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THE EFFECT of CIVILIZATION on the MAORI RACE
with special reference to Health and Diseases.

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The effect of Civilization on the Maori Race
with special reference to Health and Diseases.

(1.) INTRODUCTION.

All races have begun in ignorance, savagery, and barbarism, and, if left to themselves, emerge into civilization only by a slow, creeping process, spread over hundreds, and more often thousands of years. It was so with the ancient Egyptians, the Hindus, and all the older Civilizations of which we have any record. There are, no doubt, some races, low in mental capacity, who would, of themselves, never develop beyond barbarism. Of such, for example, are the Australian Blacks, and when modern civilization is brought into contact with such a race its end is only a matter of time, - it can hardly be termed an occasion for regret. But there are other races which seem to deserve a better fate, and of such are the Maoris of New Zealand. They are physically fine, ^{then are high in} cranial capacity, they come of a virile stock, and it is quite possible that (had they been left in isolation) they might have slowly evolved a complex civilization of their own. The opportunity to do this was, however, denied them, and they now present the spectacle of a race, hurried, as it were, into civilization in the short period of fifty or sixty years. To no people could there come such an overwhelming change without corresponding changes in every department of life, health, and habits, and it is as a small contribution to the study of these changes that this thesis is written.

For six years I have practised in the Wairarapa District of the North Island of New Zealand; and during the last three years I have been Government Medical Officer to the

Maoris of this part. In this way I have had the opportunity of studying their character and customs, as well as their diseases; and also of making comparison in the amount and type of disease between them and my white patients.

In what I say of the Maoris in pre-European days, I have gathered information from so many sources, many of them oral and traditional, that it is difficult to make definite acknowledgments; but I wish to express my indebtedness in this respect to my friends - Dr Pomare and Dr Te Rangihiroa, both of whom are of Maori descent and keenly interested in their ancestral race.

(2.) THE MAORIS IN ANCIENT TIMES.

The Maoris have inhabited New Zealand for the last five hundred years. They are purely Polynesian in type, and tradition says that their original home was "Hawaiki" - supposed to be synonymous with 'Sawaii' in the Samoan Archipelago. Many legends are still told of their journey to Aotea Roa (New Zealand) - a daring voyage accomplished in long canoes. The original inhabitants of their new home, a Papuan race, - were soon subdued, and the newcomers, after conquering their common enemy speedily scattered into various parts of the country, and began a long series of inter-tribal wars. This warfare was still in full swing on the first advent of Captain Cook, and it is to him that we owe our first written account of the Maoris.

1. Physical Characteristics.

The uncivilized Maori was a tall, well-developed, and vigorous specimen of Polynesian manhood. His height, as proved by skeletons in burial caves, was at least equal

to that of the average Englishman - probably superior. Very old pioneers constantly recall with admiration the splendid physique of the old-time Maori, his muscular development, his activity and energy. The incessant warfare had made every man a fighter, and had at the same time made it essential for him to be alert, active, and in perfect training. As among most warlike races, weakness was regarded with contempt, and there is little doubt that ailing and deformed infants were often done away with. This, doubtless, tended to keep up the physical standard.

Professor Scott, of Otago University, has made a study of ancient Maori skulls and finds them to be dolichocephalic in type and the cranial capacity megacephalic - the average male cranial capacity being 1483.5 C.C.

2. Mental Characteristics.

As indicated by the brain development the Maori was highly intelligent within the limits of his knowledge. The English found to their cost that his knowledge of strategy and military skill were very great indeed, and when later he had obtained modern firearms, he became a very formidable foe. As will be shown later, his mode of life, though in many ways primitive, displayed much more common sense and regard for health than are usually found among native races. The Maori women, too, never occupied the extremely servile and degraded position common among tribes of a lower order. They seem to have been almost uniformly well treated, and, as little land cultivation was done, their life, even when the men were away fighting, was not a specially hard one.

3. Habits of Life.

The habits of the old-time Maoris were greatly modified by the fact that they were almost constantly under arms.

