

P O L Y N E S I A N M E D I C A L

R E S E A R C H E S .

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I.

M E D I C I N E .

Edinburgh.
1899.

To my Teachers,
Professors in the Universities
of
Edinburgh, Sydney,
and
New Zealand.

LEPROSY.



TUBERCULAR LEPROSY IN
A SAMOAN.

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2	<u>Etiology</u>
3	Abdominal Diseases
4	Mental Disease.
5	Leprosy
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C O N T E N T S .

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C O N T E N T S .

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I N T R O D U C T I O N .

INTRODUCTION.

This thesis embodies a portion of certain researches into the primitive medicine of the Polynesians and other races inhabiting the islands of Polynesia, Mikronesia, and Melanesia or Australasia®, which I have made during the past ten years. The work was commenced while studying medicine at the University of New Zealand, and continued in Australia and this country. Polynesian medical-lore generally, is a subject which has failed to attract the attention of medical men, or at any rate that of the medical investigator, compiler, or theorist. Doubtless one reason why this attempt may claim to be the first of its kind, is, that such studies, being for the most part historical, cannot well be studied in the islands themselves, the natives in their semi-civilised and often demoralised state having forgotten most of their ancient mythology, traditions, and medical-lore. Records of these are to be found often only in such works as are preserved in national libraries, as that in the British Museum, or the Bibliothèque Nationale in Paris; the colonial libraries not possessing many of the earlier published and rarer works, which are to be found in the above mentioned institutions.

® See Map.

The average colonial physician, if questioned concerning the literature of Polynesian medicine, would doubtless reply - there is no such literature. And this is, in the main, true; there is no book dealing especially with the subject, but in the numerous works by missionaries, adventurers, travellers, colonists, colonial medical officers, in fact scattered through the whole of the literature of Polynesia and Australia, we find occasional references, often meagre and vague, concerning the native medical beliefs and customs. This literature is like a vast desert, in which the oases of medical information are small, few, and far between. During a period of several months spent at the British Museum Library, I was able to search through all the works to be found there on Australasia, Polynesia, and Mikronesia, many of the best of them being by French medical men in the colonial service, and a number of rare and valuable Government publications.

The Polynesians commenced to spread over the islands of the Pacific about the first century B.C. Their exact origin is unknown, and the admixture of several stocks is to be found in the peoples of the parts to the West, the pure blooded Polynesians, the

Introduction.

finest of all these dark skinned races, being distributed over the eastern islands of Polynesia and in New Zealand. The medical customs of these peoples differ widely from those of India or China, and in many respects are analagous to those of the Egyptians and Assyrians. The practices of the American Indians are the nearest akin to those of the Polynesians, and this is in accordance with the theory that the Autochthons of America are of Polynesian origin. We cannot speak of Polynesian medicine as a uniform whole, but as a series of separate developments, each isolated group working out for itself a more or less complex method of dealing with disease. There was very little intercourse between the different islands and no written language,[ⓐ] hence the isolation was almost absolute.

Polynesian medicine may be studied from many aspects; in the first place we have the native superstitious customs and beliefs, their sorcerers, their wizards, seers, disease makers, and medicine men or tohungas, with their practices of conjuring, mesmerism, hypnotism, raising the dead, soul-expelling and soul-entrapping, their complex and varied dealing

ⓐ Traces of a picture writing were found by Frère Eugene Eyraud as Easter Island in 1864.

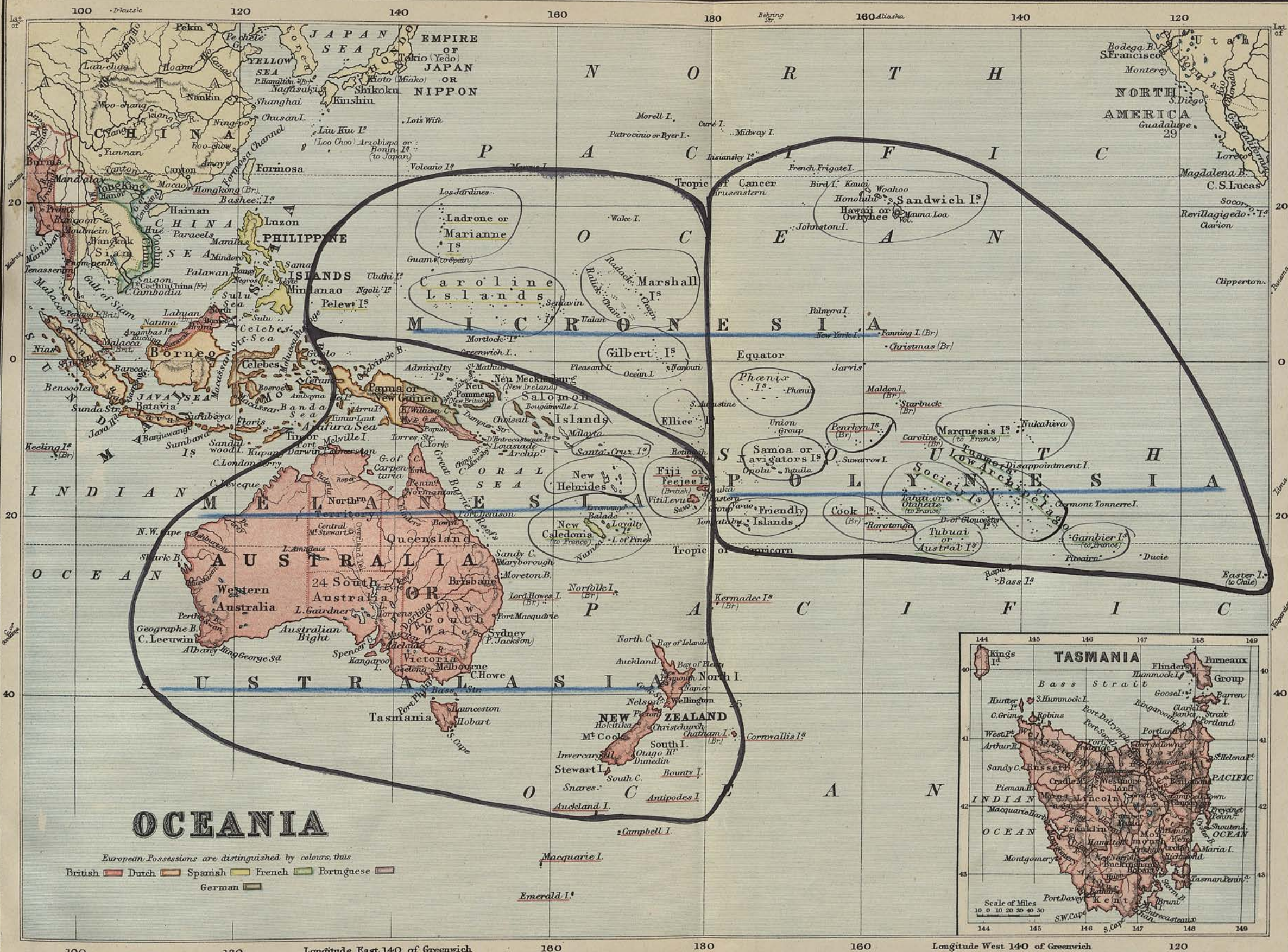
Introduction.

in the black-arts, their aerial flights and subterranean wanderings, and many other remarkable manifestations. We find surgeons, masseuses, and compounders of native simples. Their spirit-world teems with supernatural beings, great and small, powerful, hideous, wicked, as well as beneficent gods, demi-gods and ghosts. These hosts are the active agents in producing, and often in curing, disease, and frequently take up their abode in the numerous fetishes with which we are so familiar in all our museums. They had no idols. Their treatment of disease often consisted in nothing more than elaborate ceremonies of propitiation and invocation of such disease demons. We have given numerous instances of the incantations and charms used in such rites. Their bodily mutilations, often barbarous and cruel, are of great scientific interest, not only to the student of medicine, but also to the anthropologist and philosopher. The curious customs of couvade, and the self-induced, and rapidly fatal, melancholia, or fatalism, are of great interest. Their practice of performing post mortem examinations for the discovery of evidences of disease show a distinct advance from the pure disease theories of etiology, as also do the operations of

Tocolosi or Cocolosi, and the Hervey Island custom of removing the dark blood from the umbilical cord, in all of which there is to be found, I believe, the first dawn of a humoral pathology.

Finally, information concerning the exact distribution of the various diseases in these regions, and the definition of the prevailing diseases in each group of islands is becoming necessary, owing to the enormous expansion of the British Empire, and the gradual spread of Europeans over these islands. Of great importance, too, is such knowledge to the medical officer about to enter the Polynesian branch of the colonial service, to the medical missionaries preparing for work among these cannibals and savages, for in many parts there are still thousands existing in their savage state, and to the colonists also, the subject is not devoid of interest.

As a preliminary contribution to the study of this primitive medicine and to the geographical, historical, and tropical pathology of Polynesia I submit these pages.



POLYNESIAN THEORIESOF DISEASE.

Disease is attributed by these savage races generally to one of three causes, namely:-

1. Disease - demons.
2. Sorcery, or
3. Natural Causes.

Of these, the two former are by far the most generally accepted agencies, the latter being only acknowledged in a few places, and in special cases. In certain districts the disease - demons rule, in others, the sorcerers are most dreaded. The superstitious imagination of the Polynesian peoples his spirit-world with such a host of gods, great and small, good and bad, spirits beneficent and malevolent, and ghosts having like qualities, that before we can attempt any brief sketch of his conceptions of disease, we must clearly differentiate these various classes of imaginary disease-makers. A well-known author has declared, that "the savage's idea of a demon or evil spirit is usually that of a soul of a malevolent dead man." Here we find the terms, demon, evil spirit, and soul of a dead man, used synonymously. And most authors who deal with anthropological questions write in this manner, using such

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terms more or less at random. If in discussing the demonology of Polynesia, we did not strictly limit each term to one particular class of supernatural entities, extreme confusion would inevitably ensue. The Polynesian himself carefully distinguishes each, and to each class gives a separate name, and in each class distinguishes different grades or sub-classes of beings. In all classes are to be found disease-makers, and in each class the malignancy of the members varies considerably. In no class are all the members malevolent. The Hawaiian speaks of the body ("tino"), of the soul ("Kakaola," or "Kahoaka"), and the ghost of a dead person, (or "Kinowailua"). The Hawaiians supposed that men had two souls each; that one died with the body, the other lived on. The same is true generally throughout Polynesia, hence we must clearly distinguish between the soul and the ghost. It is rare for the soul of a man to go forth and cause illness in another, it is an extremely common, in fact the universal belief in Polynesia, that the ghost can enter a victim and damage, or destroy, or expel his soul, thus causing illness and death. The ghost moreover can enter a lizard or other reptile, and that

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animal entering the body of the victim, causes disease by gnawing some more or less vital part; the ghost and not the lizard being the true attacking agent. Ghosts have, according to the Maori, varying degrees of malignancy. The most painful and fatal disease being attributed to the KahuKahu or "germs of unborn children," menstrual germs, or ghosts; very deadly also were ghosts of very young children, of children especially who had died before the tohunga (priest-physician) had performed the usual birth ceremonies and incantations.Ⓢ These two varieties of ghosts belonged to the class called Auta-poke (very evil, filthy, malignant, demons and ghosts). The ghosts of adults generally retained the characteristics of the man, but all his qualities and attributes were possessed in an magnified degree by the ghost. Thus a sorcerer whose powers in causing disease by makutu (black-magic, N.Z.) were great, when dead was much more powerful, and his name would be used in the incantations of malicious persons desirous of bringing about the death of others. Such were some of the ghosts, who were ever causing sickness and death among these people, and we may observe that commonly they

Ⓢ See Section on Midwifery.

