LEPROSY IN QUEENSLAND*

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Leprosy has been accorded brief treatment in the previous annual reports of the health and medical services in Queensland, but the increasing importance of the disease in the state indicates the necessity for more detailed description.

There are now several well-known areas where leprosy is endemic in this state, which is the only one in the commonwealth where the disease is a major problem affecting white people. In Tasmania, Victoria, South Australia, and the southern part of Western Australia it is now practically unknown. In New South Wales the cases are exceedingly few. On the other hand, in the northern part of Western Australia and in the Northern Territory of the commonwealth the disease is very much more common, but it occurs almost entirely among aboriginals. In Queensland it is endemic among both white and colored residents.

This, of course, is no new situation. Leprosy has been known here for more than fifty years, and there has been no outstanding increase in the number of cases reported; in fact, in terms of population, the incidence now is much less than it was during the period of native labor, when the disease was introduced here by Chinese coolies and possibly, Kanakas.

Nevertheless, leprosy has a particular interest here because it is an old disease seen in a new environment; and, because of the relative smallness of the population and the few cases, there is a better opportunity to observe its propagation and transference than elsewhere. Moreover, for the same reasons it should be amenable to control by public health measures. The Health Act of 1937 gave us particular opportunities for the further control of the disease by providing power to examine suspects and contacts at such times and for such periods as the Director-General shall determine.

* This article is based on the Annual Report on the Health and Medical Services of the State of Queensland for the year 1937-38, published in Brisbane, 1938.

Evidence of marked spread of the disease in closed communities occasionally occurs, and one such instance in an aboriginal station has been examined in North Queensland during the last eighteen months. This investigation has been assisted by the Commonwealth of Australia which, through the National Health and Medical Research Council, allocated £500 to the incidental expenses of the work. In spite of this grant the work would have been impossible had not the minister in charge of this department permitted the services of the officers investigating the situation to be regarded as part of their normal duty.

The station concerned was established in 1914, and an attempt is being made to trace the origin and spread of the disease from that date.[1] The first reputed case occurred in an old aboriginal woman who died in 1916, and the second in a male aboriginal belonging to the same tribe who died in the settlement in 1928. His case was not diagnosed, and he lived with his family in casual contact with other settlement natives. The third reputed case was also a "cousin" or "brother," and was actually the first proved case at the settlement. He was diagnosed in 1925. A third "cousin" or "brother" was constantly associated with the other two. These three men have left descendants, several of whom are lepers. The first of them left two sons, who are at present in the Peel Island Lazaret, where his only grandchild also was admitted in March, 1938. The third "brother" left no children, but the second, among his children, had two girls and a boy who were admitted as lepers in 1937.

A preliminary investigation of the settlement in 1937 showed that there were, in all, eight lepers (all blood relations) who were bacteriologically positive. The total has now reached fourteen, and, of these, several are not family but dormitory contacts. The significant point, however, is that about twenty-five other natives exhibit lesions suggestive of leprosy, although they are bacteriologically negative. It is probable that several of them will become bacteriologically positive later. A complete list of the families yielding suspects or proved cases has been made, and every member of these families is under examination at intervals of three months.

[1] It is particularly difficult to trace contacts among the natives, because they rarely know their own relationships and, since their social organization broke down a generation ago, they use such terms as "father," "mother," "uncle," "cousin," etc. as a matter of custom rather than of kinship.

In every case in this group the neural manifestations of leprosy have predominated, lepromata being infrequent. The neural lesions are, variously, areas of anesthesia and paresthesia, areas of depigmentation and hypopigmentation, with thickened nerve trunks, hyperidrosis, and, occasionally, a few plaques indicative of tuberculoid leprosy. As is well known, such cases give positive smears only after difficult and intensive search. The disease progresses slowly, the type of lesion encountered seeming to indicate that the resistance of the natives is fairly high. The majority of the natives are well developed and well nourished.

