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EDITORIALS

Editorials are written by members of the Editorial Board, and opinions expressed are those of the writers. Any statement that does not meet with agreement will be of service if it but stimulates discussion, for which provision is made elsewhere.

SOUTH AMERICA AND LEPROSY

Leprosy is ordinarily thought of only in connection with the older parts of the world—the Far East, India and Tropical Africa. The New World is indeed new in this respect; there is no evidence that the disease existed there until it was introduced by the Europeans who took possession or by others whom they brought with them. Because it is not much publicized, it is not generally realized how important leprosy is on that side of the world, yet in large areas of the South American continent it has a strong foothold and is a serious problem.[1]

On the western coast of that continent leprosy is negligible and ignored. There is none in *Chile,* it is said, except for a few cases on Easter Island, a thousand miles out in the Pacific. *Peru* has also been reported as having none, which may be true for the arid coastal strip and the mountain areas, but not for the eastern part that lies in the warm Amazon basin; the disease exists in that region and there are 150 or more patients in an asylum there.[2] *Bolivia* is said to have

[1] Some of the data used here are from the compilation by E. B. McKinley entitled: The Geography of Diseases, The George Washington University Press, Washington, D. C., 1935. Others are from an article by Rev. W. E. Browning, representative of the American Mission to lepers, *Lep. Rev.* **6** (1935) 160. For the most part the data regarding Brazil the writer obtained there personally.

[2] Ruiz, E. A. *Ref. med.* **21** (1935) 565 [The Journal **5** (1937) 111].

occasional cases in a few areas, again on the Amazon side. In *Ecuador*, Browning says, there may be several thousands of cases, but a report that appeared a few years ago[3] stated that there were about 500 lepers in a population of two and one-half millions, and two rather primitive "homes" for them. Nothing active is being done in any of these regions.

On the other hand *Colombia*, third in population and fourth in size of the countries of South America, is a veritable hotbed of leprosy and segregation has long been carried on. It is said that the first leprosarium in the Americas was established at Cartagena, near the beginning of the seventeenth century. Today there are some 8,000 cases in three leprosaria with an assumed total of perhaps 25,000 in a population of eight millions. This high incidence (3 per 1,000) exists despite the fact that most of the people live at altitudes of from 4,000 to 9,000 feet above sea level; leprosy is not a low-country disease here. In spite of the importance of the disease there, little is heard from Colombia on the investigational side. The expense of supporting so many segregated lepers has been great, but efforts to improve and rationalize the situation have been made lately and a modern leprosy law has been adopted.[4]

Venezuela is also interesting, though apparently leprosy is not really widespread. The two leprosaria together contain about 1,000 patients, doubtless only a minority of cases that exist in the population of some three millions. Aside from caring for these individuals there is as yet no evidence of activity. The old political dictator had other interests. The new government created, in 1936, a Ministry of Health and Social Welfare which sent one physician[5] on a prolonged leprosy tour, and increased the appropriation for the work, but conditions since then have been such that the specialist mentioned has recently resigned. It is said that there is an especially interesting epidemiological feature in Venezuela in that, while one of the two main foci of the disease is in the tropical lowlands in the northwest part of the country, the other is high in the mountains where conditions are extremely different.

The Guianas seem to have their full share of the disease. Quite a little has been heard from *British Guiana*,[6] where it

[3] ARCOS, G. *Medicina* **4** (1932) 63 [THE JOURNAL **2** (1934) 497].

[4] THE JOURNAL **3** (1935) 232; and **5** (1937) 373 (news items).

[5] Dr. Martin Vegas, who supplied some of the information used here.

[6] ROSE, F. G. THE JOURNAL **1** (1933) 337, and elsewhere.

is estimated there are 700 lepers (more than 2 per 1,000), with about 300 open cases segregated in an asylum and the closed ones under treatment in four outpatient clinics. In *Surinam* (Dutch Guiana) there are three asylums with nearly 500 patients and an outpatient service for about 300 others, and special interest is taken in children of lepers.[7] Since the population is only about 150,000, the actual incidence is unusually high, over 5 per thousand. In *Guayane* (French Guiana) with its small (about 50,000) and in certain respects peculiar population, it is also high; over 100 new cases were discovered in 1934, some of them in the penal population, and nearly 200 cases were under treatment at the Institut d'Hygiene.[8] An interesting feature of these and similar regions is that the disease is said not to affect the primitive Indian population.