Every Pah (native village) was a fortified stronghold, and for strategic purposes it was placed on a hill-top. This was an excellent plan from a Public Health point of view, and made efficient drainage an easy matter. Captain Cook was particularly struck by the attention paid to sanitation, and he has placed it on record in his letters that this was better carried out than in many European cities. The deep trenches dug along the hill sides (still to be seen on the sites of old forts) were no doubt constructed primarily for purposes of defence, but they were also excellent for drainage, and it was customary, as well, to have smaller trenches between the smaller whares or native huts. The huts themselves were built strongly of reeds and roofed with an interlaced native grass (toi-toi). There was an earthen floor, and both door and window were placed at one end of the building which consisted of only one room. The ventilation was thus undoubtedly bad, and matters were made worse by the fact that charcoal fires were used. But these defects were probably greatly minimised by the fact that the Maoris were essentially an open-air people, spending little time in doors. In other respects their village customs were admirable. Rubbish was swept out and burnt at regular intervals; latrines were constructed over holes or the edge of a cliff; the dying were set apart in separate houses which were burnt after death, the clothing of the dead being commonly buried with them. The bearers of the dead were "tapu" for several days and had to bathe in running water. Mothers were set apart and considered sacred for eight days after their accouchment.

4. Food :-

Ordinarily the Maoris were an abstemious race, living on two meals a day, but times of great ceremonial,

such as the burial of the dead, became the occasion of gluttonous orgies known as 'tangis'. The whole tribe would then - in the intervals of bewailing the dead - gorge themselves till appetite was sated. Sometimes, after a victory, the menu would be enriched by the flesh of the enemy; but cannibalism does not seem to have been so rife as among some other Polynesian peoples. Unlike most native races, the Maoris had no form of alcoholic stimulant, and Marion de Fresne records that when they were first offered wine they exhibited lively dislike. The Maori name for spirits - 'Waipiro' (or putrid water) bears out this story of their original repugnance to strong drink.

The only crops they cultivated were the Kumara (sweet potato) and Taro. These were chiefly tended and grown by the women, while the other sex pursued the more manly art of war. Berries, the pith of the tree fern (Punga), and the Nikau (a species of palm) were easily obtained from the forests that covered a great part of the country. The rivers and the sea supplied abundance of fish, and wild fowl in many varieties were plentiful. The Maoris were certainly not inventive in the matter of household utensils, and their only pots were made of wood, which would not, of course, stand heat. Their method of cooking was to bake on hot stones.

5. Clothing.

The climate of New Zealand varies from sub-tropical, in the North to temperate in the South; but to Europeans the clothing of the old-time Maori seems unduly scant, even for the warmest part of the country. The dress consisted of a cloak, woven by hand from native flax, and worn over the shoulders. The only other garment was a kilt round the loins. This was made of the same material. In very

inclement weather a roughly woven outer cloak might be added. People of high rank would have their garments elaborately dyed in various colours. The women wore the shoulder cloak and a short kirtle; and on ceremonial occasions both sexes added many-hued mats to their costume.

6. Religion & its relation to disease.

As with most uncivilized peoples, the whole subject of health and disease was intimately bound up with the belief in the supernatural. The Maori had no conception of order or law in relation to bodily wellbeing, nor yet of the fact that transgression of natural physiological laws brings inevitable physiological disaster. Only in the very commonest and most trifling ailments did they seem to see a manifestation of cause and effect, and in them alone did they therefore use drugs and natural means of cure.

Their spiritual world was peopled with a great array of supernatural beings - gods, Demons, Fairies and gnomes. Many of them were personified forces of nature. Some, such as Rongo - the god of 'cultivated food' - were beneficent in character, but most of them were a source of fear and anxiety to their worshippers. Religion was one long effort to avert the anger of one or other of these innumerable spiritual beings; and ~~that~~ the only worship they understood was a system of sacrifice and propitiation. No expedition was undertaken without anxious prayers and incantations; and on many occasions a marauding party would turn back because the omens were unpropitious. There was almost no step in life which the Maori could take without the fear of offending angry gods, and as the number of these ^{was} ~~were~~ being continually increased, it became an

easy matter to assign every misfortune to the wrath of some particular deity. A religion based on fear and sacrifice must always have a powerful priesthood to intervene between the worshippers and their gods; and the Maori priest, or To-hunga, was usually the most influential man in his tribe. He presided on all ceremonial occasions, and was indispensable at the setting-out of war excursions and fishing expeditions, at the planting of crops, and the building of houses. On these occasions he recited songs and incantations; and it was of ill omen if the tohunga made any error or omission in the prescribed form. The tohunga gained immense power by being "tapu" or sacred, so that he was set apart from the rest of the tribe, and had an influence with the gods possessed by no others.