Etiology

were supposed to have the form of human beings, and sometimes were white instead of black.

The demons or evil spirits, that is supernatural beings who have never been souls of men and consequently are not ghosts, are creatures generally having the form of some animal, as a snake, or fish, or some horrible object with many heads and eyes. Usually they emitted fearful moanings, or other unearthly sounds. The people were very much terrified by them, and attributed all manner of diseases to their malevolent action. The Australians particularly imagined many such creatures to exist, especially in the lagoons and deep water-holes.

Finally there were gods, great and small, by gods we do not mean wooden or other images, for perhaps in no part of Polynesia, Melanesia, or Australia, do we find any evidence of idolatry. They had no idols, the so-called idols from Polynesia, so numerous in our museums, are fetishes, mere temporary abodes of the gods. The gods resided far away in the heavens but kept a jealous eye upon the people, they were ever ready to punish those who trespassed on the sacred enclosures, or otherwise offended them. Some gods were purely malignant, and for their own gratification

caused sickness, others were willing to induce disease for the satisfaction of individuals who regularly worshipped them. It is in Polynesia proper and New Zealand that we find diseases almost always attributed to the gods, and naturally it was to these gods they applied for the relief of their physical infirmities. Passing westwards to Melanesia the gods are not so much in evidence, they are replaced by the ghosts, and ghostly supernatural power, or mana, is the agent which causes and cures all diseases. The ghosts themselves may exert the influence, by entering and "possessing" the patient, and that is the common explanation of sickness among them. Sorcerers are all powerful among the Melanesians and their strength lies wholly in their mana, or the mana of the ghosts, or tindalos as they call them, with which they are familiar. The sorcerer injures or destroys the soul of the victim by means of his supernatural power. He sends a tindalo in to the victim or he secures a bait from his victim and exposes it to the malignant power of his evil tindalo, who in destroying it brings about the gradual death of the victim.

Passing still further westwards to the Continent of Australia we leave disease-making gods behind, the

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Australian aboriginal has no gods. His diseases are attributed chiefly to sorcerers, and to disease-demons.

The sorcery however differs widely from that of the Melanesians. Its working basis is not mana. It is true the sorcerer (Koraji, Railtchawa, etc.) has seen the devil in his youth, or has had his entrails renewed by the subterranean demons, and he has communication with the ghosts of other sorcerers, but yet as a rule he relies mainly upon his own powers. He is a true conjurer. He induces disease by transmitting ^{by} my magic into his victim fragments of crystal or stone, chips of wood, pieces of the fur of animals, or he, by the practice of his black-arts, gradually abstracts the kidney-fat from his victim who sinks into a decline. Thus in Australia, as in Melanesia, the sorcerer is the disease-maker. We must not omit however the numerous disease-demons who visit the Australian blacks, the horrible serpentine monster Myndie, the water-monster Bunyip, and a number of others, whose attributes are described elsewhere. Almost the sole aim of Australian sorcery was to bring about the death of an enemy, or restore the health of a friend. By temperament these blacks are light hearted and inclined to kindness but sorcery

has the most damaging effect on their manners. Sorcery makes them fear and hate every man not of their own coterie, and suspicious of every man not of their own tribe.

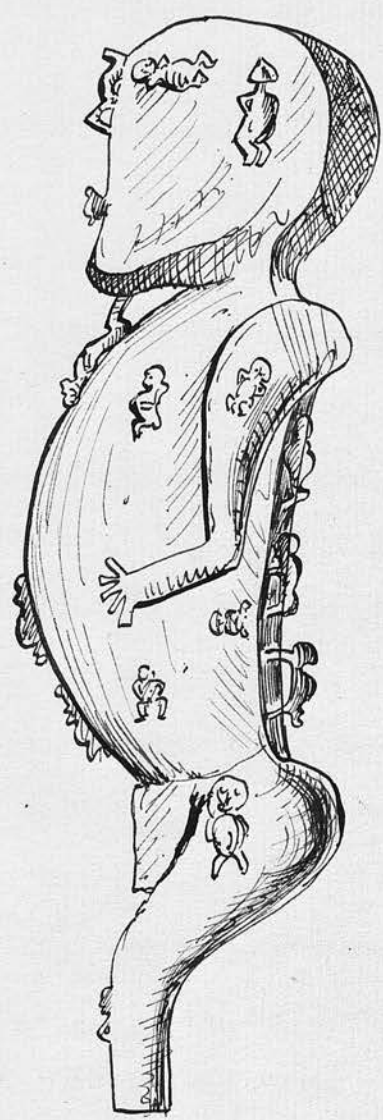
The Australian can trace, in his legendary lore the origin of disease and death. There was a time when death was unknown, it came because of the wickedness of men. The Maori also believes that death is disease are mistakes. The origin of death is referred to in the following lament to Te-Popoki:-[Ⓟ]

In vain I look within myself
 To know the cause of death to thee,
 And why the gods swept thee away
 When gifts to them were burnt
 In sacrifice to thy grand ancestor, Pawhaitiri.
Death does not come from herbs.
Of old death was from Mani,
 When Patatai forgot and laughed,
 And caused him to be cut in two;
 Now evil comes on thee.

DISEASE GODS.

Many Polynesian gods inflicted diseases as punishments on their devotees, they also cured disease; others while inducing various maladies were never appealed to for relief, they were purely disease-dealing gods; others again cured disease but did not inflict it. These gods are very faithfully worshipped, and scarcely any case of deliberate impiety was to be observed; and indeed they had very strong motives to keep them in proper order in this respect, believing as they do that all diseases and misery come from neglecting their duties to these gods. The common people in Tonga, etc., were particularly careful to respect their gods because with them death was the end of their existence altogether; with the chiefs, however, death was merely the change to a better life. The Tongans believed in gods (atua) who have existed for ever, these both produce and cure diseases; inferior to these are gods having similar powers, but in an inferior degree, and they are the ghosts of all the diseased nobles; a third class of god is purely mischievous and they dispense petty evils and troubles, such as itching, etc., not as a punishment, but indiscriminately, merely because of the pleasure they

Gods.



Taaroa-upov-vahu, or Aa

The National God of the Island of Rututu. The Supreme diety of Polynesia. ☉

(The interior is hollow and was used for depositing fetishes to give them mana (supernatural power).

Etiology.

Gods.

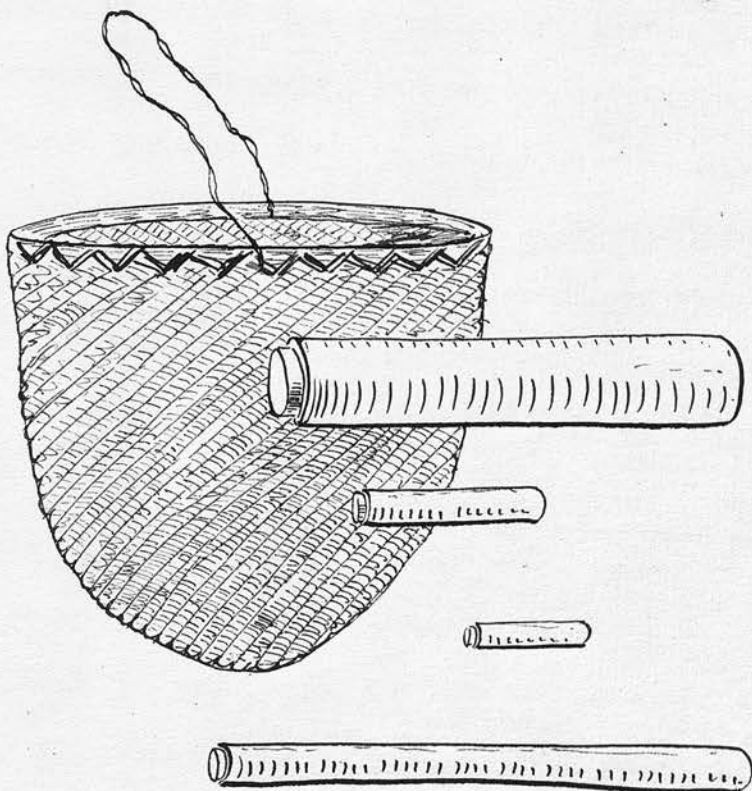
find in so doing. They are called atua pow. The names of some of the gods in the first class, the highest order, are Taliy Toobo, Tóóifooa Bolotoo, Higooles, Tubu Toti, Alai Valu. The latter has a large consecrated ground at Ofoo, and has at least one priest, who is frequently consulted concerning the cause of illness in the people, and what they must do to have it taken away. Other gods of this class are Alo alo, Tui Bolotu, Tangalooa, etc. [Ⓟ] In Samoa ulcerous sores, dropsy, and inflammation of the abdomen were considered special judgments of the gods on concealed thieving, adultery, etc.; and the effects of the curses of the aggrieved parties. The New Zealanders ⁽¹⁾ believe that it is from the Kahui-anu ("flock of the cold space") that all the evils which now afflict the Maori race came. Their tohungas (priest-physicians) say when a sudden death occurs, that the Atau-Kikokiko (the god of flesh) is killing the people, and when two or three deaths occur on one day, incantations are repeated and ceremonies performed to avert death from the tribes. These incantations and ceremonies were repeated and performed to Mihi-mihi-tea ("acknowledge the obligation, and lament for the fair one") and also to Tapatapa ("The one called for").

Etiology

Gods.

Many of the Maori gods were cannibals, all were influenced by like feelings and passions as men, and they were almost uniformly bad. To them were ascribed most diseases, a separate god causing each disease. Thus, Tonga was the god who caused headache and sickness; he took up his abode in the forehead. Moko Titi, a lizard god, was the source of all pains in the breast; Tu-tangata-Kino was the god of the stomach; Titi-hai occasioned pains in the ankles and feet; Rongomai and Tuparitapu were the gods of phthisis, and the wasting away of the arms and legs; Koro-Kio-ewe produced the disorders of childbirth. In fact, the whole human body appears to have been shared out amongst these evil deities, who delighted in inflicting evil. (1) The Tasmanians believed in a being called Raegoo wrapper, to whom they attributed all their afflictions. Nanganburra who lives in the bowels of the Earth, is believed by the Larrakia tribe (Australia), to have made in past ages, one black-fellow, and called him Dowed and taught him how to make other blacks; and he made many boys and girls, who grew up and multiplied. When Dowed grew old the blacks, who had now got to be numerous, refused to

(1) (85)₄ 43.



SORCERER'S BAG

with

Tamatetiquas or "Ghost Shooters!" (Bank's Isl.).

Etiology

Gods. obey him, so he brought a sickness upon them, of which many died. (2)

New diseases were due to Foreign Gods who either were displeased, or sent them in answer to the prayers of some enemy. They were, in some cases attributed to the god of the missionaries, who sent them in answer to their prayers, and because they would not reject their heathen worship. The diseases sent by these foreign gods were coughs, influenza, dysentery, certain skin diseases, etc.; Rewharewha was, the Maori name for the Influenza god.

Family gods (a kind of totem) were common in southern Polynesia, and were often supposed to take up their abode in fish, etc., to eat which would bring disease on the worshipper. Tongo ('Mangrove') was such a god, incarnate in the mullet. If anyone of the household who worshipped him, ate a piece of that fish it brought on a curse in the form of a squint.

Leleaiioio and Lelahooahaahaa were Hawaian disease gods, they inflicted bodily pain and caused nukee (mouth drawn to one side, and oopa (crippled, lamed), and other morbid conditions.

The following Polynesian dirge (by Koroa for his children Puknkari and Kourapapa) illustrates their belief concerned disease:-

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Gods.

