterly also at the Dichpali Leprosy Hospital in the Deccan, the cost of their training averaging £675 a year, including fares, being met by the Association, with totals of 655 doctors trained at Calcutta and 76 at Dichpali, up to 1932, or 731 in all. Another 850 are mentioned in the annual reports as having been trained by the survey parties in the provinces, many of whom are now treating leprosy at hospitals and clinics.

Propaganda has formed a most valuable part of the activities, and includes the preparation and display of films illustrating the progress and treatment of leprosy, and the use of wall charts and lantern slides illustrating the dangers of the disease and prophylactic measures against it. Many thousand copies have also been distributed of Muir's booklet on "Diagnosis, Treatment and Prevention," of a popular lecture on the disease, and pamphlets, on "Truths About Leprosy" and "What the Public should know about Leprosy." The annual average cost of propaganda has been £590.

Surveys have proved of even greater practical value and have been combined with propaganda and treatment in a most effective manner, as the following brief account will show. The returns of the 1921 census of the cases of leprosy in selected areas of each province were obtained, and the villages were visited to ascertain the real number of cases, as it was well known that only cases so advanced as to be evident to the lay enumerators are returned in the census figures. Between 1926 and 1931 no less than 2,435,610 persons were examined, and 16,499 cases of leprosy were discovered, or four times as many as the census figures of the areas dealt with, in accordance with the expectations of Dr. E. Muir. High incidence was found among backward aboriginal people and in labour forces. Markets and pilgrimages spread the disease, which is predisposed to by debilitating diseases and deficient diet. As a direct result of the surveys numerous clinics were started by the local authorities for the special treatment of cases of leprosy, and frequently several hundred patients were soon attending them. The provincial reports for 1932 show a total of 459 leprosy clinics and treatment centres in the six provinces which furnished returns. The Central Provinces alone reported 57,372 leprous patients, and

Madras had the largest number of clinics, namely 180, with a total of 336,675 attendances, which, at the previous year's attendances per patient, would indicate 26,935 cases of leprosy. Bengal had 100 clinics, and in 1931 had 11,133 patients, so that the total number of cases treated at the special clinics cannot be much short of 100,000 annually at the present time, in addition to which an unknown number are being treated at the numerous clinics of provincial hospitals. When we recall that only about 8,000 advanced cases, mostly unsuitable
for in all the leprosy institutions of India, only one decade ago, the advance is most encouraging, although it must be admitted that the average number of attendances of the patients is still far too low, although the more suitable cases are likely to persist longest with it. A conference of leprosy workers was held in Calcutta in 1933, when it was decided to devote more attention to visiting the houses of the leprous patients to advise their relations regarding preventative measures, and to trace contact cases with a view to their treatment in the early amenable stages. A very encouraging feature was the collection in the Salem district of Madras on a " Leper day " of over £2,000, mostly contributed by the poorest classes in coins of from one twelfth of a penny to one penny in value.

The Indian Branch are greatly indebted to the wise and experienced counsel of Dr. E. Muir, and also to the invaluable aid, as Chairman of the Executive Committee, of Sir Henry Moncrieff Scott, I.C.S., up to 1932, and later of Major-General J. D. Graham, I.M.S., Public Health Commissioner, India, Sir Ernest Burdon, I.C.S., as Hon. Treasurer. Sardar Bahadur Balwant Singh Puri has been Hon. Secretary, and it is noteworthy that the administrative expenses during the six years 1927-32, have averaged only £320.

Organisation of Leprosy Work in British Possessions.— Early in 1926 Mr. Oldrieve visited the British Colonies of Nigeria, the Gold Coast, and Sierra Leone, in West Africa, with the result that the Governments of the two former agreed to employ whole-time leprosy relief medical officers, who were selected by the Association and sent to Calcutta for special training under Dr. Muir, namely, Dr. T. F. G. Mayer and Dr. M. B. D. Dixey. Unfortunately, in 1931 their services were dispensed with owing to financial stringency, but a recent offer by B.E.L.R.A. to pay half the cost of whole-time leprosy officers in the medical

services of Nigeria and the Gold Coast has been accepted by the Colonial Office.