7. Disease.

Man has always regarded sickness and bodily discomfort as one of the worst misfortunes, and it is not to be wondered at that the Maori saw in disease the sign of supernatural anger. Inevitably the tohunga became also the physician; but his methods naturally had no basis on the facts of anatomy and physiology. Apart from wounds sustained in battle (when the cause was so obvious as to defy misconception), almost all bodily pain and disease was considered to be of supernatural origin, and must be met by supernatural means of cure.

8. (a) Diagnosis.- The question of diagnosis resolved itself into the discovery of which particular deity or demon had manifested his wrath by bringing on the illness; and in the search the tohunga showed a surprising minuteness and ingenuity. Natural phenomena were carefully noted, the patient was questioned as to the

way he had followed recent occupations, whether he had omitted any sacrifices to particular gods, and whether he had ~~any~~ had any significant dreams. After lengthy thought and incantation, the tohunga decided which of the many ceremonial laws had been transgressed, and which angry god must therefore be appeased.

(b) Treatment. - The treatment was, in a word, exorcism; and the importance of making a correct diagnosis depended on the fact that only certain individuals had power over particular demons. These were "Mediums" who inherited this power from their ancestors. The method of exorcism was to take the patient to a sacred stream, ask him to confess his transgressions, and then by powerful curses and incantations to make the demon depart.

Treatment in the European sense was restricted to the few complaints which, either from their extreme frequency, or from the obviousness of their cause, were excluded from the list of troubles due to supernatural wrath. Even these, when they proved intractable, were referred to a supernatural source.

Dr Te Rangihiroa considers that drugs were used only for the following ailments :-

Diarrhoea - The leaves and shoots of the Koromiko (veronica salicifolio) were chewed as an astringent.

Constipation - A decoction of the root of herekeke (phormium tenax - the N.Z. flax) was used as a laxative.

Cuts, bruises, and swellings, - Decoctions made from the Rata, the Kowhai, and the Ngaio were used as

lotions, also to bathe the swollen sites of fracture after they had been put up in rude splints.

Skin diseases - Decoctions of various barks, or the finely shredded inner bark itself, were used to cover the affected part.

Besides the drugs of this meagre pharmacopoeia, the Maoris made use of the soothing properties of heat. Steam-baths (ingeniously contrived by heating a layer of stones and laying over them wet branches, and above them, mats) were in common use for easing the pains of wounds and bruises. "After-pains" were also treated in this way. The Maoris of the Hot-lake district were also well aware of the virtues of the thermal springs.

(c) Chief diseases among the ancient Maoris.

When we come to investigate the diseases prevalent among the ancient Maoris, we find the list comparatively small. There is no sign of any of the infectious fevers, ^{any} (no) venereal disease, ^{or} little (if any) malignant trouble. Many must have perished in the incessant inter-tribal wars, but of the survivors tradition says that a great number lived to extreme old age. The diseases which were common seem to have been the following :-

(1) Skin Diseases.

The Maori vocabulary is rich in names of skin troubles, which seem to have been common. They have been identified as :-

- (1) Boils and Carbuncles.
- (2) Acne.
- (3) Exzema.
- (4) Ring-worms.
- (5) Impetigo.

There are also words which signify ulceration of a tubercular type, and this was a disease much dreaded.

(2) Eye Diseases :-

Conjunctivitis was common, also Blepharitis Marginalis. Cataract and corneal ulcers were both apparently well known.

(3) Teeth.

The Maoris, though in the main possessing excellent teeth, were not exempt from toothache, which was popularly supposed to be due to a grub attacking the fang.

(4) Tuberculosis.

It has sometimes been denied that tuberculosis was known among the ancient Maoris, but tradition and the reports of early European visitors make it certain that this disease existed in early days. Present-day Maoris constantly refer to consumption as a hereditary disease, and many of them regard it as hopeless because it has cropped up for generations in certain families. Tuberculous bone lesions were certainly more or less prevalent, and good examples of this have been found in the burial caves of pre-European days. The Maoris thought this particular form was due to the bite of a malicious demon named "Toketoke."

(5) Leprosy.

Maori tradition speaks of this disease of coming from their old home "Hawaiki." Heredity was supposed to play a part in its incidence, and the Maoris also had a very lively fear of its being transmitted by contagion. Lepers were isolated away from the paha. Leprosy was sometimes supposed to be brought on the victim by witchcraft, this power being wielded by the tohungas. That the disease was widespread is proved by the fact that all the tribes knew it under different names.

It is interesting to note that one tribe is said to have attributed it to the eating of fish.