During the year an attempt was made to institute, as a diagnostic measure, the methylene blue method practised by Montel and other leprologists since 1934 but apparently not previously attempted in Australia. All who have used the method comment on the marked tattooing of the lesions, the dye being apparently retained by the lepra cells. The experiment was, however, disappointing. Intravenous injections on successive days (5 cc. to 15 cc. first injection; 10 cc. to 30 cc. second injection) were followed by uniform and characteristic immediate effects, but no staining of the lesions was observed in any case at any of the times of examination (5 minutes, 1 hour, 4 hours, 24 hours, 48 hours, 14 days after the injections). These disappointing results were probably due to the fact that the overseas reports are of lepromatous cases, not of neural leprosy.

Dr. Cecil Cook, in 1925, made a careful examination of leprosy in Queensland and in his report, published two years later, made the following statement:

> The venue of heaviest incidence has changed periodically with altered social conditions. Before 1890, the goldfields of the Peninsula furnished the great majority of cases in Chinese and aboriginals, the canefields of Mackay, Bundaberg, and Moreton in the South Sea Islanders, whilst sporadic cases amongst Europeans were occasionally reported in the southern portions of the State, principally derived, no doubt, from endemic areas in New South Wales.
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> From 1890 to 1905, leprosy in Queensland was principally a matter of endemicity in kanakas. Practically the whole of the eastern coast was included in the endemic areas at that time—Bowen-Proserpine, St. Lawrence-Yaamba, and Gladstone being the only free areas. It is significant that these [endemic areas] were localities to which the immigration had been greatest—viz., Cairns, Mackay, Bundaberg, and the South Coast.
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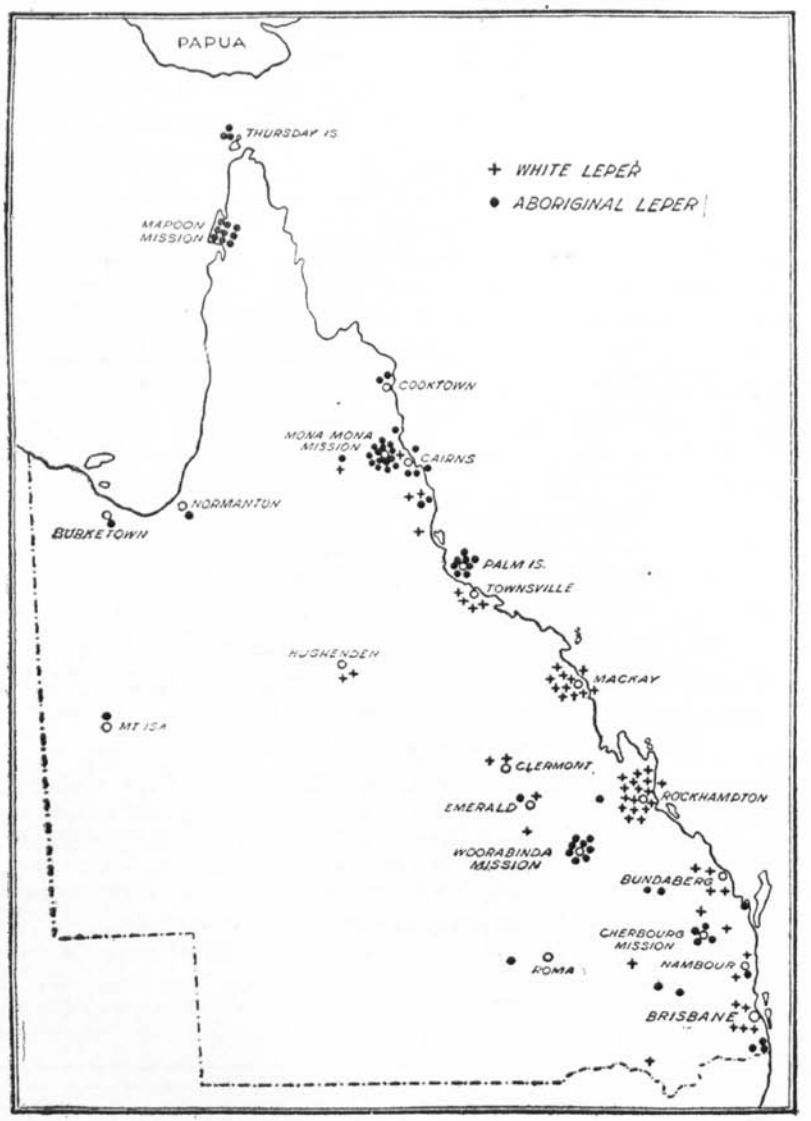
> With the virtual elimination of the kanaka as a feature of the population consequent upon the termination of the indenture system, the malady disappeared from those localities where its endemicity had depended upon the existence of an appreciable island community. Subsequent to 1905, or thereabouts, therefore, it has been found that leprosy has gradually disap-