The two (relatively) small countries in the southern part of the continent, *Paraguay* and *Uruguay*, are very quiet on this subject. In Paraguay, it has been said, publication of information about leprosy is prohibited but the disease is fairly general, with a probable total of 2,000 or more cases in a population of less than one million.[9] Reports of an effort to develop a suitable colony have appeared from time to time.[10] No information about leprosy in Uruguay is available except for a statement that it has more than 500 cases, and a report that a law designed to control it has been enacted.[11]

Of the two largest countries on the continent, *Argentina* is peculiar, first, in that though the country is well within the temperate zone the disease seems to be increasing rapidly; and, second, with regard to the earnest efforts that for years the leading dermatologists have made to stimulate action in the matter and the reluctance shown by the authorities to do much about it. Aberastury before his death, and since then Baliña in Buenos Aires and Fidanza in Rosario, have repeatedly urged that the situation demands attention. The numbers of cases seen, chiefly from the "warm, humid littoral regions," have led to constantly increasing estimates that are now more or

[7] LAMPE, P. H. J. *Lep. Rev.* **3** (1932) 147 [THE JOURNAL **2** (1937) **500**]; also THE JOURNAL **5** (1937) 378 (news item).

[8] LEDENTU AND PELTIER, *Ann. Méd. Pharm. colon.* **34** (1936) 47 [THE JOURNAL, this issue, p.581].

[9] THE JOURNAL **5** (1937) 224 (news item).

[10] HAY, J. N. *Lep. Rev.* **5** (1934) 145. Also THE JOURNAL **2** (1934) 231, and **3** (1935) 506 (news items).

[11] THE JOURNAL **5** (1936) 385 (news item).

less official at 8,000 cases and range up to two or three times as much, for this country of some 12,000,000 people.[12] There have been official plans, and even actual attempts, to build important leprosaria, but as yet only a relatively small number of lepers (perhaps 300), almost entirely advanced, needy ones, are cared for in institutions. And that is done only through aid from a remarkably active organization of philanthropic women, known as the Patronato de Leprosos. In the meantime a few interested dermatologists are devoting such time as they can to clinical studies of the disease. It is difficult to see how this country can postpone much longer the initiation of a real effort to study and control this growing problem.

Brazil is a conspicuous exception to the rest of the continent in that it is taking seriously its leprosy problem—said in one report to be "admittedly the most pressing" public health problem in the country. The situation that has developed there in the past few years merits the recognition of leprosy workers generally.

In large parts of this vast territory, which is considerably larger than the United States, the disease is rampant. The most recent estimates[13] are about 50,000 cases, more than 1 per 1,000 of the population, and many believe that figure to be conservative. No large section of the country is entirely exempt (though Bahia is estimated to have only about 1 per 10,000), but there are two main foci. The northern focus (Amazonas, Acre, Parâ and Maranhao), together with the Guianas, Venezuela and Colombia, constitute the great tropical leprosy area of South America. The estimated incidence for Amazonas and Acre is 6 per 1,000. The southern focus (Minas Geraes and São Paulo, also Espirito Santo, Paraná and Santa Catharina) is mostly within the tropical zone but it is actually subtropical in climate and ties up loosely with the countries that constitute the more unusual southerly area of the disease.