(3.) THE IMMEDIATE EFFECT OF CONTACT WITH THE WHITE MAN .-

As New Zealand became known to the traders, adventurers, whalers, and early settlers, the Maori was inevitably brought into contact with the white man's civilization. Unfortunately many of the first visitors were of the kind least desirable for contact with an unsophisticated race, and the Maori was early introduced to syphilis, gonorrhoea, alcohol and tobacco. The first two, as is always the case on virgin soil, spread rapidly and wrought immense havoc. Before long measles and scarlet fever were also introduced into the country, and numbers of the inhabitants were swept away by these hitherto unknown diseases.

In 1820 European fire-arms were first put into the Maoris' hands, and it is estimated that in the next twenty years almost a fourth of the population perished, either in inter-tribal wars or in battle with the white man. In 1840 peace was declared, and the Maori began to settle down and imitate the civilization of the European. Theoretically this should have been the beginning of prosperity, expansion, and mental, physical, and moral improvement. As a matter of cold fact it was the dawn of a day that threatened extinction to the entire Maori race. Already decimated by foreign diseases and incessant wars, the population continued steadily to decrease. Several conditions aided this unfortunate result of the contact ^{witk} of what we term higher civilization. In the first place, the Maori, being relieved of the necessity of self-defence, deserted the healthy hill-tops

and came to live beside the valleys and swamps where food was more plentiful. These low-lying pas^h were badly drained and ~~unsanitary~~^{insanitary}, and the Maori became still more a prey to enteric^{typhoid} and other zymotic diseases. Sloth and indolence soon took the place of their old energy and hardihood, and the open-air life was, to a great extent, abandoned. There followed what was destined to be the greatest menace to the race - a strong susceptibility to phthisis.

(4.) POPULATION. -

Captain Cook estimated the population of the country as 100,000. This was probably much too low. By 1858 the race was obviously diminishing with such rapidity that the Government made an attempt to estimate the number from time to time. The earlier figures are only approximate, but they are the only ones available.

Estimates and Census of the
Maori population up to 1911.

Year.	Population.
....
1858	56,049
1861	55,336
1867	38,540
1871	37,502
1874	45,470
1878	43,595
1881	44,097
1886	41,969
1891	41,993
1896	39,854
1901	43,143
1906	47,731
1911	49,844

Increases and Decreases.

Year - Increase - Decrease.

1874-78 :	:	1,875
1878-81 :	502 :	
1881-86 :	:	2,128
1886-91 :	24 :	
1891-96 :	:	2,139
1896-'01 :	3,289 :	
1901-06 :	4,588 :	
1906-11 :	2,113 :	

The impossibility, in the early days, of taking an exhaustive census accounts for the great fluctuations in the figures before 1891, but the numbers from that date can be relied upon. It will be seen that in 1896 the population fell alarmingly low, but since then there has been a steady, if slow, increase, and the race is now apparently holding its own.

(5.)

THE MAORI OF THE PRESENT DAY.Physical Characteristics :-

The Maoris are still physically a fine race. Their average height is above that of the European, and both men and women are built on a heavier scale. This holds true, also, of the children as the following figures show. The measurements are those of Dr Te Rangihiroa and Dr Purdy, and were taken over a large number of school boys

Age.	<u>New Zealander of</u> <u>European parentage.</u>	<u>Maori.</u>
10-11	Height 4' 6" Weight 70 lbs.	Height 4' 5.25" Weight 76 lbs.
11-12	Height 4' 8" Weight 77 lbs.	Height 4' 7" Weight 80 lbs.
12-13	Height 4' 9" Weight 79 lbs.	Height 4' 10" Weight 84 lbs.

(Physical Characteristics continued)

<u>Age.</u>	<u>New Zealander of European parentage.</u>	<u>Maori.</u>
13-14	Height 4' 10.5" Weight 87 lbs.	Height 5' Weight 103 lbs.
14-15	Height 5' Weight 98 lbs.	Height 5' 2.75" Weight 116 lbs.
15-16	Height 5' 4" Weight 110 lbs.	Height 5' 5" Weight 128 lbs.

These figures show that after the 12th year the Maori lad is both heavier and taller than the European. Before that age he is heavier but not so tall.

In my own district I have been specially struck with the large proportion of very fat men and women met with. In any Maori gathering it would be easy to find numbers of men from 15 to 20 stone, and the women are strikingly larger and heavier than Europeans. As will be shown later, their present mode of life greatly conduces to obesity. Placed in an equally favourable environment, I have no doubt that in physique, the average Maori would excel the average European.