peared from Bundaberg and Mackay. On the other hand, in those localities where sporadic cases were first noticed amongst Europeans, either independently of or in conjunction with endemicity in coloured aliens, the disease has persisted and for the most part increased in incidence. Such



TEXT-FIG. 1. Map showing distribution of cases of leprosy detected in Queensland from 1925 to June 30, 1938. In total 129 cases are plotted, 58 whites and 71 aboriginals. A few cases have been omitted because their residence was not definitely established.

are Cairns, Townsville, Rockhampton, Maryborough, and Brisbane. From the central districts alone, twenty-nine infected Europeans have been reported in the period 1908-1926. Meantime, the disease has persisted amongst aboriginal tribes wherever these remain in appreciable numbers.

Although, with the scanty data available to him, these conclusions and predictions were of remarkable accuracy, further evidence in connection with the situation is not, perhaps, so promising in so far as some of the coastal towns are concerned.

The concentration of aboriginals in settlements has materially aided the detection of the disease, and has been of considerable value. From the public health point of view, it is much more desirable that cases should be located in single communities rather than scattered throughout a wide range of territory, in contact with white persons.

Distribution.—The present position is shown in Text-fig. 1, which represents the probable place of infection in 129 cases of leprosy (58 white persons and 71 aboriginals) which have occurred in Queensland from 1925 to the middle of 1938. A few cases have been omitted because their residence was uncertain. Except on the coast, there appears to be no distinctively established endemic area among white persons.

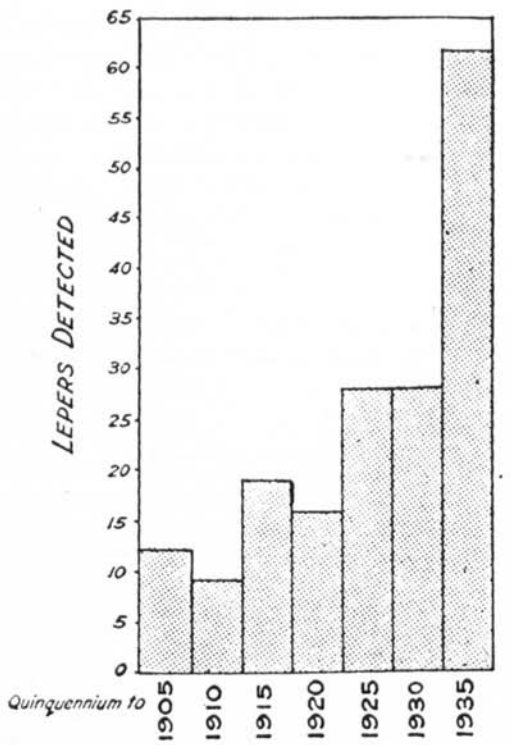
TABLE 1. *Cases admitted to the lazaret, 1925-1937.*