The antileprosy activities are in part Federal and in part State; and as in Japan some of the leprosaria belong to one entity and some to the other, which is a little confusing. The

[12] Reports have been published by FIDANZA, E. P., *Lep. Rev.* **3** (1932) 107 [THE JOURNAL **2** (1934) 500]; by BALINA, P. L., *Semana Méd.* **2** (1934) 682; [THE JOURNAL **4** (1936) 254]; by SUSSINI, M., ROBERTO PASO, J. AND PUENTE, J. J. *Semana Méd* **42** (1935) 1135; [THE JOURNAL **4** (1936) 549, and **5** (1936) 109]; and by FERNANDEZ, J. M. M. *Rev. Med. Argentina* **25** (1935) No. 4 [THE JOURNAL **4** (1936) 549]. A comprehensive news item appeared in THE JOURNAL **4** (1936) 579.

[13] THE JOURNAL **5** (1937) 523 (news item); DE SOUZA-ARAUJO, H. C. *Mem. Inst. Oswaldo Cruz* **32** (1937) 111 (a survey of Brazil in 1936).

nature and actual amount of work done by each vary greatly in different regions, of course; in some of the least developed states there is only Federal intervention, while on the other hand São Paulo accepts little such aid. Not to be overlooked are the activities of the large number of private organizations that help the leper and his dependents, and that are constructing 13 "prevention homes" for children of lepers.[14]

Large-scale participation by the Federal government is a fairly recent development—indeed, that must be said of all of the serious leprosy work in this country. Much credit is due to Professor Ed. Rabello, particularly for the present leprosy legislation, and, among others, especially to Dr. H. C. de Souza-Araujo who some fifteen years ago began to insist, in season and out, that systematic antileprosy work should be undertaken. The campaign did not assume "the character of a national enterprise" until 1935,[15] but the Federal government has now taken over, to enlarge, improve and systematize, most of the asylums and refuges that had been established from time to time in various parts of the country, and has built or is building several new ones. There are now in operation 28 leprosaria of all kinds and sizes, and the 14 more that are under construction will bring the total to 42. It is estimated that the country needs accommodations for some 24,000 cases, whereas only 10,000 were in isolation in 1936. Dispensaries are, of course, a part of the general scheme.

In Rio de Janeiro there are two other interesting phases of activity. One of them is the Centro Internacional de Leprologia, organized in 1934 cooperatively by the Brazilian government and the League of Nations with financial assistance of Sr. Guilherme Guinle, and now under the direction of Professor Rabello. It is an investigational and postgraduate training center,[16] and occupies one floor of Professor Rabello's dermatological institute at the principal hospital in the city. The department for the study and production of antileprosy drugs, headed by Dr. H. I. Cole, the only member of the Centro staff contributed by the League of Nations, is in the Instituto Oswaldo Cruz.

It strikes the newcomer as strange that the chemists are the only professional men in Rio de Janeiro who are doing full-

[14] THE JOURNAL **2** (1934) 228; **4** (1934) 113; **5** (1935) 216 (news items). Also, WEAVER, E., Trans. Cairo Congress, in press.

[15] AGRICOLA, E. The Program of the Federal Government for the Control of Leprosy in Brazil. Rio de Janeiro, 1938.

[16] THE JOURNAL **2** (1934) 112; **3** (1935) 235; **5** (1937) 216 (news items).

time leprosy work. With rare exceptions, however, that condition holds for all of South America. Professionally, leprosy is only a part-time matter; the inducements of career positions are lacking. For example, there is no resident physician at the 650-patient Curupaity "hospital-colony," the leprosarium of the Federal District (Rio de Janeiro). Even in São Paulo, where there are over 70 professional men on the leprosy department's roster, all but two are on a part-time basis. The exceptions are in charge of two of the leprosaria; the other three are without resident doctors. In Argentina there is not a single full-time worker in leprosy. This part-time arrangement is one that the visitor finds it a little difficult to get used to.

The other phase of activity to be seen in the Federal District is the care given to the lepers there. There are 1,5000 now known, with presumably an equal number not known, about one-half of the total coming from neighboring states. The leprosarium can accommodate only a part of the open cases. For all of the others, the city has been divided into twelve districts and at a center in each of them treatments are given and the patients are recorded and supervised by visiting nurses in a manner more thorough than the writer has ever seen elsewhere. Last June there were 639 patients, mostly noncontageous, on the nurses' visiting lists. It is from among such nonisolated cases that are drawn most of those that are studied at the Centro.