The Maori children, when properly tended, are fine specimens of childhood, but, about the ^hpas, there are seen far too many weaklings, who demonstrate the ignorance, folly and neglect of their parents.

2. Mental Characteristics.

The Maoris are a highly intelligent race. The children in the native schools are quick to learn and mentally alert. They pass through the various

standards on a level with the white children, and, if their education is continued, they make good students at college and university. Several have entered the learned professions with success. Among the younger adults it is difficult to find any who cannot read and write with facility. They are shrewd in dealings among their own people; but their admiration of the 'paheha' and his ways often makes them an easy prey to unscrupulous traders.

3. Habits and mode of life.

Many Maoris have adopted European customs in their entirety, and live and mix in European society. Except in colour, they are practically indistinguishable from their white neighbours. As a result, there is an increasing half-caste and quarter-caste population. The great majority, however, live in a semi-Maori semi-European fashion, continuing the two elements in ways that are often grotesque and greatly to the detriment of their health. They still have their settlements (or pahs) each with its public meeting-house for ceremonial occasions, and they retain more or less the communistic system that prevailed in the old days. They have altogether discarded the old whare of reeds and grass and have houses built of wood. This would be an advance on old customs were it not that these houses are often miserably constructed, unlined and draughty. The whole family crowd into one room, sleeping on the floor, and there is scant provision made for ventilation. Little attention is paid to sanitation, though in recent years there has been an

improvement in that respect. Cleanliness is not a virtue of the modern Maori, and the houses are often infested with parasitic insects of various kinds.

The New Zealand Government has reserved large tracts of land to the Maori race, and these bring in a constant revenue in the form of rent. Thus the Maori has little or no incentive to work, and in very few cases does he work his own lands. As a result he has lost his old activity, so necessary in the days of constant fighting, and has become markedly lazy, sedentary, and improvident. He has no idea of economy, and will often spend his year's rent on some useless project that, for the moment, tempts him. I know several families who have mortgaged their rents for 2 or 3 years ahead. Anything novel or exciting is a sore temptation to the Maori, and at present the craze is motor-cars. It is no uncommon sight to see a car of the latest design filled with a joyous group of Maoris driving through the streets of a town or along the country roads. But, in spite of all his extravagance and consequent impecuniosity, the Maori has a cheerful outlook on the future, probably because he knows that the communal system will prevent his ever falling into dire poverty.

4. Food.

The food of the old-time Maori, though fairly wholesome, lacked somewhat in variety. The food of the present day Maori errs, perhaps, on the other side. When money is plentiful the Maori will taste all modern dishes; but in times of scarcity he confines himself

largely to potatoes in the way of farinaceous food, and to fish and game in the way of nitrogenous food. He is fond of certain native herbs and roots. At times the potato crop fails, and then there is real famine among the poorer tribes. The "tangis" held on great occasions and on the death of relatives are times of prolonged feasting. The whole tribe will assemble at the whare of the deceased's father, or brother as the case may be, and feasting is kept up for days with intervals of wailing for the dead. This custom does much to impoverish the Maori and to spoil his digestion.

In early times infants were, of necessity, fed on their mothers' milk. Today, however, the introduction of patent foods has given the Maori a chance of satisfying his craving for novelty and imitating his white neighbours. These foods are extensively used, and often without accurately following the directions for preparation, and the result is a fearful infant mortality among the Maoris. As soon as it can express any desire for it, the baby is given a little of everything that is going.

5. Clothing.

The Maori of today has adopted European clothing, and it is only on great ceremonial occasions and for spectacular effect that the old panoply of bright-hued mats, feathers, and cloaks appears in its entirety. Both men and women have an innate fondness for dress, and the women delight in beautiful colours and bizarre contrasts. Unfortunately, they all seem to regard

clothes more from the point of view of appearance than of utility, and I am convinced that their folly in this respect accounts for much illhealth. It is no unusual thing to see a Maori belle parading the streets of the town, dressed immaculately, from fashionable hat to high heeled shoes, and with all the ordinary accessories of a European woman's dress. In the pah one might see the same woman, on a cold wintry day, clad in nothing but a cotton blouse and a short petticoat. This senseless disregard for utility continually shows itself in respect to clothes. If a Maori, on a hot Summer day, sees a fur overcoat that takes his fancy, he will probably buy it and perspire ⁱⁿ his finery to the admiration and envy of his neighbours, - and he will just as easily wear a thin shirt and a pair of cotton trousers if he sees no special reason for fashion or display. These erratic ways need no comment, and it is only as their education advances that the Maoris will learn to adapt their clothes to the changing seasons of the year

(6)

THE MAORI AS A PATIENT.

