1890.

NEW ZEALAND.

LEPROSY AMONG THE MAORIS AT TAUPO AND ROTORUA

(REPORT BY DR. GINDERS ON).

Laid on the Table by the Hon. Mr. Hislop, with Leave of the House.

Dr. GINDERS to the INSPECTOR-GENERAL of HOSPITALS, &c., Wellington.

SIR,— Rotorua, 4th July, 1890.

I have the honour to report that, in accordance with your instructions, I proceeded to Tokaanu on the 24th ultimo, where I arrived on the 26th, and on the following day commenced an examination of the cases of Maori leprosy there, Mr. L. M. Grace acting as interpreter. I had previously, on the 1st ultimo, visited an isolated case at a spot called Kaimoe, twelve miles from Rotorua, on which occasion J. H. Taylor, Esq., J.P., was kind enough to drive me out and act as interpreter.

It will be convenient to give the history of each case in the order in which they came under my notice.

Case 1.—Ereatera, a male Native, aged sixty, belonging to the Ngatirangiwewehi Tribe, of Awhaho, on Lake Rotorua, isolated by his tribe at Kaimoe, on the edge of the Oropi forest, got his first symptoms of *ngerengere* in 1879. Pale spots and patches appeared on his thighs and back, which are still visible, but have never at any time been anæsthetic. Two phalanges of the right index finger are gone; the stump is well healed. The other three fingers are permanently flexed on the palm. The thumb is normal. The first joint of the left index finger is also gone, and the other fingers flexed as on the right hand. Both hands are anæsthetic, sensation beginning at the wrist, but some degree of numbness existing as far as the elbows. The disease has quite lately attacked the right foot, gangrene having commenced in the great toe, with considerable swelling of the whole foot. He complains of much pricking pain, which he compares to that of a burn. The foot is anæsthetic, and numbness exists as far as the knee. The same thing obtains on the left side, but the foot and toes are to all appearance normal. There is no contraction of either flexors or extensors. The right eye is totally blind from cataract. His general health is fairly good. His wife has always lived with him, and is in good health; they have no children. He has no collateral relative who ever suffered from the disease. He states that he has known cases, commencing as his did, with the discoloured skin-patches, to be completely cured without loss of substance. He never resided in the Taupo district, or associated in any way with persons suffering from *ngerengere*. He is free from all superstition with regard to the origin of his disease, and states frankly that he has no idea how he got it. He has fed much on rotten maize (*kaanga-piro*), rotten potatoes (*kotero*), and putrid shark (*ika-panuwhera*). This appears to be a case of the purely anæsthetic form of the disease.

Case 2.—Hiri, a male Native, aged thirty-eight, of the Ngatikurama Hapu of the Ngatitu-wharetoa Tribe, residing at Tokaanu, has been suffering from *ngerengere* since August, 1881. In this case the pale skin-patches are absent. The first symptoms were swelling of the hands and feet, with pricking pains. At present two joints of the right index finger are gone, one of the middle finger, the whole of the third finger, and one of the little finger; the thumb is ulcerating. On the left hand the little finger and thumb are flexed, and two joints of each of the other fingers gone. Anæsthesia is complete to the wrists, with numbness up to the elbows. On the right foot all the toes are ulcerating. On the left, the great toe is gone entirely to the head of the metatarsal bone. The toes on both feet are permanently extended from contraction of the extensors. Anæsthesia exists as in the hands and arms. The right eye is quite blind, the cornea opaque, with several vascular tubercular nodules projecting from it. Both ears are thickened and tuberculous; the nose also, the right ala about to separate from ulceration. The lower part of the forehead and the right cheek show numerous tubercles. The disease having attacked the larynx, his voice is low and hoarse, speaking being evidently painful to him. He suffers considerable pain at times in the face and head. This man is a miserable spectacle. He cannot live long. On being asked to what cause he attributed his disease, he stated that the *tohungas* told him he had received *wero-ngerengere* from a man with whom he had quarrelled about a canoe. It is singular and suggestive that the word "*makutu*" is not used in reference to *ngerengere* and its communication for purposes of malice or revenge. *Wero-ngerengere* is supposed to be an art which has to be acquired before it can be practised. I shall refer to it again. In this case we have the tubercular and anæsthetic forms of the disease combined.