Progress in Nigeria.—Dr. Mayer began work here in 1927, and by 1930 nearly 6,000 lepers were being treated in 66 centres, with improvement in over 50 per cent., but with an estimated number of cases of leprosy in Nigeria of 95,000 much remains to be done. The largest leprosy colony is at Itu, in S. Nigeria, with about 1,000 cases, under Dr. J. Macdonald.

Progress in the Gold Coast.—Here Dr. Dixey made surveys and opened numerous out-patient clinics, as well as in Togoland, where there are 515 cases in a settlement, and 461 showed various degrees of improvement after nine months' treatment. In 1931 Dr. Dixey reported that out of 4,000 known cases of leprosy considerably over 2,000 were under treatment at 18 out-patient clinics and in a large settlement.

Barbados, Trinidad, Jamaica and British Guiana were visited later in 1926 by Mr. Oldrieve, an area in which rigorous compulsory segregation was still enforced, with the usual result that early amenable cases of leprosy were not found in the leprosy asylums and treatment was consequently greatly handicapped. The relaxation of the law to allow early mostly uninfective cases to be treated as out-patients at hospitals was urged, but so far only British Guiana, on the advice of Surgeon-General P. J. Kelly, has adopted the modern methods with great advantage. Trinidad has a good but costly island settlement for its segregated cases, which is an improvement on the former town prison-like asylum.

British Guiana Progress.—The results of adopting modern methods, as opposed to rigid isolation of all discovered cases of leprosy, is well shown in the report of Dr. F. G. Rose, on five years' leprosy work in British Guiana, recorded in Vol. IV, No. 1, of the Association's quarterly publication, THE LEPROSY REVIEW. Briefly, leprosy surveys were made and two leprosy clinics were erected at the cost of the Association, for treatment of early cases as out-patients, and two more have since been added. The more advanced and infective cases are sent for treatment to the leprosy hospital at Mahaica, where only cases suitable for treatment are now kept, the old hopeless crippled cases having been given separate accommodation. The result has been that over half the patients at what was formerly the Mahaica compulsory segregation asylum are now voluntary admissions for the sake of treatment, and of

491 treated patients, nearly all fairly advanced cases, 361 have improved, including 128 with the disease arrested, and out of 14 relapses only 6, or 4.7 per cent. of the released have failed to recover as yet. Moreover, in 132 further cases the disease has become quiescent. A number of hydnocarpus trees have been grown from seed sent by the Association, and some have already fruited, which will soon furnish a local supply of the oil for treatment.

It is interesting to note that the neighbouring colony, Dutch Guiana, has adopted the methods of British Guiana, and it is hoped that a visit of our Medical Secretary to the West Indies this year will result in our island possessions there adopting the modern methods.

WORK IN EAST AFRICA.

Tour through East Africa.—In 1927, Mr. Oldrieve made a 16,000 mile tour, which included Anglo-Egyptian Sudan, Uganda, Kenya, Zanzibar, Tanganyika, Nyasaland, North and South Rhodesia and Cape Colony, and he organised a number of Colonial branches of the Association, of which there are eleven, including seven in Africa, which have carried on leprosy relief work, and advised the Association regarding grants for providing treatment centres and accommodation for cases of leprosy under various missionary bodies in their territories. The following are some of the more striking advances made in this huge leprosy stricken area :—

Uganda, especially the western province bordering on Belgian Congo, is one of the most heavily infected areas in the Empire for its population, for a survey in 1931-32 showed 10,176 cases, which is probably only half the true figure. The Association financed the building of eight centres, in which Dr. C. A. Wiggins treated some 3,000 cases, motoring round to each every week, and has supplied a hospital where several hundred leprous children, taken out of schools, are being treated and educated under the C.M.S. Help has also been given towards founding the Lake Bunyoni leprosy hospital, under Dr. L. E. S. Sharp, of the C.M.S., in south-west Uganda, but much remains to be done.

Kenya is less infected than Uganda, and the coastal areas suffer most. Three leprosy settlements and a number of treatment centres are at work, but financial conditions have prevented much activity so far, and surveys to ascertain the number of cases are still required.

Tanganyika is believed to have at least 10,000 cases of leprosy, and in the absence of surveys the number is

probably much higher. No whole-time leprosy officer is available, but the Association has given financial assistance to a number of small leprosy settlements and treatment centres under medical missionaries of various denominations. By the end of 1933 the number of cases being cared for amounted to 3,462.