As patients the Maoris are very like children. They are easily frightened by illness. They endure pain badly and they succumb quickly to shock. The relatives, while very anxious to leave nothing undone to save the patient, become easily alarmed if no immediate improvement takes place, and frequently they will remove the patient from the medical practitioner's hands and treat him according to the old practices. Hospitals they dislike, and the dying Maori patient is almost invariably taken back to the pah, to die among

his own people. They still retain much of their old superstition regarding disease, and frequently the tohunga, though now prohibited by law, and really nothing but a quack, is surreptitiously called to their aid. The Maori easily receives contra suggestions, and this makes him a more difficult patient to deal with.

(7)

DISEASE AMONG THE MAORIS OF TODAY.

In its attempt to improve the health of the Maori and lessen the mortality among the race, the New Zealand Government has subsidised medical men in the various districts whose duty it is to attend to sick Maoris free of cost. These medical men send in quarterly returns of their work. The following figures are taken from the various districts for one year. Death certificates for Maoris are, unhappily, not yet compulsory, and hence it is difficult to get exact statistics as to the immediate cause of death.

	Males	Fe- males	Sex not given	Total	P.c. on total cases.
Class I. -Specific febrile or zymotic- diseases.					
Order 1. Miasmatic	315	271	..	586	13.782
2. Diarrhoeal	191	164	..	355	8.349
3. Malarial	1	..	..	1	.024
4. Venereal	21	5	..	26	.611
5. Septic	2	1	..	3	.071
Total Class I.	530	441	..	971	22.837

	Males	Fe- males	Sex not given	Total	P.c.on total cases
Total Class I brought forward	530	441	..	971	22.837
Class II. Parasitic Diseases	22	31	..	53	1.246
Class III. Dietetic diseases	..	..	7	7	.164
Class IV. Constitutional diseases	175	113	..	288	6.773
Class V. Developmental diseases	..	..	2	2	.047
Class VI. Local diseases :-					
Order 1. Diseases of the nervous system	107	96	..	203	4.774
" 2. Diseases of the organs of the special senses	99	78	..	177	4.163
" 3. Diseases of the circulatory system	49	6	..	55	1.294
" 4. Diseases of the respiratory system	549	379	..	928	21.825
" 5. Diseases of the digestive system	329	288	..	617	14.511
" 6. Diseases of the lymphatic system	26	11	..	37	.870
" 7. Diseases of the urinary system	25	25	..	50	1.176
" 8. Diseases of the reproductive system	14	112	..	126	2.963
" 9. Diseases of the locomotive system	4	4	..	8	.188
" 10. Diseases of the integumentary system	203	147	..	350	8.232
Total Class VI.	1405	1146	..	2551	59.996
Class VII. Violence	203	60	..	263	6.185
Class VIII. Ill-defined and not specified diseases ..	80	37	..	117	2.752
	2415	1828	9	4252	100.000

The first thing that strikes one on reviewing these figures is the fact that contact with modern civilization has enormously increased the numbers of diseases among the Maoris.

Class I. Specific febrile or zymotic diseases.

Order 1. It will be seen that miasmatic diseases accounted for 13.782 per cent of the total cases seen. Influenza was by far the most common. Then came whooping cough, ^{enteric fever} (typhoid), measles, mumps, diphtheria, and chicken-pox. Influenza is sometimes of a very virulent type among the Maoris, and not infrequently ends in pneumonia. It is frequently fatal in old people. ^{Enteric fever} (Typhoid) is much less frequent and less severe in type than formerly. This is largely owing to improved sanitation and increased knowledge. Whooping cough and chicken-pox are not more severe than in the case of the European. Measles now rarely leads to a fatal issue. The race appears to have become immunized to some extent. Epidemics of this disease are much less widespread than formerly.

Order 2. Diarrhoeal diseases contributed 8.349 p.c. of the total cases seen. Diarrhoea is usually caused by some error of diet, such as eating "high" game and rotten corn, or drinking polluted water. The custom of eating food that is beginning to decompose is dying out. Diarrhoea is common in the early spring when food supplies are scarce.