Case 3.—Te Iho, a Native boy, twelve years of age, brother to the last case, and living in the same whare with him, got his first symptoms of *ngerengere* three years ago. Pale serpentine patches are well marked all over the back, which are at present decidedly hyperæsthetic. His left hand and arm are quite powerless, and the muscles wasted; the fingers are drawn forcibly backwards from contraction of the extensors; there is loss of sensation as far as the elbow. The left great toe is swollen, flexed, and anæsthetic. The limbs on the right side are normal. At present there is no gangrene or ulceration. His general health is fairly good.

Case 4.—Maata, a Native woman, aged thirty-five, got her first symptoms of the disease in 1880, and died of it on the 8th October, 1888. She was sister to the two last cases, and lived in the same whare. She had no discoloured skin-patches, but began with a swelling outside the right thigh. This is said to have been cured by a *tohunga* in the Waikato, but in two months after her return home her face became red and swollen, the redness and swelling extending to the neck and shoulders. Shortly, numerous tubercular swellings appeared on the body, which ulcerated. This was followed by the usual gangrene of the toes and fingers, several joints falling off. This case is described by those who saw it as even more severe and revolting than that of her brother Hiri, described under No. 2.

Case 5.—Amiria, a female Native, aged twenty-one, living at Maaroa, a settlement between Taupo and Atiamuri. She is the daughter of Hori Tehina, a Ngatituwharetoa, who died of *ngerengere* in 1874. He married a half-caste woman after the disease had manifested itself, by whom he had two daughters. The younger, a deformed idiot, died some time ago. The half-caste married again, and has several healthy children by the second husband. She herself is in perfect health, and appears much attached to her leprous daughter. The disease first manifested itself in this girl when she was three years old, by the appearance of pale patches on her thighs. These patches are usually the initial symptom, and are regarded by the Maoris as absolutely pathognomonic. The digits of both hands have all lost one or more phalanges, and it is singular that on all, even where only one joint remains, a nail has been developed at the extremity. She has lost every toe on both feet down to the heads of the metatarsal bones. The stumps on both hands and feet are soundly healed. No other part of the body is affected. Hands, arms, feet, and legs are anæsthetic, completely so up to the knees and elbows, and thence graduating upwards to slight numbness. She is able to walk a little, appears well nourished, and her general health is good. Her mother gives a singular reason for her favourable condition: in her own words, "She is such a good girl—says her prayers, and goes to church regularly, and does not run after the men."

Case 6.—This case is interesting from the fact that the patient was a brother of Hiri, Maata, and Te Iho (cases 2, 3, and 4), and lived in the same whare with them. His name was Te Rangi, and about the month of June, 1888, he was brought by a European to the Maori hospital at Rotorua, suffering from a wound of the palm of a very severe character. He was twenty-four years old, a fine tall fellow, noted as an athlete and wrestler. His health was apparently perfect. He was under my care for a fortnight. The wound did remarkably well, but the healing was not quite complete when he returned home. In some six or eight weeks after his return he was taken ill. His face became swollen and covered with black blotches, which ulcerated; abscesses formed in both groins and axillæ; there was discharge from the ears; he had difficulty in swallowing, with pain in the larynx, and husky voice. Both he and his friends believed he was suffering from *ngerengere*, and he was with difficulty restrained from committing suicide. He died on the 27th October, 1888, after an illness of less than three months. This case can only be regarded as one of acute blood-poisoning, but, taken in conjunction with his sister's case, whose symptoms at first were those of erysipelatous inflammation, it is highly suggestive.