Zanzibar has at least 500 cases in an island population of 200,000, and affords a good opportunity to carry out the writer's suggestion to examine all the contacts of leprous patients every few months for five to ten years, with a view to detecting and clearing up the 80 per cent. or so of household infections while still in an early stage, and thus to reduce the disease rapidly in a single decade. Early in 1933, Dr. T. B. Welch, with five years' experience in charge of the large Trinidad leprosy settlement, was sent to Zanzibar at the cost of the Association, with help as regards residence from the local government, to make a survey and carry out the above plan, which will be watched with great interest.

Nyasaland and Northern Rhodesia are estimated to have some 15,000 cases of leprosy and by 1930 no less than 59 treatment centres were being supplied with drugs and literature by the Association, nearly all under missionary care, as the Colonial Governments had no material funds to spare.

Southern Rhodesia is a much more progressive area, for in 1929 the Dominion Government appointed Dr. B. Moiser as a whole-time leprosy officer, and in 1932, 749 patients were being treated in two leprosy hospitals as well as a number of other treatment centres. The number of cases is estimated to be 10,000, and the Association has given repeated liberal grants to aid the work. The number of cases under treatment in leprosy colonies had risen from 136 in 1922 to 998 in 1932, and they have more than doubled in the last three years, while early cases are now coming voluntarily for treatment.

The Anglo-Egyptian Sudan has a leprous area in the southern humid Bahr-el-Ghazal and Mongalla Provinces bordering on Uganda, where a remarkable campaign has been carried out under Dr. O. F. H. Atkey, who took advantage of a staff engaged in examining the scattered population yearly, for sleeping sickness, to note the incidence of leprosy. No less than 6,500 sufferers were found, mostly early cases; 4,800, including all considered to be infective, were moved to large settlements with 30 square miles of land, where they grow their own crops and are largely

self-supporting, while the remainder also receive treatment and are inspected regularly in their own villages. Thus, the plan long advocated by the writer of examining a whole population frequently and treating all the early cases and contacts, has been carried out on a large scale in the Southern Sudan, with the remarkable result that at the end of 1932 no less than 2,230 of the cases had been discharged during that year as free from all active signs of the disease, thanks to a large proportion of the cases being early mild ones. It is, therefore, now established that the nearer prophylactic measures approach the above ideal, the more rapidly and also the more economically will leprosy be reduced in the British Empire and elsewhere.

The Union of South Africa has at least 5,000 known cases of leprosy and for over a century past compulsory segregation has been more or less in force, during which time the disease appears to have much increased. As this system leads to hiding of all early cases for fear of life-long imprisonment, the leper asylums a few years ago contained only advanced cases unamenable to treatment, so it is not surprising that the medical authorities refused to acknowledge any material benefit from treatment. Fortunately earlier cases of leprosy are now being attracted by the improved treatment, and in 1930 the large Zululand leprosy institution at Emjanyana discharged no less than 20 per cent. of all their cases. Moreover, a decade ago all the 2,500 cases of leprosy then under control were examined bacteriologically, and one-third of the total were released as harmless, mostly chronic quiescent nerve cases, and room was thus found for many infective ones and a substantial saving was also effected. Our Secretaries have twice visited the Union and been given every facility for seeing the work being done there.

In 1925, 1926 and 1927, Colonial medical officers on leave were invited to meet the Medical Committee of the B.E.L.R.A., when the work of the Association was explained to them, and discussion invited, to the great advantage of all concerned.

After Dr. Robert Cochrane succeeded Mr. Oldrieve as Secretary, he toured through East Africa in 1930, from Egypt to the Cape, to consolidate and extend the work of the Association. In 1933 he visited India and Ceylon, the latter at the request of the Ceylon Government, and his work has been much appreciated wherever he went.

Supply of Drugs and Hydnocarpus Seeds.—A most important part of the work is the supply of drugs for the

treatment of leprosy to the various Empire colonies and clinics, chiefly in our African possessions. This has taken the form of the active sodium hydnocarpate, alepol, made for the writer by Burroughs, Wellcome & Co., as it can conveniently be sent out in powder form in 100 gramme bottles, one of which allows some 700 doses of the 3 per cent. solution to be made up for the weekly injections at a cost per patient of about half-a-crown a year. By 1928 the number of doses supplied to our Empire had risen to 255,000, and in 1932 it reached 635,000, or an average of just over 500,000 during the last four years, at an annual average cost of £760.