Order 3. One case of malarial disease was reported. This must have been a Maori who had been abroad.

Order 4. Venereal diseases show only the small percentage of .611. From my own experience I am convinced that this percentage is far too low. The Maori hesitates to consult a Doctor about such diseases, and he has certain herb and bark decoctions which he uses with more or less success. Venereal disease

is common on the gumfields, in the North, and in paha near towns. Gonorrhoea is much more common than syphilis, and these diseases are undoubtedly the cause of much sterility and pelvic trouble. I have operated on several cases of pelvic abscess, due to gonorrhoeal infection.

Order 5. Only three cases of septic trouble were reported. One would have expected more considering the state of the Maori whares and the habits of the native midwife. As a matter of fact, parturition is a comparatively easy process in the case of the Maori, and is almost invariably left to nature. This, no doubt, accounts for the rarity of septic complications. In my own district the mother is frequently put into a bath of warm water immediately the child is born. The early pioneers tell astonishing tales of the non-chalance with which the Maori woman regarded her accouchement. As a rule they have a roomy pelvis and labour is both short and easy. A Doctor is not called in unless labour is unusually prolonged. Recently I was called to two difficult cases - one a persistent occip^{to}-posterior ^{presentation}, and the other a case of contracted pelvis in an enormously fat woman.

Class II.

Parasitic diseases show 1.246 per cent. This is less than one would expect, as numerous dogs are kept about the paha and the houses are frequently dirty and overcrowded. Hydatid disease is not common. I have seen one case, on whom I successfully operated for hydatid cyst in the liver.

Class III.

These need no comment.

Class IV.

Constitutional diseases (6.773 p.c.).

Of these, rheumatism formed 3.994 p.c., and phthisis 2.916 per cent of the total cases seen. In my experience phthisis is much more common than rheumatism. Most of the rheumatic cases are of a chronic nature. I have seen a few cases of rheumatic fever.

The percentage given for phthisis seems, to me, to be too low, judging from the experience of my own district which has a more favourable climate than many others in New Zealand. The low percentage is due in part to the fact that cases of phthisis are possibly sometimes returned as bronchitis. At one time phthisis threatened to exterminate the Maori, and is still very common. Its prevalence is due in part to the habits of the Maori in the matter of dress, the lack of ventilation in the whares, and the custom of expectorating under the mats in the houses, and in part to the susceptibility of the Maori to this disease. A whole family will sometimes sleep on the floor of a small stuffy room. Where one is infected others almost inevitably become infected, as cases are not isolated at all until they become seriously ill. I have known families where one member after another has died of the disease. When once a Maori is infected he rarely recovers. As a rule the disease progresses with much rapidity, and I have not known a case to recover even when placed in the most favourable circumstances. The

only hope of eradicating the disease is by the adoption of right preventive measures.

Class V. Only two cases of developmental diseases were returned.

Class VI. Local diseases.

Order 1. Diseases of the nervous system (4,774). These, as a rule, are not of a serious nature. Neurasthenia and neuralgia formed the majority of the cases. I can find no record of a case of locomotor ataxia, but cases of hemiplegia, paraplegia and general paralysis have been reported. Some of these had a specific history. A few cases of insanity were reported. Modern civilization has not yet seriously affected the nervous system of the Maori; but no doubt, as he enters more into the stress and strain of modern life he will pay the same toll as ^{the} European.

Order 2. Diseases of the organs of special sense (4,160 p.e.). These were mostly cases of conjunctivitis due largely to living in smoky rooms. Otorrhoea is not uncommon, but is generally neglected by the Maori. Nasal polypi are sometimes met with. I have recently operated on two cases.

Order 3. Diseases of the circulatory system -(1,294 p.e.) Valvular disease gave twelve cases, and varicose veins four, the others were not differentiated. The Maori is not subject to vascular degeneration in any marked degree.

Order 4. Diseases of the respiratory system (21,825 p.e.). The figures show that the weak spot of the Maori is

his chest. This is largely due to altered conditions of life. Out of 928 cases, bronchitis furnished 493, nasal catarrh 144, pneumonia 86, simple colds 84, asthma 51, pleurisy 32, and haemoptysis 16. When one remembers that a frequent course of infection by tubercle is through the bronchial glands, one can understand how the Maori suffering frequently from bronchial catarrh becomes an easy prey to phthisis. No doubt many of the cases reported under this heading were really cases of phthisis.