Ah! that god - that bad god!
Inexpressibly bad, my child!
The god "Turanga" is devouring thee,
I am disgusted with the god of thy mother.
Oh, for some other helper!
Some new divinity, to listen
To the sad story of thy wasting disease!
Thy form once so plump, now how changed!
The god (Motoro) of Ngariki is enraged.
Wherefore this pining death,
And thy flesh ever wasting away.

DISEASE DEMONS.

These beings were distinct from, and lower than, the gods; they were self-existing, self-made, and were not ghosts, i. e., not the souls of ancestors. They were legion, and their attributes varied exceedingly. Some were in the habit of entering people and setting up pain and disease merely for their own satisfaction, others were in the employ of sorcerers and disease-makers, who directed them, and in return made suitable offerings of food, etc. These spirits sometimes lived in the woods, inside the bark of trees, or among the leaves, they could be heard at night when they were generally abroad, making moaning and other sounds in the forests. It was dangerous to go about at night because of them, and no one cared to do so unless armed with a blazing torch, which afforded complete protection. They dislike light. Some of them frequent the sea or the sea coast, or the water of lakes or rivers, others are merely to be found wandering about generally, or flying through the air.

These spirits, were supposed by the Melanesians to be personal intelligent beings of power superior to that of men, and without bodies such as those of mankind; they are quite distinct from souls and

Etiology

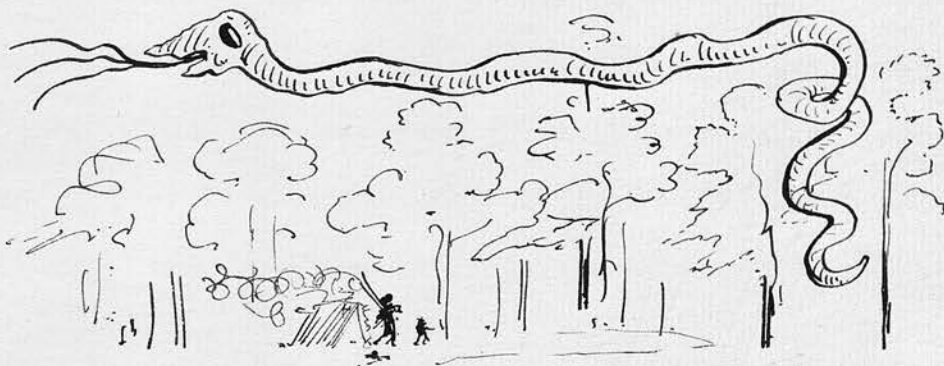
Demons. ghosts, never having had any connection with a living being. Such a spirit is called a tarunga. The New Hebrides blacks believe that unless the person be very old, of the cause of death be very obvious, the fatal result is due to an evil spirit called Semi, who poisons people. Very often he acts by human agency, and many a suspect is killed in consequence. (1) Any sickness (in Melan.) that is serious is believed to be brought about by ghosts or spirits. Generally the former, except in the New Hebrides, where spirits (i. e. demons) are the chief objects of religious worship; there a man knows that if he has trespassed on a sacred place of some spirit, or has an ill-wisher who has a spirit for a helper, his life is in danger and supposes therefore when he is ill that a spirit has brought his sickness on him. But generally it is to ghosts of the dead that sickness is ascribed in the islands of Melanesia.

The Australian natives believe in a good spirit, Byamee, but they pay no reverence to him, all regard and dread are reserved for the evil spirit called Myndie, (2) who is supposed to exist in the form of an immense serpent, invisible to mortal eyes. He can

(1) (89)₄₇ 85. (2) (87)₂₉ I-446.

Etiology

Demons. travel over the tops of the trees and resides in high and rocky mountains. Sickness, and death are provienced



Myndie (from a native drawing).

by the shaking of his mighty tail. Small-pox is called "Morrola Myndie," or the dust of Myndie; and and the scars left by it "Lilli pook Myndie," or scales of Myndie. Myndie is the demon of this disease and he also causes outbreaks of ulcers, dysentery, blindness and dreadful epidemics. The natives of the Melbourne district say Myndie is under the dominion of Pund-jel. When Pund-jel commands him Myndie will destroy black people. When any tribe is very wicked, or when any tribe fails to overtake and kill wild black-fellows, then Pund-jel makes Myndie give them

Etiology

demons. diseases, or kills them. Myndie has several little creatures of his own kind, which he send out from time to time to carry diseases into the tribes. All plagues are caused by Myndie or his little ones. When Myndie is known to be in a district, all the blacks run for their lives. They set the bush on fire, and run as fast as they can. Some, as they run, are afflicted by the demon, and become sick, and lie down, and soon die. Those who run swiftly escape. The sorcerers, or conjurers, profess to derive power from some pretended communication with this object. Though nothing like a religious ritual exists, there are peculiar ceremonies intended to propitiate this dreaded phantom, and to avert the consequences of its anger. The Victorian blacks similarly dread the demon Ngatya, who is continually injuring them. He comes underground in the depth of the night, and causes the victim to die. It is believed that a corroboree is held to appease this demon. Wangal⁽¹⁾ is an aquatic monster who is endowed with supernatural powers, and who spreads disease among the West Australian blacks. The Bun-yip is another water-demon, of dreadful aspect, and voracious in its appetite for human beings. Its groanings and bellowings can be heard at certain times near deep

(1) (87)₂₉ii-269.

Etiology

demons. water-holes, or by the sea-shore. These noises terrify them very much, for they believe them to have supernatural power over human beings, so as to cause sickness, disease, and death. This demon is called Toor-roo-dun in some places. The Dieyerie tribe (Victoria) believe that every natural death (i.e. not due to magic) and sickness is due to the demon Kootchee, and the old men practice many rites and ceremonies to charm away the monster. Certain human bones, red-ochre, and clay form the chief ingredients used in working the charms. The Kombinegherry tribe are much afraid of an evil-working spirit called Tharragarry, but they are protected by a good spirit, Coomboorah. (1) If among the natives of the Finke River, one falls sick or dies, they at once conclude he must have been bewitched or bitten or hurt by the devil called Eunga. (2) The Tasmanians believed in an evil spirit, [♁]whom they believed to be white. They ascribed extraordinary convulsions, to this malignant power, and to his influence they traced madness. They feared also a malignant demon called by some tribes Namma, he prowled about during darkness.

The accompanying drawing represents the tomb-board of a celebrated warrior called Bungcleen. The

(1) (39)₄ 24. (2) (39)₃₂ 287. [♁] Ghost?

Etiology

demons. aborigines suppose that the men represented in the upper part of the drawing are friends who have been appointed to investigate the cause of the death of Bungeleen; the figures of the birds and animals (emus, lizard, wombat and Kangaroos) indicate that he did not die for lack of food; and the strange - somewhat obscure - forms below the hollow band are those of Moorroops, or spirits who have caused the death of the aboriginal by their wicked enchantments. Ⓟ



Tomb-board of Bungeleen.

The Wallaroo tribe (York's peninsula) believe that in sickness they are possessed by certain animals, which they can expel by waving a bunch of feathers over the sick person. The sorcerers were supposed

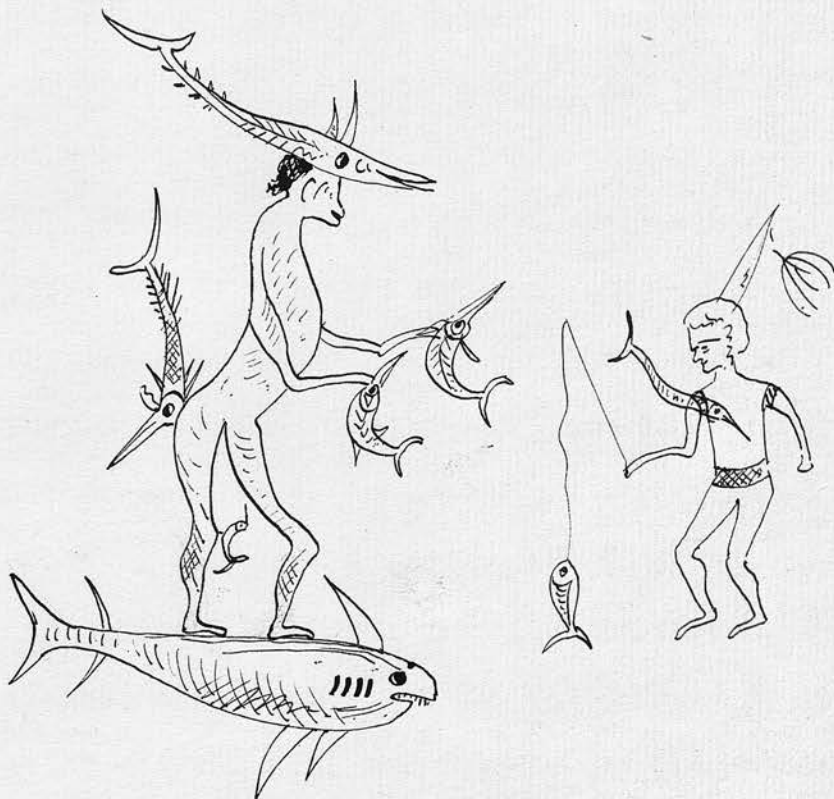
Etiology

emons. to be able to induce some of the host of Bolyas or evil spirits, which everywhere abound, to enter the body of an enemy and thus cause his death.

The Timorese appear not to understand how anyone should die unless he is killed, and attribute death by disease to some evil spirit, who eats up the spirit of the dead person. Then some living being is supposed to become the abode of this evil spirit; and this person being fixed upon, he and his whole family used (before the Portuguese forbade it) to be impaled or buried alive, and their property confiscated for the deceased's relatives. (1)

ETIOLOGY.Demons.

The Samoans believe in certain evil spirits, which besides other things molest women in their sleep, in consequence of which there are many supernatural conceptions.



Man Fishing shot by a Sea-Ghost.
(From a Native Drawing).

The ghosts that haunt the sea have a great hold on the imagination of the natives of the south-eastern Solomon Islands. If a man on return from a canoe voyage or from fishing on the rocks falls ill, it is because one of these sea-demons has shot him.

Demons.

All the spirits of the New Guinea natives are malignant and in cases of illness they try to overcome them by hard cursing, or propitiatory offerings. They believe them to be intangible and supernatural and yet assert that they can kill them with arrows and spears. Fire, however, is the great purifier and the terror of these demons, and they believe they can drive them away with bonfires and torches.

Perhaps no demons were more terrible to the Maori belief than the hideous monsters called Taniwhas who infested lakes and rivers and destroyed men. They also looked upon lizards and other reptiles of all sorts with terror, such being considered the abode of demons and ghosts, who entering the body of a person, set up disease. The chiefs, for instance, are regarded as the descendants of the gods, or of deified men, and they become themselves deified after death, revisiting the earth frequently in the form of a lizard, to punish men with illness for their transgressions. These ghosts of deified ancestors sometimes also enter the bodies of spiders, and certain birds. The Maoris perform ceremonies and repeat incantations, called tuitupapau, for the dead, that their ~~ghosts~~ might not come to annoy the living. They might come in the form of a lizard

Etiology.

Demons. as did also many special demons. Mokotiti, for instance, was a reptile deity or demon, who entering the lungs causes phthisis and other lung diseases. Kaweau was a lizard demon, and Mokohikuwaru was the tutelary deity of all lizards. He was a god of evil, dwelling with the terrible Miru in her abode (called Te Tatau-o-te Po), in the lower regions. The Maori word papakikokiko was used to signify a creeping sensation in the flesh of the arms or other parts of the body, which was a sure sign or omen of the presence of the atua-papakikokiko and of the possession of the person by these gods. These lesser malignant spirits, or atua-kikokiko could also assume the lizard form. It is not to be surprised, therefore, that these superstitious New Zealanders dreaded the sight or presence of lizards, since they were the chosen abodes of all kinds of evil gods, spirits and ghosts. The ghosts of young children, of adults who had failed to pass to their abode in Hades, the ghosts of deified ancestors and gods malignant, all in the form of lizards entered the body of the Maori and set up his numerous bodily infirmities, or appeared to him, as an omen foretelling the date of his death.