Statement of Rakeiwairua, aged sixty-five, the father of cases 2, 3, 4, and 6: "I never had any symptoms of *ngerengere*. My wife Huia, the mother of these children, when she was young, had a white patch on her right side; it was not anæsthetic. The *tohungas* told me it was caused by her gathering fern on a spot where a *ngerengere* had once lived. This was cured by a *tohunga*, and she never had any other symptoms of the disease. *Ngerengere* was much more prevalent in the Taupo district when I was a boy than it is now. It was first brought into the district three generations ago, by a man whose name was Te Oro. He belonged to the Ngatipaki Hapu of the Ngatituwharetoa Tribe, and lived at Oruanui. His grandson is still living. His genealogy is thus: Te Oro begat Tamati Pahiroa, who begat Hame Pahiroa, now about forty years of age. Te Oro wished to be avenged on certain members of his tribe who had offended him, and, hearing of the terrible ravages of this disease among the Ngatimaru, at Hauraki, he went there and learnt the art of communicating the disease (*wero-ngerengere*). On his return the disease broke out, and we have never been free from it since. I do not think *ngerengere* is contagious. With regard to my son Te Rangi, I believe his disease was the same as that his brothers are suffering from, but I never knew or heard of a case so rapidly fatal. Our food here is chiefly pork, potatoes, sow-thistles, and watercress. In times of scarcity we eat the fish of the lake, *kokapu* and *inanga*. The former are all more or less diseased. Their flesh and entrails are infested by a red thread-worm. They have also a kind of fungoid disease of the skin. Numbers of the *kokaku* are sometimes thrown up dead on the beach, and we eat them if we have nothing better; but this does not often happen."

The chief Paurini Karamu, of Tokaanu, is decidedly of opinion that *ngerengere* was far more prevalent in former times than it is now.

Wi Mahi, aged eighty, a chief of the Ngatirangiwewehi, living at Awhahou, on Lake Rotorua, says, "There is no *ngerengere* now as compared with what it was when I was a boy. I have know it carry off whole hapus. I attribute our immunity to the fact that all the old men who knew how to communicate the disease have died out. My father was one of the worst of them. He destroyed numbers by giving them *ngerengere*. His plan was to make his enemy a present of a mat or some other article of clothing that had been worn by a *ngerengere*, and the disease was sure to follow."

Conclusions.

1. That the disease known to the Taupo and East Coast tribes as *ngerengere*, to the Ngapuhi and northern tribes as *puhipuhi*, and to the Wanganui and western tribes as *tuwhenua*, is one and the same disease, and that true leprosy.

2. That no one who has seen leprosy could possibly mistake the symptoms presented by the man Hiri (case 2) and the boy Te Iho (case 3).

3. That the general consensus of opinion amongst the Natives that the disease first appeared on this island at Hauraki some time during the latter half of the seventeenth century may be regarded as true.

4. That the probability is that it was introduced by the marooning of a leper from a ship (probably a whaler) at or near Hauraki.

5. That the story of its introduction to the Taupo district by Te Oro is too recent to be relegated to the category of Maori myths, and may therefore be accepted as substantially correct.

6. That the term "*wero-ngerengere*" is not an alternative name for the disease, as some suggest, but the name applied to the act of communicating the disease by puncture or inoculation, as the etymology indicates.

7. That the immunity from the disease enjoyed by women who have lived for years with leprous men, and *vice versâ*, makes it difficult to believe that it is infectious or contagious in the ordinary sense.

8. That if the proliferation of a specific microbe in the blood and tissues is essential to the disease, a very special environment would appear to be necessary to secure an effective invasion.

9. That if filthy habits and insanitary surroundings, leading to impaired vitality, are to be regarded as predisposing causes, such are not far to seek amongst the Taupo Natives, who are notorious for their neglect of personal cleanliness.

10. That in all probability the worst cases have arisen from direct infection of the blood by inoculation, either accidental or premeditated.

11. That it is worthy of note that the Natives believe that the leper's urine and fæces contain the germs of the disease, and they are consequently very careful as to their disposal.

12. That complete segregation of those affected would probably stamp out the disease in a few years.

I have, &c.,

The Inspector-General of Hospitals, &c., Wellington. Alfred Ginders.

[*Approximate Cost of Paper.*—Cost of preparation, nil; printing (1,200 copies), £1 15s.]

By Authority: George Didsbury, Government Printer, Wellington.—1890.