Order 5. Diseases of the digestive system (14,511 p.c.). Of these, dyspepsia, gastro-enteritis, constipation, colic and gastritis were the more common. There were 9 cases of hernia, 7 of appendicitis, and 5 of peritonitis. These diseases are largely brought on by eating unsuitable food or by eating irrationally. It is either a feast or a famine with the Maori. At the tangis or funeral feasts they gorge themselves, at other times they eat the same food for weeks at a time. In the case of children the use of artificial foods is a prolific source of gastric trouble. The Maori has no idea of dieting. If a patient asks for anything they get it, no matter how unsuitable for the particular patient.

Order 6. Diseases of the Lymphatic system and Ductless glands, give but 37 cases or .870 per cent of the total sum. Goitre and Anaemia were the most common. Both simple and exophthalmic goitre occur. One case each of Hodgkin's and Addison's disease was reported. Tubercular glands are fairly common.

- Order 7. Diseases of the Urinary System. (1.176 p.c.).
There were 50 cases, and 23 of these were cystitis, and 8 Bright's Disease.
- Order 8. Diseases of the Reproductive System. (2.963 p.c.).
Menstrual diseases were by far the most common. The average life of a Maori woman is a fairly hard one. Scanty clothing, exposure, carrying heavy weights, neglect and ignorance are the principal causes of these complaints.
- Order 9. Diseases of the Locomotive system. (.188 p.c.), gave but 8 cases. Necrosis of bone and tubercular disease of bone are occasionally met with.
- Order 10. Diseases of the Integumentary System. (8.232 p.c.).
Eczema, Impetigo Contagiosa, Ulcers and *frunculosis* were the most common. Lack of cleanliness, promiscuous living, and use of a common towel have much to do with the spread of these diseases.

Class VII. Violence. - (6.185 per cent). These were mostly ill-defined.

From the statistics given it will be seen that the Maori is subject to disease in much the same way as the European. His chest and stomach seem more vulnerable, but given an equally favourable environment I believe he would be equally resistant. Civilization, at first, played sad havoc with him, but he is now beginning to make a stand against the invading forces of disease and is learning the rudiments of sanitation and hygiene, and bringing his habits and mode of life into harmony with

present day conditions. The latest statistics show an increase in the native population, and there is every prospect of this being maintained

Class VIII. The future of the Maori Race.

In considering the future of the Maori Race one must take into consideration the question of the 'half-caste'. These are continually increasing as the following statistics show,

Half-castes, etc., in New Zealand.

	Census years.				
	1906	1901	1896	1891	1886
Half-castes and persons of mixed races living as Europeans ..	2,578	2,407	2,259	2,184	1,957
Half-castes and persons of mixed races as members of Maori tribes	3,938	3,123	3,503	2,760	2,264
Total Half-castes ..	6,516	5,530	5,762	4,944	4,221
Maori wives of Europeans	211	196	229	251	201

	Total Maoris and Half-castes.	Total Decrease.	Total Increase.	Total Half-castes.
1868	38,540	..	..	..
1871	37,502	..	..	..
1874 (first census)	45,470	..	..	..
1878	43,595	1,875	..	..
1881	44,097	..	502	..
1886	41,969	2,128	..	4,221
1891	41,993	..	24	4,944
1896	39,854	2,139	..	5,762
1901	43,143	..	3,289	5,530
1906	47,731	..	4,588	6,516
1911	49,844	..	2,113	7,060

..... and now there are 7,060 ^{half-castes} living in New Zealand. As education becomes more universal and the Maori becomes more equal to the white man

in culture, the number of half-castes is likely to increase. Every half-caste that marries a Maori is lightening the blood of his progeny. Thus, by a gradual process the pure Maori strain will disappear. It may take generations, but the end is inevitable.

Considering the few years the Maori have been in contact with civilization, ~~his~~ progress is surprising. Hundreds of them are quite Europeanised, and live exactly as their white neighbours.

The Government is doing much to aid the rise of the Maori. Schools are established in every district, and most of the younger natives can read and write. Many are being taught the science of Agriculture. The Maori villages are regularly inspected. ^{now} Idigent Maoris are provided with free medical attendance, and Maori girls are being trained as nurses, that they might go back to their own people and teach them how to look after the sick. A better day has dawned for the Maori race. The gospel of work is being preached, and therein lies the salvation of the Maori. An effort is being made to individualise the Maori lands and place the owners on an equal footing with the white man, giving them work and responsibility.

J. L. Bowie
Waikeke, N.Z.
1913