Etiology.

demons.

Another kind of demon which caused disease was the Ngingonggingo, which haunted ruins of houses or pas (forts) and sometimes crept into mens' bodies and killed them. Ngarara is the name of a reptile god, and is also the name of a disease. The demon Tapatapa was approached by incantations and ceremonies in times of epidemic sickness. He was invoked, in order, after the demon Mihimihitea.

Native Terms:-

Tupua)	An evil spirit, also any strange
Tipua)	or obscure sickness, as internal
	complaint. (N.Z.).
Aitu	An evil spirit, also sickness. (N.Z.)
Atua-hara	A demon that was supposed to enter
	a person by means of a curse. (Tah.)
Rita	An evil spirit, also <u>tetanus</u> . (Tah.)
<u>Ngarara</u>	A demon; a reptile-god; also a
	sickness. (N.Z.).
Markai.	A demon (N. Guinea).
Mienginya, Pia, warrawah noile, Pawtening-eelyle, Mieng-inya, Namma, Riggaropa, and Comptena, were Tasmanian demons.	

DISEASE PRODUCED BY GHOSTS.

Demons.

Ghosts or souls of dead persons, were looked upon by a very great number of these peoples as primary factors in setting up diseased conditions. In some parts, such as Melanesia, (excepting the New Hebrides Group), diseases were generally ascribed to ghosts or sorcery, rarely to demons (i.e., spirits).

In Bogotu⁽¹⁾ is a pool which is the abode of a ghost of former times, and into which scraps of any persons food are thrown whom his enemies wish to charm. If the food is quickly devoured by the fish, which are abundant in the pool, the man will die, if otherwise, the man who knows the place and the ghost reports that the tindalo is unwilling to do harm, his own friendly intervention having been probably paid for by the one who knows that his life is aimed at. These ghosts in Melanesia, not only cause, but also cure disease; and ghosts are believed, writes Bishop Codrington, to inflict sickness not only because some offence, such as tresspass, has been committed against them, or because one familiar with them has sought their aid with sacrifice and spells, but because there is a certain malignity of feeling in all ghosts

Etiology.

Ghosts.

towards the living, who offend them by being alive. All human powers which are merely bodily are believed to be enhanced by death; thus the ghost of a wicked man becomes naturally a power for evil, and ready to use his increased powers of mischief. The whole structure of their medical superstitions is based upon this belief in the existence and power of ancestral ghosts. The general name tindalo is applied to them, and the word mana signifies their supernatural power. All tindalos are not disease-producing, some are healers, others are concerned in love, &c. Besides these there are private tindalos which are possessed by medicine-men, &c., whose mana is shown in the powers of healing displayed by their possessors. Life depends, they believe, on the presence of the Talegi (soul) in the body, health upon its sound conditions. A ghost ("tindalo") can damage a talegi, either spontaneously or moved by charms, and then the man falls sick, and his body is weak, or the ghost takes the soul away, and the man lies just breathing in his chest. He breathes yet he is dead. A powerful sorcerer can in such cases sometimes bring back the soul and restore life. A man whose soul has fled, but who, to all intents and purposes, was quite well and could eat and speak, has been buried

Etiology.

Ghosts.

he believing himself to be without a soul and therefore dead.

There is a belief in the Banks Islands in the existence of a power like that of Vampires. A person can, by stealing and eating a morsel of a corpse join in a close friendship with the ghost of the deceased, and it would gratify him by afflicting anyone against whom his ghostly power might be directed. A man suspected of being a Talamaur, as they called him, would be seized and held in the smoke of strong-smelling leaves; if he were a Talamaur he could call out the name of the ghost who was his familiar and also the name of the man who was afflicted. ⁽¹⁾ These people also believe that there is something belonging to a man called his wuga or uga. If a stranger sleeps in someone's customary sleeping place in his absence, and afterwards becomes ill, he believes that the uga of that man has struck him there; or if one leaves an associate and goes elsewhere to sleep, the uga of the man he leaves will follow him and strike him; he will rise in the morning weak and languid, or if he had been unwell before he would be worse. A man can by an act of his will take off the malignant influence of his uga.

(1) (89) 74.

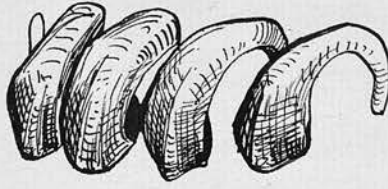
Etiology.

Ghosts.

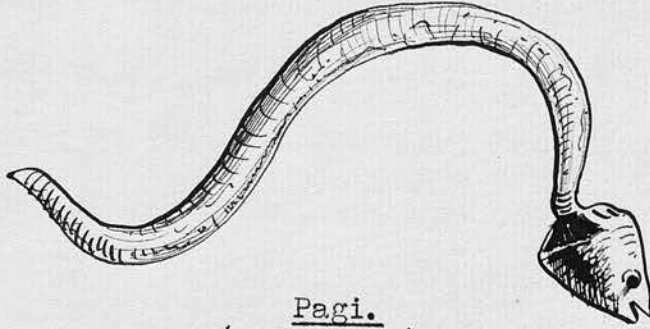
Trespassing on a piece of sacred ground, is one of the sins for which the gods and ghosts are supposed to send diseases as punishments. In some cases the sacred ground is the burial place of some important man, or is in some way connected with him. Chiefs can make any plot of ground sacred by placing their tapu (or taboo) upon it. In the Solomom Islands the sacred places of the sorcerers generally are in the proximity of some stone, which lying naturally there has struck the fancy of the man who began the cultus of the tindalo (ghost); he thinks it a likely place for the ghost to haunt, and other smaller stone and shells called peopeo are added. Thus is established a yunuha, and everything in connection with it is tapu, and belongs to the tindalo. If the sacred place be entered by a stranger the tindalo of the yunuha will punish him with sickness.

There are stones of a remarkably long shape called in the Bank's Islands tamate gangan, that is, "eating ghost;" the ghost within them is so powerful, that if a man's shadow falls on one it will draw out his soul from him, so that he will die. Other stones, also connected with ghosts, had such power that when the owner of one puts it under his pillow and dreams of another man, that man will die. One who has such

Etiology.

Ghosts.

Sab.
(Torres Straits Islands).



Pagi.
(Sea-snake).



Paralysis Tabu.

Disease-making Tapu (Taboo) Signs.

Etiology.

Ghosts.

a stone is paid by an enemy to destroy a man in this way, and "dreams him to an end" (ti gore mot). These stones are exceptional as deriving their power from the dead.

The Samoan thinks that ghosts get into the heads and stomachs of living men and cause them illness and death. And when a man dies appropriate ceremonies are performed so that his ghost may pass into the proper abode or heaven set apart by the gods; if these rites be neglected the disconsolate ghost is doomed to roam at large through the land, his wailing and moanings being heard at night, and he seizes every opportunity of revenging himself by spreading disease among his friends who by their neglect have thus reduced him to a state of misery.

The Hawaiians⁽¹⁾ believed in invisible powers or beings called pua, (probably ghosts), who were supposed to reside in some person who was called Kahu-pua, and who had the power to send the pua to do injury to others. He akua-pua was a term applied to some kinds of illness leading to delirium, such maladies were supposed to be sent by some individual in anger. In the Hervey Islands the ghosts were usually well disposed to their own living relatives; but often became vindictive if a pet child was ill treated by a

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Ghosts.

step-mother or other relative. The sick Australian sometimes attributes his illness to the angry ghost of a dead man, which has got into him and is gnawing his liver. The Tasmanian ⁽²⁾ had a similar belief, and thought the ghost entered his body because he had pronounced the name of the dead man. It is well known that these people, like the Australians, did not mention the names of their dead on any account whatever. The Tasmanians often carried about with them one or more of the bones of the deceased as a charm against adversity. The Unalla tribe believe that when the flesh is separated from the bones the deceased comes to life again, and goes into the bush, where he joins his previously departed kinsfolk, who habitually indulge in malevolent and ill-conditioned tricks on their former companions, especially annoying the old. The more nearly related an individual is to the deceased the greater is his fear of his ghost. The limbs of the corpse are securely tied together with bands of rushes or bark, the tips of the fingers are burned, or the finger nails removed, to as to hinder the ghost from getting out of the grave and molesting his friends. These measures are supplemented making a small bundle of leaves and

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Ghosts.

sticks, which one of the women carries about with her for two or three months, and places every night near a fire made apart for the purpose. Bundles of this sort it is believed are very attractive to ghosts, and generally detain them from making their way to the huts of their relatives and injuring them. The ghosts come to the camp to warm themselves and carry off children to eat.

In Central Australia the Ulthana or ghost, haunts the burial place and comes to the camp at times. After a certain ceremony (Urpmilchuna) has been performed the ghost goes to the subterranean regions. The ghost (Ulthana) is supposed to be capable of hurting his enemies, and the sure sign that he has inflicted disease upon them is the presence of human teeth in the body of the victim. Medicine-men will sometimes suck these out. These ghosts are supposed to resemble human beings but they are always youthful looking, their faces are without hair, and their bodies are thin and shadowy. At times they are capable of great cruelty. If one be offended then he may place in the body of the offender one of their pointed sticks or Ullinka, a barbed stick a few inches long and attached to a string, the malicious pulling of which causes severe pain and the stick can only be removed by the aid of a very skilled medicine-man.

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Ghosts.

Generally speaking, however, the ghost of the Australian black is not a producer of disease, he annoys his friends, and only in certain districts is disease directly attributed to his influence. If a dead man's ghost was not appeased by the murder of a member of some neighbouring tribe, it is true the ghost would be offended and would revenge himself on his relatives. They therefore rarely failed in this duty. It is among the Australians that we find also the rare instances of the soul of the living man credited with causing disease and death. Sometimes a black, when he knows he is dying, will name the tribe to whose wicked arts he has become the victim. Thus an aboriginal named Gen-nin was bitten by a snake, and all the usual remedies failing, and Gen-nin knowing that the end had come, told his friends that a man of a tribe living in the North, whose country he described minutely, had entered the snake and taken his kidney fat; and he gave sufficient information to lead to the discovery of his assailant, or at any rate of his tribe. It is in fact the ghosts of a neighbouring tribe, or of one of their own unburied dead who are the most liable to cause disease. No attempt is made to propitiate these ghosts; but charms are used to ward off their attacks. The Tasmanians imagined

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Ghosts.

that some such invisible beings slipped down a gum tree by the camp-fire at night, crept behind the sleeper, stole his kidney fat, and so occasioned his death. They also, at the bidding of sorcerers, inflicted blows with a club on the back of the victim's neck, and thus caused him to die. Deaths from unknown causes were thus explained. Ghosts inflict injuries and give disease by such simple means as the thrusting of twigs and small pieces of wood into the eye or the ear.

The commonest causes of disease among the New Zealanders were the ghosts of ancestors. The most malignant were the ghosts of unborn children, or rather the ghosts which were born at menstruation, children without bodies, infant sprites. These belonged to the great class of spirits called poke, evil spirits (atua poke), and are called various names such as Kahu-kahu, &c., they were unutterably poke (unclean and malignant) and delighted above all things in getting into human bodies and causing the most painful diseases. Their belief is, that all neglect or infringement of the law of tapu (taboo), either wilful or undesigned, or even brought about by the act of another person, moves the atua (god) of the family to anger, who punishes the offender by send-

Etiology.