Mention should be made of a most interesting method of treatment that has been experimented with in Rio lately and that has excited the experimenters. It is a novel thing, compression of patients with oxygen in large sealed tanks.[17] This procedure has been used in cancer for some years by Professor Ozorio, but he had to be induced to try it in leprosy. The results observed after a few months were unexpectedly good and rather high hopes are entertained for the method. It may be said that what can be shown a visitor seems to justify more extensive trial of the method under careful control. It would be interesting indeed if the leprosy bacillus in the tissues should prove to be particularly susceptible to increased concentration of oxygen.

The visitor to Brazil, whether he has time to visit the active states of Minas Geraes and Espirito Santo or not, has to spend time in São Paulo as well as Rio de Janeiro. The differences

[17] RABELLO, E. AND OZORIO DE ALMEIDA, A. *Bull. Soc. française Dermatol. et Syphil.* (1938) 810 [THE JOURNAL, this issue, p. 539].

between the two places are great, and there is a rivalry—quite friendly of course—that is obvious and at times entertaining. In São Paulo, wealthy when the coffee market was good there are some seven million inhabitants and more than 11,000 known lepers, of whom over 6,500 were in segregation in 1937. To cope with the problem there was created several years ago the Departmento do Prophylaxia da Lepra, headed by Dr. Salles-Gomes. This department is unique in several respects, one being that it is independent of the health service. It controls the five leprosaria (one in each of the leprosy districts into which the state is divided), the two preventoria for the children of lepers, a crêche in the city for young infants, and the numerous dispensaries. Much could be said of the many excellent features of these institutions, especially of the leprosaria. They are all quite recent, the oldest official one having been opened in 1928. Unusual provisions are made for entertainment, and some of the patient's clubs—built mostly with funds from private sources—are really luxurious. A film that was shown at Cairo astonished most of those who saw it, and left most of them envious.

With regard to the central organization of the department there are three distinct units in the city of São Paulo: (*a*) The central office, with a truly remarkable system, its own supply department and even its own engineering staff for construction work; also a couple of lawyers who take care of the personal difficulties of segregated patients. Records of every one of the 14,000 lepers that have been registered since 1924 are immediately available, and also cards for the 28,000 and more contacts that have been examined in late years. (*b*) The laboratory section, for routine bacteriological, pathological and related work, supported in part by a charitable organization. Four girls are required for the preparation of histological slides alone, and five or six people do only smear examinations. The antileprosy drugs for the state are prepared here, and there is a well equipped department for gross and micro- photography. The whole is decidedly impressive, and yet it is pointed out to the visitor that this is essentially a routine laboratory; funds have already been secured to build a research institute at the nearest of the leprosaria. (*c*) The library, where surprise becomes astonishment. Here is a collection of leprosy literature that unquestionably is without equal in any similar special unit anywhere. A keen librarian has been given a free hand in acquiring leprosy items and it would be difficult to name one that is not available. A card index contains

references for all pertinent articles written by present-day workers. At intervals, members of the department staff receive from the library mimeographed lists of titles in current literature, and any article that a field man wants to read is copied for him by typewriter—no publication being allowed to leave the library.

The leprosy workers in Brazil admit certain difficulties and handicaps, one of them (recognized by some) being that the situation is to a certain extent immature, as regards both the physical set-up and their own personal experience. At the same time there exist interest, enthusiasm and ability, and an evident determination to carry on and to intensify the fight against this disease. As the organization becomes more developed the output of scientific work will increase. Already it is of respectable volume and quality, as is to be seen from the *Revista Brasileira de Leprologia*, a unique periodical which is of unhappily limited availability because so few people read the Portuguese language. Taking all things together, it must be said that Brazil is already one of the most important centers of leprosy work in the world. It can no longer be left out of the itinerary of the traveller who sets out to acquaint himself with the men and materials in the leprosy centers.

—H. W. Wade