Hydnocarpus Wightiana and H. Anthelminica seeds have also been widely distributed to all our leprosy infected possessions with warm humid climates suitable for the growth of the oil-yielding trees, and several countries, such as Fiji and East Africa, now have 1,000 trees of the first variety that are already seeding, so that before long many of our colonies will be largely self-supporting as regards the use of the creosoted whole oil, and will also be able to prepare their own more expensive ethyl esters by Muir's economical cold process, as they are being increasingly used for injection into leprous lesions by the intradermal method. The cost of distributing the seed has amounted to only about £200, so should prove to be a very good investment on similar lines to the importation of Cinchona seed from South America to Asia over half a century ago.

Supply of Leprosy Literature.—The organisation of leprosy colonies and treatment centres, and the supply of the new preparations required to be supplemented by information on the detailed treatment, early diagnosis and other essentials to success, as medical literature is scarce in many of our overseas possessions and practically non-existent in remote mission stations. The publication at a low price, by Rogers and Muir, of their book on "Leprosy," and of Muir's pamphlet in India, already mentioned, and subsequently of various papers by Dr. Cochrane, enabled information to be supplied to those who required it. So many inquiries were, however, received, that in 1928 the Association commenced publishing a small quarterly journal entitled "Leprosy Notes," and distributed 1,500 copies in the first year of issue. In 1930 this was slightly enlarged and brought out under the title of "Leprosy Review"; this completed its fourth volume in 1933, and has enabled the experience and results obtained in different parts of the British Empire, and far beyond its borders, to be recorded

and thus made available to other workers, and by 1930 its circulation was close on 2,000 copies.

The *Tropical Diseases Bulletin* has for many years published abstracts of the literature on leprosy (among other diseases), compiled by the writer, and he arranged, very shortly after the Association was formed, to obtain reprints at our cost, for distribution, which practice has been continued ever since to the number of about 750 copies annually to medical workers throughout our Empire, to enable them to keep up to date with the most recent literature on the subject. Since Dr. Robert Cochrane was appointed Secretary he has given much instruction on treatment during his foreign tours. In these various ways a great deal of highly important educative work has been accomplished by our Association at an average annual cost during 1928 to 1932 of nearly £500.

Conclusion.—The annual income of our Association during its first ten years has averaged in round figures £5,700. This sum has had to provide for the Empire-wide organisation and tours of our Secretaries, the yearly supply of half-a-million doses of drugs, and an immense amount of literature, and the housing and staffing of our headquarters (office accommodation during the first five years having been provided free of charge by a medical member of the Committee). Mention should here be made of the invaluable work of our Assistant-Secretary throughout, Miss Helen Wallich, on whom the main burden has fallen during the long absences on foreign tours of the Secretaries, assisted by Miss Jenkins from 1929-1932, and since by Miss Freda Robins, on whose indefatigable labours much of the Secretarial work and the sending out of immense numbers of appeals has depended. I also take this opportunity of thanking all those who, by personal service on various Committees, or by their generous contributions in difficult times, have rendered possible the good start of our Association in the work of mitigating and preventing such a distressing and ancient disease as leprosy. I trust this account of our labour will suffice to convince our supporters that our organisation is worthy of being entrusted with funds more commensurate with the immensity of the problem we are endeavouring to solve, a task in which we have always had the sympathetic and knowledgeable encouragement of our Patron, H.R.H. The Prince of Wales.

Fortunately, the Rev. P. B. Clayton, Founder Padre of Toc H, returned last year from an Empire tour impressed with the necessity for a great campaign, with a view to

abolishing leprosy from our Empire, much as the slave trade was abolished a century ago. After he had consulted the writer, a special Committee of Toc H and B.E.L.R.A. members was constituted to obtain volunteers for service in leprosy colonies and institutions, and funds to finance them for five years in the first place. There are already signs that such an appeal will not be in vain, so we may look forward confidently to a great extension of our work during the decade we have just entered on with redoubled enthusiasm in the cause of the half-a-million or more unfortunate sufferers from leprosy in our Empire.