Ghosts.

ing infant spirits to feed on a part of his body, more or less vital, according to the magnitude of his crime. Infant spirits, it seems, are generally selected as the agents of the vengeance of the atua, on account of their love of mischief, and because, not having lived long enough on earth to acquire attachments to their living relatives, they are most likely to attack them without mercy. The most deadly diseases, however, as we have said, are inflicted by the "germs of human beings", the kahukahu. In New Zealand, as in Polynesia, &c., if the funeral rites were neglected by the relatives of the deceased, the ghost would become poke, and a source of danger to survivors, panitatui was the name of such a ceremony performed by the Tahitians. Tui was another, and tuipapapau one practised by the Maoris. It seem probably that the talisman made of a wisp of grass or reeds, and used in wiping the anus of a corpse, and carried about by a relative bound to a stick, was for the purpose of keeping his ghost at a distance. The deity or demigod Tiki, the creator of man, it is who guards the portals of Paradise; he sits at the threshold of his long reed house in Hawaiki. Ghosts, or souls of the departed cannot enter unless the friends of the

Etiology.

Ghosts.

deceased have performed the ceremonies, above mentioned, and made offerings of pigs, and other food. As we have stated, ghosts failing to gain entrance become disease-makers or atua-poke.

Etiology.

Ghosts.SORCERY.

Death by sorcery, is in many cases considered as "natural death." The Australians could hardly conceive of death being due to any other cause than the machinations of a sorcerer. A snake-bite, a spear-wound, a fatal fall from a tree, were all manifestations of the black-art. So too in Melanesia sorcery was the prime factor in producing disease, and in Hawaii, there were many grades of magicians who prayed people to death, or by other magic means induced sickness. The Tasmanians were noted less for their aggressive charming than for prophylactic magic, counter-charms being much used by them. With the Maoris, and Southern Polynesians, we find less of the black-art practised and maladies attributed more to the effect of demons, gods, and ghosts. Sorcerers who inflicted disease were by no means absent, but they did not exist in such numbers, nor were their actions commonly credited with inducing their various diseases.

Etiology.

(a) REMOVAL OF THE KIDNEY FAT.Sorcery.

One of the most frequently practised branches of the black-art in the Australian and Tasmanian tribes was the so-called "taking the kidney-fat." In some instances, no doubt, the man was captured, and partly strangled. Then laid on his back whilst one operated on him by cutting generally with a sharp shell, a hole in his side sufficient to insert his hand, when he abstracted the fat from around the kidney (or according to some, that of the omentum). They anointed themselves with this fat and left the victim to die. In the majority of cases however, it was only imagined that the kidney-fat had been removed. It was believed that as a man slept, the disease-maker would approach and throw the noose around his neck, without waking him; and then remove the fat, leaving no mark or wound. When the victim awoke he felt no pain or weakness but sooner or later he feels something break in his inside like a string. He then knows his kidney-fat has been removed, and goes home and dies at once.⁽¹⁾ The kidney-fat is the great source of bodily power, and fat seems to be regarded by them as the vital constituent of the

(1) (89)
4.

Etiology.

Sorcery.

body; what blood is to us, fat is to them. The first visible effects of the successful performance of wingo, as the magic removal of the kidney-fat was called in some places, were the evidences of weakness and chronic ill-health, a sure sign that the kidney-fat was being gradually abstracted. Wingo was practised by the tribes of Victoria and of a considerable portion of New South Wales. A Victorian black who imagined he had lost his kidney-fat became, according to his own account very weak and was scarcely able to crawl back to the encampment where his friends were. When they were made acquainted with his calamity, all the men assembled and sat down beside him. He became rapidly weak, and they kept his head raised. A dead silence fell on the assembly and the medicine-man at once commenced his labours. He disappeared in the darkness; boughs rustled as he took his supposed flight through the trees towards the sky. In about an hour, the rustling of leaves was again heard and the old men seated near the sick-person cried "Goo-goo wandududuk mo-thur, &c." ("Come bring back the kidney-fat - make haste, &c."). The medicine-man appeared, and without speaking a word seized the dying man in a savage manner and rubbing him violently, devoting his attention mostly to the sides of the poor wretch

Etiology.

Sorcery.

which he punched and beat most unmercifully. He then announced that the cure was complete. The sick man arose, lighted his pipe, and smoked composedly in the midst of his friends.

The blacks firmly believed that the medicine-man had flown as the hawk flies, had swooped on the wild black-fellow who had stolen the kidney-fat, and had taken it from him and had replaced it in the body of the patient thus curing him. (1)

Etiology.

Sorcery.(b) POINTING THE BONE.

Another popular method of causing death by magic means was the "pointing the bone" almost universally practised by the Australian aborigines, and assuming various modifications in the different tribes. In Central Australia ⁽¹⁾ for instance, they attribute death to the pointing of the specially prepared bone (injilla), or piece of wood (irna) pointed at both ends and upon which certain signs are carved. Both are equally effective. The villain who uses them fastens a piece of hair to the end of the injilla, and then repairs to some secluded place, places the weapon on the ground and assuming a crouching position hisses out the following curses:-

"I-tar pukaluna pur-tulinja appinia-a"

"purtulinja appinaa intaarpa inkirilyn
quin-appani intarpak alaa-a"

"O kincha quin appani ilchi ilchaa-a."

Which may be translated,

"May your heart be rent asunder."

"May your spine be split open and
your ribs torn asunder."

"May your head and throat be split open."

The incantations being finished, the man returns to camp, leaving the injilla for several days, when

Etiology.

Sorcery.

he brings it nearer the camp. Then he creeps out at night and stealthily approaches his victim until his features are clearly discernible by the light of the camp-fire (the villain of course, remains unseen); he now stoops down, keeping his back towards his victim and jerks the injilla towards him several times muttering curses in subdued tones. He again conceals the injilla and returns to camp - the victim being supposed to sicken and die within a month unless he be saved by the skill of the medicine-man (Railtchawa). When the victim sickens the hair is burnt off the injilla and a wish is expressed that he may speedily die. The Injilla is sometimes placed under the tongue of the victim, its special virtue when thus employed being that it renders the injured man perfectly oblivious to what has befallen him at the hands of the Kurdaitcha (magician), and he only knows his misfortune when the symptoms of disease appear. Thus, so soon as a native becomes ill, a council is held to ascertain who has given him the bone (Mookoellie Duckana). Should he not improve, or his malady increase, his wife is ordered to proceed to the person who is supposed to have caused the sickness. She does so accompanied by her paramour, and makes a few presents to the suspected

Etiology.

Sorcery.

person, but making no accusation, contenting herself with simply stating that her relative is fallen ill, and is not expected to recover, whereupon he sympathises with her, and expresses a hope that the invalid will soon be well again. He knows, however, that he is suspected of having caused the malady; and, on the following day, acquaints her that she can return to her relative, as he will withdraw all power away from the bone by steeping it in water. Now should the person happen to die, and be a person of any influence the man who acknowledged the bone is murdered on the first opportunity.

When a tribe desires to kill an enemy at a distance, say from fifty to a hundred miles, they order several old men to despoil the dead, that is to take the fibulae from many skeletons of former members of their own tribe. They take from three to eight, wrap them up in fat and emu feathers; all the most noted men of the tribe then take them and pointing towards the place where their intended victim is supposed to reside, curse him and name the disease they wish him to die of. All present are bound to secrecy, and the ceremony lasts about an hour. Should the man not die, they account for it by supposing that some member of the tribe of the

Etiology.

Sorcery.

cursed person has destroyed the power of the bone. ⁽¹⁾
 Among the Arunta tribe of Central Australia these pointing sticks are called injilla, irna, ullinka, ingwania, and Takula. We have already referred to the injilla. The Irna is a small piece of wood (about 9 inches long). At one end it tapers to a point and at the other is tipped with a small lump of porcupine resin. The stick is further ornamented with a series of notches which are apparently made with a fine stick. It is used in a manner similar to the Injilla. The Ilpirra tribe use a pointing-stick called Tchinperli. It is short and Pointed and has a number of little bits of flint fixed to it with resin. It causes the victim to waste away, or to become blind. The Murrawun ⁽²⁾ or magic throwing-stick, is made of iron-bark wood, in the form of the stick used by the natives for throwing



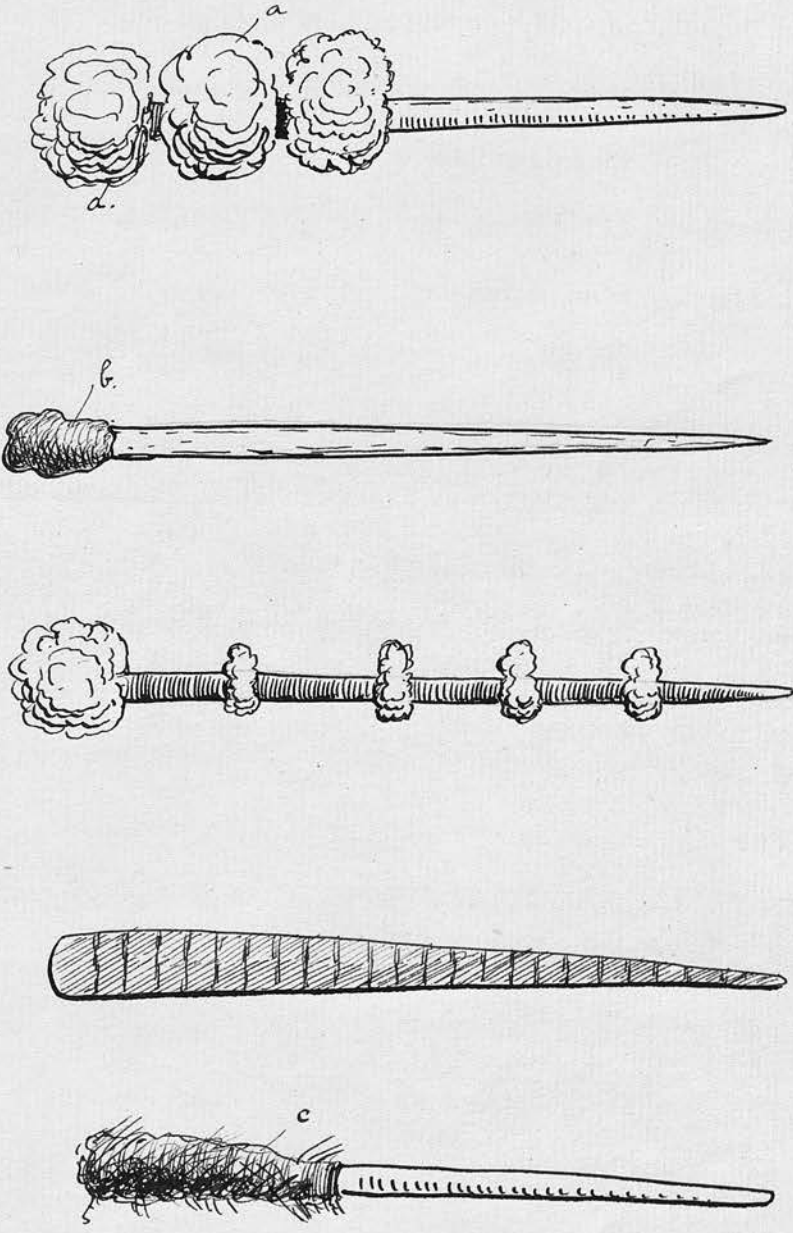
The Murrawun.

spears. It is pointed at the victim, or some of his hair is fastened to it with fat and it is then

(1) (37)₂₈ 23. (2) (37)₂₉ I. 476.

rcery.