Year	Admitted					Changes			
	Total number	Sex		Race		Discharged	Readmitted	Died	Remaining
		Male	Female	White	Colored				
1925	7	6	1	3	4	3	0	4	0
1926	8	6	2	5	3	5	0	2	0[a]
1927	2	1	1	2	0	2	1	0	0
1928	7	5	2	6	1	4	1	3	0
1929	3	3	0	0	3	0	1	2	0
1930	8	6	2	6	2	4	1	4	0
1931	12	10	2	7	5	7	0	3	2
1932	12	7	5	1	11	5	2	3	6
1933	12	7	5	3	9	2	1	5	6
1934	12	11	1	3	9	2	0	4	6
1935	14	8	6	3	11	5	1	2	8
1936	12	9	3	9	3	3	2	2	9
1937	17	9	8	9	8	0	0	0	17
TOTALS	126	88	38	57	69	42	10	34	54

[a] One female escaped.

Incidence.—In the thirteen years from 1925 to 1937, inclusive, a total of 126 cases has been admitted to the Peel Island Lazaret, an average of almost ten a year. These are shown in Table 1, with data on the changes that have taken place among

them. It will be noted that 88 were males and 38 females, a ratio of 2.3:1. Of the total, 42 have been discharged; and of these, again, 10 have been readmitted to date. The present condition of the 32 patients who have been discharged and not readmitted cannot be ascertained from departmental records in many cases, as their period of surveillance has expired. The death rate is seen to be high, 34 cases having died.



TEXT-FIG. 2. Graph showing the numbers of cases of leprosy detected in Queensland between 1900 and 1935, by quinquenial periods.

The figures in Table 1 show that since 1930 there has been a marked increase in the number of colored lepers detected in Queensland. In 1935 and 1936 the number of white persons admitted to Peel Island has shown a definite increase. In Text-fig. 2 the numbers of new cases are shown graphically by five-year periods, from 1900 to 1935. A marked increase is shown for the quinquennial period 1931-1935, the total jumping from 28 in 1926-1930 to 62 in 1931-1935. At present, this increase is largely caused by the increased numbers of colored lepers detected.

Age incidence.—The average ages at the time of notification were as follows:

White (both sexes)	41.0
Colored (both sexes)	33.9
White males	43.3
White females	34.1
Colored males	34.5
Colored females	29.0

The numbers are too small to establish an incidence in the various age groups. The youngest leper was seven and the oldest ninety-two. It is to be remembered, of course, that cases are usually found after the disease has existed for some years, and, in many instances, for many years. The outstanding fact of importance is that an increasing number of children show infection, indicating the established endemicity of the disease.

REPORT ON PEEL ISLAND LAZARET, 1937-1938

(Dr. D. W. Johnson, Visiting Medical Officer)

On July 1st, 1937, there were 74 patients at the lazaret, 28 whites (22 males and 6 females) and 46 colored persons (31 males and 15 females). During the year 14 patients were admitted, 8 whites (4 of them readmitted) and 6 aborigines.

During the same period 3 white patients and 2 aborigines were discharged on parole. The death rate was heavy, 13 patients dying, the majority of them advanced in years. On June 30th, 1938, 70 patients remained.

All patients receive treatment regularly with chaulmoogra or hydnocarpus oils or their derivatives, both orally and by intramuscular and subcutaneous injection. Particular attention is paid to diet, and patients receive a well-cooked, abundant variety of foods. The milk supply has been increased, and fruit and green vegetables are liberally supplied.

It has been found that aboriginals, especially, respond to treatment very quickly if admitted in the early stages of the disease, and this can be largely attributed to the good diet available. On their discharge they return to an unbalanced, deficient dietary, and frequently relapse.

During the year a six-bed emergency hospital, for acute and advanced cases, has been erected, which will permit those cases needing frequent attention to be centralized in one building.

Further improvements are contemplated. As in previous years, it has been the aim of the department to make the lot of the patients as comfortable as possible, and, where justified, requests for luxuries are not refused. Frequent visits by relatives are encouraged.