Etiology.



AUSTRALIAN POINTING-STICKS & BONES.

- (Injilla and Irna).
- (a. Vegetable Down.
- (b. Porcuping Resin.
- (c. Human Hair.

Etiology.

Sorcery.

held close to the fire, and is used in many ways to kill or "poison" the victim. The pointing bone or Yountoo (1) of the Darling River blacks (N.S.W.) is made from the fibula of a deceased friend. This is wrapped up in a piece of dried flesh of another deceased friend, and the package is tied with some hair from the head of a third friend. It is pointed at the victim as he sleeps. The Thimmoool of certain of the Gulf tribes is also made from a human fibula. The Marro is the wing-bone of a hawk to which human hair is fixed with wax. To make it effective a fire circle is made round it and incantations muttered. The Finke River blacks use a charm called (Nquanja) (2) a piece of bone or wood, sometimes it is made from the tibia of an emu. It tapers at one end. This implement is thrown by the old men and the sorcerers in the direction of their enemy to make him sicken and die. They use also the Ntjala, resembling the former but made from the shin-bone of the kangaroo. It is pointed at the victim. In some tribes the bone is scraped to a point, inserted in a lump compounded of fish oil, and a piece of human flesh. This is stuck into a human corpse in order to give it deadly potency.

(1) (89)₄ 27.(2) (89)₃₂ 287.

Etiology.

Sorcery.

It is not pointed at the victim but the lump on the end is gradually melted before the fire, thus killing the victim, no matter how far distant he may be.

Etiology.

Sorcery.

(c) CRYSTALLOMANCY.

The autochthons of Australia were past-masters in the art of crystallo-mancy, and reference has been made elsewhere in this thesis to many of their feats in removing those crystals which are the supposed cause of disease. The great demon or demigod Byamee ⁽¹⁾ left this earth and went to live on the summit of Oobi Oobi, and became fixed to the crystal rock on which he sat in Bullimak, as was also his compeer Birrahgnooloo. The tops of their bodies were as they had been on earth, but the lower parts were merged in the crystal rock. So runs the legend, and in it we have, I conceive, the key to the native superstitious regard for crystals.

Among the Kabi people there were two or more kinds of pebbles in great esteem, and generally found in water courses. One kind was called minkom; it was flat and circular. Another kind of globular shape, was called naupai or kundir. In these pebbles were the means of life and death. The opinion was that they were carried internally about the region of the stomach, and a kabi person's vitality was proportionate to the number of them he was

(1) (89)142 90.

Etiology.

Sorcery.

possessed of. Kundir was the sort generally spoken of, and to be "Kundir bongan" (many-pebbled) was to possess a charmed life, and to be able to inflict grievous harm upon enemies. When a person was taken suddenly ill it was supposed that a pebble had been launched at him. (1) Amongst the Kaitish and other tribes of the Centre of the continent curious small stones called by the former Mauia (2) are met with. They are supposed to be highly charged with magic and cause the victim to die whilst asleep. One method of securing this result is to place a tiny fragment of the stone on a long stick or spear, and then to carefully drop it on to the face of the victim while he sleeps, if this be done he never wakes. The same tribe, and also the Warramunga, use a flat, pear-shaped stone, having a lump of resin at the narrow end to which a hair-string is attached. The stone is held in the palm of the right hand, the thumb of that hand is linked with the little finger of the left, and the two hands, then linked together, are held in front of the face and jerked three times toward the person whom it is intended to kill, and incantation being uttered at the same time. Sometimes the track of a person is found; a cross is

(1) (87)₂₉ 476.(2) (89)₄ 27.

Etiology.

Sorcery.

marked in it with a sharp quartz fragment. Round the cross are stuck in the ground some of the kangaroo bones called Goombert, and a Murrawun (magical throwing stick). The quartz is then supposed to find its way into the person who made the track, and he becomes crippled. It is also believed that by throwing quartz-powder towards a person he can be mutilated in a terrible manner. (1) The molée (2) is a piece of white quartz used in sorcery by the Darling River (N.S.W.) blacks. It is pointed at the victim who at once sickens. The medicine-man can suck out the molee which has entered the body of the sufferer, and thus save him. The crystal must be cast into water to annul its power.

(1) (87)₂₉ 476.
 (2) (89)₄ 27.

Etiology.

(d) SYMPATHETIC MAGIC.

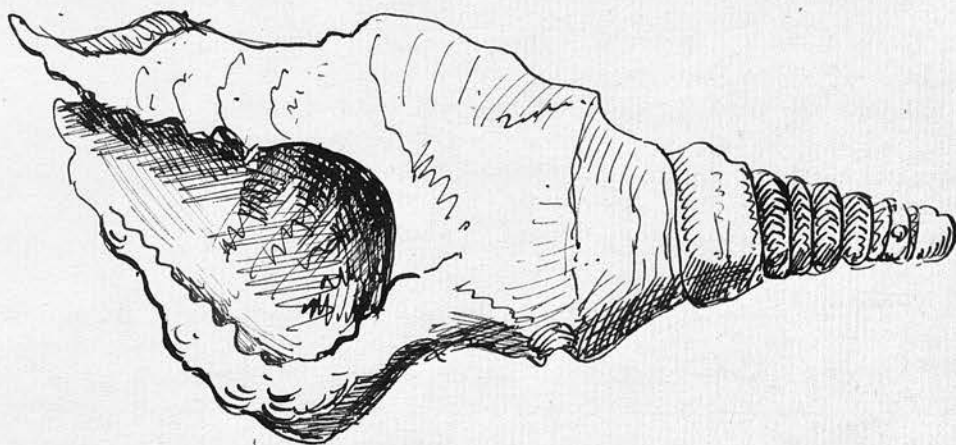
The Black-arts found able exponents, and confirmed believers, in the Melanesians. It has been even said ~~that~~ their real gods were their sorcerers or disease-makers. A class of men dreaded above all others. The poor deluded people believe that these men create disease and death by burning what is called nahak.[Ⓟ] Nahak is bait, i. e., food or bodily refuse, or some portion of clothing, hair, finger-nails, spittle, or what-not, and which these fellows consider it their special business to pick up and burn, with certain ceremonies. The people therefore are careful to destroy all such objects. If a disease-maker sees a banana skin, he picks it up, wraps it in a leaf, and wears it all day hanging round his neck. The horrified people stare at him as they see him go along, and whisper, "He has got something; he will make somebody ill to-night." In the evening he gathers some bark from a tree, mixes it with the banana skin, rolls all up tightly within a leaf in the form of a cigar, and then places it so that one end is close enough to a fire to cause it to be burned, and lets it burn away

Ⓟ Similar practices are found in Zoroastrian, Jewish & Moslem Lore. (Tylor).

Etiology.

Sorcery.

gradually. Soon he hears a conch-shell bugle giving forth its horrible and mournful sounds. "There," he says to his friends, "there it is; that is the man whose bait I am burning, he is ill; let us stop burning, and see what they bring in the morning."



A Conch or Shell Trumpet.

When a person takes ill, he immediately begs some one to blow a shell, a large conch or other shell, which when perforated and blown, can be heard two or three miles off. This is done to implore the disease-maker to cease burning the nahak; and it is a promise also that a present will be given in the morning. The greater the pain the more they blow the shell, and when the pain abates they cease, supposing that the sorcerer

Etiology.

orcery. has been kind enough to stop burning. Then the patient's friends arrange about a present to take in the morning. Figs, mats, knives, hatchets, beads, whales' teeth, &c., are the sort of things taken. Some of the disease-making craft are always ready to receive the presents, and to assure the party that they will do their best to end the burning. If the poor man has another attack at night he thinks the nahak is again burning; the shell is again blown, other presents taken, and so things proceed. If death follows then the disease-maker has not been sufficiently paid, and has continued to burn the nahak until all was consumed. When all is burned, the man dies. Night after night these dismal hootings of conch shells are heard in Tannese villages. It is curious to note that the disease-makers believe firmly in nahak, and when one of them is ill, he too blows a shell and sends presents to the person supposed to be causing the malady. (1)

Similar practices were found among the Tasmanians, who wrapped up a bait in fat and melted it before the fire, expecting the victim's health at the same time to decline. A few hairs were most

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cery.

commonly used. In Central Australia⁽¹⁾ this particular form of magic is not practised, and this is apparently due to the fact that human hair is regarded as a most valuable gift. Under these circumstances the ideas of the Arunta tribe on this subject are entirely different from those met with in many other savage peoples, and even in other parts of Australia itself. Bait is burned in New Guinea⁽²⁾ and then the victim is told of the secret influence at work against him, if he does not buy off the sorcerer, he will in course of time be so worked on by his feelings that he will undoubtedly die. Every adult black fellow of the Narrinyeri tribe (Australia) is constantly on the look-out for bones of ducks, swans, or other birds, or of the fish called pande, the flesh of which has been eaten by anybody. Of these he constructs his charms (ngathungi). Should circumstances arise calculated to excite the resentment of the disease-maker towards the person who ate the flesh of the animal from which the bone was taken, he burns the charm in the usual way. The pando and Blanch water blacks[Ⓟ] of Australia, have a peculiar superstition. They take the bone of some defunct friend, and it is

(1) (89) 563.

(2) 156

Ⓟ (Narrinyeri Tribe).

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charmed by two or three old men, they then make little graves in the hot ashes, and put in the bone, calling it by the name of some enemy. They believe that when the bone is consumed they will die. (1)

In Florida (Melan.) as in Tonga when a scrap from a man's meal could be secreted and thrown into the vunuha or sacred place haunted by a tindalo ghost, the man would certainly be ill; and in the New Hebrides when the mae snake carried away a fragment of food into a sacred place, the victim would sicken as the fragment decayed. In the Bank's Islands the bait is called garata; this was made up by the wizard with a bit of human bone, and smeared with a magic decoction in which it would rot away. Or the garata would be burned, and the victim would die, the ghost of the man whose bone was burning would take away his life. This latter belief differs from that held in other places, such as Australia, where the mere burning of the bait, causes death, no ghost or spirit being concerned in the process as in Melanesia. In Leper's Island (2) the garata is boiled together with certain magical substances, in a clam shell with incantations addressed to Tagaro.

(1) (87)₃₀ 23.(2) (89)₇₄;

Etiology.

orcery.

With the Maoris this form of the black art is included under their term Makutu. They commonly use spittle as the medium, bait, or as they call it, ohonga, for causing the victim to suffer. Thus, as in Polynesia and Melanesia, the New Zealander carefully avoid spitting in company, and the Hawaiian chiefs have spittoon-bearers near them, and these people carefully dispose of the spittle, either by secretly burying it or throwing it into the sea, that wizards may not secure it, to the detriment of the health of their masters.

Charms or superstitious ceremonies to cause sickness, are considered by the Tongans, for the most part infallible, as being generally effective means to dispose the gods to accord with the curse or evil wish of the malevolent invoker; to perform these charms is considered cowardly and unmanly, but does not constitute a crime. Their ideas are thus widely different from those held by the people of the western islands and in Australia. The Fijians⁽¹⁾ practised witchcraft to a considerable extent, working apparent especially with baits, and killing by sympathetic magic. In some parts of the group the people are afraid to use the ordinary wooden pillow lest some enemy should find stray hairs sticking to

(1) (89)₁₄₈ 133;

Etiology.

orcery. it, and use it as a medium for injuring him. They did not cork their water-jars, for fear of the water being bewitched by the leaves of which the natives stoppers or corks are made. They use pandanus leaves instead of plantain leaves for making their cigarettes because they are tougher and leave no refuse. Their habit is to stick the stump of smoked out cigarettes into their hair until they can burn or dispose of them in some place safe from the possible machinations of any sorcerer. The Tongan form of black-magic called tattoo⁽¹⁾ was one consisting in the hiding of a portion of wearing apparel of an inferior person on the grave or sacred place of a superior person, thus bringing down the wrath of the latter upon that inferior and causing his death as punishment for the act of desecration.

The Australian natives have many methods of finding from what source the magic came to cause the death of the member of their tribe. In some cases, as we have pointed out, the dying man supplies the information, but that is exceptional. The natives of Belyando River for this purpose wrap the corpse in bark, and placing it on the ground carefully smooth the turf all around it. Then they go away

(1) (81)₁ 424.

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for a day. Next day some of the warriors examine the ground carefully, and if any animal, bird, or reptile had passed over it, its tracks would be easily seen, and the murder assigned to some tribe in whose dietary scale the animal, bird, or reptile is included. The Yarra blacks watch the direction which a lizard takes; at Cooper's Creek the corpse is questioned; the tribes at the mouth of the Murray River and Encounter Bay rely upon the dreams of a medicine-man who sleeps with his head upon the corpse; and on one part of the Murray they watch the drying of the damp clay which covers the grave, and see in the line of the principal fissure where they have to look for the disease-maker. In New Guinea ⁽¹⁾ the large night fire-fly helps to point in the direction of the enemy, or the medicine-men aided by ghosts of ancestors are enabled to name the guilty tribe. The Tongans cast lots (tanui) to find the origin of a disease. The Adelaide tribe ⁽²⁾ (Austr.) used to place the body on a bier of branches of trees. Under the bier another native was concealed, who spoke to the corpse, and inquired who it was that had killed him. If the reply was "No one" the business ceased and the corpse was buried. If it was

(1) (89)135 61.

(2) (89)68 404.

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Sorcery.

answered that some one had killed him, the corpse was moved round with the bier by supernatural agency, if the slayer was supposed to be present, so that one of the branches touched him. In some tribes a large fire is kindled and the direction the smoke takes indicates the quarter from whence the disease came. In another, the direction which the worms take that first issue from the corrupting and putrefying corpse are observed to take, is held to be that in which the guilty person will be found. Often the corpse is fixed in the fork of a tree, and in the ground underneath a number of small sticks are stuck pointing north, south, east and west. After a few days these are carefully examined, and from the dropping of putrid matter which adheres to them, they determine in which direction the guilty man is living. (1)

Having decided on the quarter from which the evil influence came, the most formidable male relative of the deceased would sharpen his barbed spear, and boomerang, and adorning his well-greased person with the red war-paint, would depart never to return until he had killed either the presumed offender,

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Sorcery.

or some other innocent member of his tribe, whether man, woman, or child. The following is an account given by a Victorian aboriginal who was killed in this way at Geelong in 1850. He thus addressed Mr. Lloyd[Ⓟ] - "Aha! Aha! Mitter Looyed! you know um lake yondabreakeawate; my pickaninny(son) make it miam-miam (hut) an' go catch toowan fur 'im fader, cos 'e blendy werry bad. By-'n'-by, bungilcarney coolie (an enemy from another tribe) come an' stan' 'fore it fire; me blendy frighten. Blackfella look an' say, "Wah! what for your picaninny kill (by magic) it my loobra (wife)? Me kill 'im fader.' Den trow in big 'pear in 'ere," pointing to his wounded side, "an blendy beat all over." The poor fellow, however, was not mortally wounded but three weeks afterwards the "bungilcarney coolie" returned and killed the poor fellow by plunging a spear through his heart.

They think it very necessary to find out the sorcerer, or whoever has caused the death, so that they may have revenge. Often enough the revenging party has no personal grudge against this victim, but his actions are imperative by custom, he performs his duty, and perhaps often finds it odious.

Etiology.

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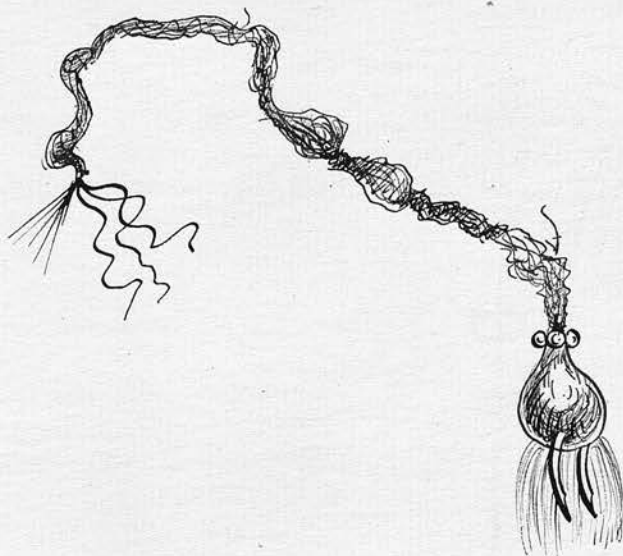
It must be done, otherwise the ghost of the deceased is liable to suffer, or at any rate to become angry, and perhaps will inflict injury and disease on his negligent friends. Moreover the fellow-tribesmen of the chosen avenger, and the women, are sure to boycott him unless he carefully performs his duty in every detail, and either secures the kidney-fat, or kills the supposed culprit.

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Tchintu. (1)

Away out to the west of the Central regions of Australia is a tribe called Myingurri. Their name for the sun is Tchintu, and the same name is also applied to an object of magic which consists of a small pear-shaped lump of porcupine resin, into one end of which are fixed two incisor rat-teeth, and at

Tchintu.

the other end is attached a short piece of hair string about two feet in length. The string is covered with red down, and the whole is carried out of sight, wrapped up in thin pieces of bark of the paper tree. This Tchintu is supposed to obtain the heat of the sun, and it is believed that by placing it on the

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tracks of an individual the latter will be seized by a violent fever which will rapidly burn him up.

Puliliwuma.⁽¹⁾

To cause a person to become thin and weak, spittle is put on the tips of the fingers, which are then bunched together and jerked in the direction of the former. This is called "Puliliwuma" or spittle-throwing, and is practised in Central Australia.

Aura.

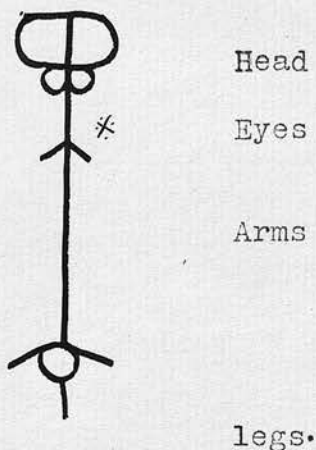
This is a form of Arumgquictha (magic) used to punish women. A sorcerer, at a secluded spot draws on the ground an aura or emblem as in

the diagram. During the whole process chants are muttered, the burden of which is for the magic to enter her body and

dry up all her fat. When the aura is drawn a piece

of bark is placed beside it, and then all the men

who are present stick into it a number of miniature bewitched spears. The spears with the bark in which they have been fixed are then thrown in the direction



* a piece of bark representing the woman's soul.

(1) (89) 553.
156

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orcery.

in which the woman is supposed to be. Sooner or later the woman dies and her Nethane, or ghost, appears in the sky in the form of a shooting star.

Pernim.

Pernim is a form of sorcery practised by the sorcerers of the Narrinyen tribe. When the ngaitye (totem) of a tribe is killed, if a hostile Kuldukke (medicine-man) gets a piece of it - such as a bone - he ties it in the corner of a wallaby skin and flicks it at the people whose ngaitye or totem it is, and they are made sick by it.

Mokani. (1)

The mokani is a black stone, shaped something like the head of an axe, fixed between two sticks bound together. The sharp side is used to enchant males, the other side for females. It is used in the same manner as the plongge (q.v.).

Talamatai. (2)

This is the name of a Melanesian method of producing disease. A bit of human bone, a fragment of coral, a splinter of wood, or an arrow by which a man has died, is bound up with the leaves which have mana (or supernatural power) for the purpose, with the mana incantations; by this means the power

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of the ghost is bound into the charm, and the talamatai is secretly planted in the path along which the person at whom the charm is aimed must pass, so that the virtue of it may spring out and strike him with disease.

(1)
Millin.

The Narrinyeri tribe (Victoria) have a big-headed club, called plongge, which is used entirely for "Millin." They knock down the victim, then tap his chest with the club, hit him with it on the knees and shoulders, and pull his ears till they crack; he is then "plongge watyeri," and in the power of the demon Nalkaru, who will give him chest disease, or causes a snake to bite him. It is sometimes performed on a sleeping man. Pain in the chest is always attributed to Millin. After death the chest is opened, and any disease there is attributed to this cause.

In Victoria the blacks sometimes took a piece of bark in the hand, and with it hot ashes are thrown towards the point of the compass where the hostile tribe is known to be encamped, and an incantation is muttered. The ashes cause the flesh to dry up, and the man withers and becomes as a dead tree. He is

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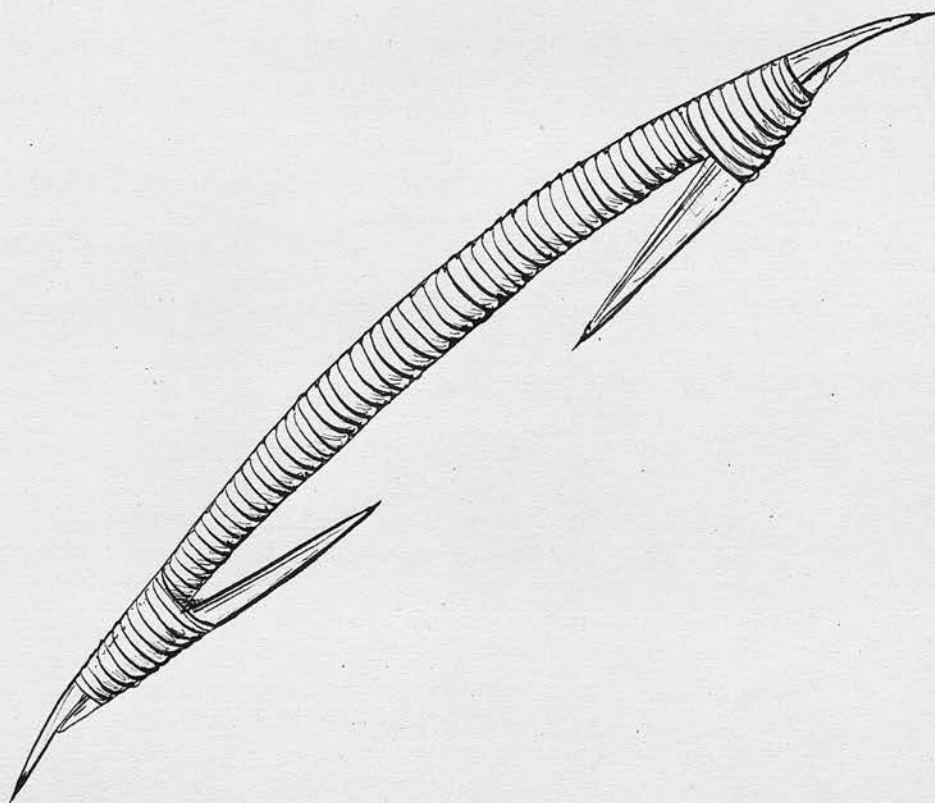
Sorcery.

not able to move about and at length dies. If it be wished that an enemy should be made sick and put in great pain, the wer-raap (medicine-man) makes a model in wood (a rare occurrence among these people) of that part of the body in which the pain is to be seated. The model is hung near a fire and made very hot, and the victim, a long way off, becomes hot too. (1)

Barrn.

Barrn is a form of witchcraft practised by the Victorian blacks. There is a lesser and a greater process. The less consists in beating the still warm spot where the victim has been seated, with a Barrn (piece of heoak, [♂] about one inch broad and four inches long, cut to a blunt point at each end); an incantation is sung at the same time. The Barrn then enters mysteriously the body of the victim and kills him. The other process is as follows:- A company of aborigines (called Bungil Dowa-gunnery) decide to cause the death of an enemy. They go to a place where a suitable heoak grows. The branches are cut off leaving the stem smooth and pointed; the bark is also removed; on the ground an extended figure of the victim is drawn, with the he-oak growing out of his head. A Murrawim (magical throwing-stick)

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A DISEASE-PRODUCING OBJECT.

Introduced into the body of the victim. (Austr.)

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Sorcery.

is stuck into the figure. An enclosure is then made and grass and rubbish piled over the Yambo-ganey or "double" of the victim. Everything being ready, the Bungil Dowa-gunney go to the place in the afternoon, perfectly naked, rubbed with charcoal, and with their heads, bodies, and limbs wound round with bark cords and holding small Barrns in their hands. They chant songs to draw the victim to the spot, he is compelled by magic power to approach. He is said to walk like a man asleep, staggering from side to side, and his eyes protruding. One of these songs is:-

Moon-and ngi-ay (zname of victim)
Bee-ar lounganda-Barrnda;

which means:-

He is coming along (naming the person);
The Barrn is swinging him about.

He walks straight to the Barrn, enters the space and the Bungil Dowa-gunney throw their Barrns at him. He falls on his back; they then draw out the tongue and separate it on each side from the throat. It is now put back and he is roused. He stands stupefied looking about him. One of the Bungil Dowa-gunney informs him that he must die in two days, or whatever time may be chosen. He nods assent not being able to speak. At the end of that time he dies. (1)

(1) (87) i-475.

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Sorcery.

The Polynesians sometimes used a singular method to kill the husband of a pretty woman desired by someone else. The expanded flower of a Gardenia was stuck upright - a very difficult performance - in a cup (i. e. a half a large cocconut shell) of water. An incantation was then muttered for the death of the victim, the sorcerer earnestly watching the flower. Should it fall, the incantation was successful. But if the flower remained upright, he will live. (1)

In Leper's Island (Mel.) the wizards are supposed to be able to change their shape. The friends of a sick person are always afraid lest the sorcerer who has caused the disease should come in some form, as of a blow-fly, and strike the patient, they sit with him therefore and use counter-charms to guard him, and drive carefully away all flies, lest his enemy should come in that form.

(1) (89)₈₄ 22.

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Rational views concerning Disease.

It would be erroneous to conclude that these people never attributed death to truly natural causes. In some parts of Melanesia all trifling ailments, colds, ague, etc., are so accounted for. The obscure, painful, internal maladies being considered as manifestations of the processes of sorcery. In Australia it occasionally happens that a woman is obliged by custom to carry for months the remains of her deceased child rolled up in a variety of rugs. On it she lays her head at night, and the odour is so horrible that it pervades the whole camp, and not infrequently costs the mother her life. This practice seems to be insisted on when a young mother loses her first-born, as the death of the child is attributed to her carelessness.⁽¹⁾ The Fijians attribute diarrhoea in suckling children, to errors in diet on the part of the mother having rendered the milk impure. The Maori did not look upon external injuries, or wounds, as the effect of sorcery or as necessarily due to the anger of the gods, they were due to obvious and natural causes. He differed here from the Australasian aboriginal who even supposed snake-bite, falls from

(1) (88) 1-89.
56.

Etiology.

trees, spear wounds, etc., to be due to sorcery. He knew not the possibility of such things happening from any other cause. When, however, he suffers from cold, or has discomfort after excessive eating, the usual native remedies are applied, and the matter ends there, but if the illness comes with fierce pains in the body, or general debility, or a swelling appears, then at once the wicked sorcerer of a hostile tribe is blamed and the medicine-man commences his counter-charms, or "sucks out" the magically introduced disease.

ABDOMINAL DISEASE.

ABDOMINAL DISEASES.Native Terms:-

To'oala	(Sam.)	Disease of the stomach generally.
Too	(Tah.)	To vomit.
Lulua	(Tah.)	"
Ruaki	(N. Z.)	"
Luaiia-koko	(Haw.)	" blood.
Ookiwuruna	(Austr.)	"
Hooa	(Haw.)	"
Mullagdirra	(N. S. W.)	"
Ooki	(Haw.)	"
Haoa	(Haw.)	Heartburn.
Papaku	(Haw.)	Obstruction on bowels (always fatal).
Mai pehu	(Haw.)	Ascites.
Opuohao	"	"
Ahau	"	"
Kopurua	"	" Kope - belly, Rua - two.
Hiliou	"	A bowel disease.
Lena	"	Jaundice.
Haikala, Haikalamuku, Hailepo, Hoakuku, Hoakakakai, Hoakaipukahale, Hoaipukahale. All fatal diseases among the Hawaiians - the only treatment was that of <u>enemata</u> . The disease were perhaps abdominal.		
To'omaunu or		
Tokomaunu	(Sam.)	To hiccough.
Tokomohu	(Tong.)	"
Tokomaui,		"
Tohohana	(N. Z.)	"
Mauliawa	(Haw.)	"

DISEASES OF THE ABDOMEN.

and

ALIMENTARY CANAL.

Abdominal and alimentary disorders are perhaps the most important we find among the Polynesians. No other class of disease, with the exception of certain epidemic disorders is more destructive to the race, more fatal to the infant population, or more troublesome and often disastrous to the adult section. Highly improper diet, excessive eating, and numerous other factors are constantly at work tending to upset the normal processes in the abdominal organs. The Polynesians are particularly fond of fermented and decomposed vegetable foods. The Maoris eat large quantities of rotten maize which has been previously steeped in water and then allowed to ferment. Raw, and often putrid fish, are eaten with relish. Putrid oil is also a Maori delicacy, and in some cases the stench of the food has alone been known to cause disease among them. The policy of the natives is to eat to excess in times of plenty and at special feasts to gorge themselves like animals. Thus a child of eight months then at the breast, was observed to eat a whole kangaroo rat, and then attack a

Diseases of the Abdomen.

crawfish. Widowson saw a native Tasmanian eat between fifty and sixty eggs of the "sooty petrel" besides a double allowance of bread: these eggs exceed those of a duck in size. A Maori has been seen to eat ten pounds of potatoes in a very short time. These are common examples of their powers of gluttony, and such habits must be potent factors in setting up bowel disturbances. Coarse vegetable food and unripe fruit were also liable to lead to a like result as also would the prolonged fasting, to which they were often subjected and exposure to damp and cold.

Polynesians looked upon the abdomen, much as we do upon the brain and heart, as the seat of the emotions, and intellect. Sometimes the diaphragm, at others some portion of the abdominal viscera, was looked upon as being the special seat of the passions and of life. The Aneityumese called the stomach, inhadin, "the seat of life," or sometimes the gall-bladder or nissi yean hadid. Just as other parts of the body had disease-demons presiding over them so the Maori believed that Tu-tangata-kino was the cause of all pains and disorders in the abdomen. Likewise the god of the liver was Tuparimaewa or Tuparitupua. The Australian aborigines in Gippsland, attributed sudden attacks of abdominal pain to

Diseases of the Abdomen.

the disease-demon Brewin who with his hooked stick (Murraurn) caused the illness by actually thrusting his barbed weapon down the victim's throat. They endeavour to get rid of him by shouting loudly, using abusive language, and threatening words to him. They also repeat charms such as :-

Toondunga Brewinda
 Nandu-unga Ugaringa
 Mrew murraywunda
 Toondunga, &c., &c.

It is sung in a monotonous chant, and may be rendered -
 "Oh, Brewin! I expect you have again given Toondung,
 or the sharp hook of the Murrawun, &c. Bowkan
 a beneficent spirit was also invoked to dispel
 Brewin. (1)

COLIC.

Native Terms:-

<u>Colic</u>	Anantolo (Tong.) Akiaki (Haw.) crack- anyeack (Tas.) eceije nipjinetgan (Ancit.) gindyali (N.S.W.) gete mamahi (Tong.) jerren-nen (Vict.) laolao (Haw.) lumana wuhua (Haw.) manahu (Haw.) aka-rotu (N.Z.) puga (Mang.) tui (Sam.) taviri- viri (Tah.) nahu (Haw.) kopito (Mang.)
<u>Abdominal Pain.</u>	aroarohea (N.Z.) mae (Haw.) kotikoti (Haw.) "to cut" rehareha (Mang.) koho-niho (N.Z.) uma-gahu (Mang.).

I have considered it advisable to refer to this symptom, because it was doubtless a very common one among the various native races with which we are concerned. Besides improper food, the various drastic cathartic drugs in almost daily use in certain districts, were important in setting up this disorder. Chronic constipation also was a common cause. The Australian aborigines made no attempt to regulate the bowel function and constipation was the rule with them. In the Sandwich Islands they have a special name Pou, for the condition of the transverse colon when the seat of massive foecal concretions. It has been said the dyspepsia is a disease of civilization, but we find it common in Polynesia, having the same symptoms as with us, but apparently of a milder type. Indigestion and constipation were looked upon by the Hawaiians as sent by the gods as

Colic.

punishment for breaking tabus, and stealing fruit or desecrating sacred lands. As we have said the Australian black did not consider costiveness in any way unhealthy and therefore he took no pains to relieve it. The Hawaiians used powerful purgatives and strong enemata, which in themselves sometimes proved fatal. For the relief of colic or abdominal pains the Australian resorted to various procedures, for instance, an aboriginal in New South Wales was observed to treat his wife in the following manner:- "After blowing on his hand, he warmed it, and then applied it to the part affected; beginning at the same time an incantation, always keeping his mouth very near to the part affected, and frequently stopping to blow on it, making a noise after blowing in imitation of the barking of a dog; but though he blew several times, he only made that noise once at every pause, and then continued his song, the woman always making short responses whenever he ceased to bark." In other cases an attempt was made to suck out the disease or pain, which is supposed to have been sent into the victim by means of sorcery. In such a case the patient is placed on her back on the ground, and the medicine-man ties a string round the abdomen,

Colic.

leaving a loose end about eighteen inches long.

The doctor then sucks the end of the string, passing the loose end through the mouth, from time to time blood is spit from the mouth into a vessel. This is repeated until the cure is completed. The pain passes into the vessel. Such are the means adopted to relieve these conditions by these savages.

DIARRHOEA AND DYSENTERY.

Native Terms:-

Dysentery, A due (N. Guin.); tikuku, torere, koea, tikotiko-toto (N. Z.); Padue, Kiambu (N. G.); hailepo (Haw.); faka lele (Tong.); emehe eliselis, naredared, inja, (Ancity.); tiamabhyle, tiaguennye (Tasm.); &c.

Diarrhoea. Pia (Mor.); koangi, koripi, hi, hakio, tarahi, konao, hahu, tororiri tikuku, taruke, (N. Z.); wuityidiaig (Ancity.); tapahi (Tah.) gindyang gindyarra, bullarto, conong, (N. S. W.) ohi (Tah.); Kohi (Paum.); oara (Mang.); hemo (Haw.); sana-toto (Sam.); tolele (Tong.); &c., &c.

These terms signify "to cut," "to burn," "to flow," "to unloosen," "to run," "to run drop by drop with pain and difficulty," "evacuation of blood," "to lie dead in great numbers;" and the wealth of expression for these conditions of the bowels is a sure sign of the great frequency of such intestinal disorders among these races.

While always more or less prevalent in some districts, there have been at times very severe and fatal epidemics of dysentery, often associated with, or following, other epidemic diseases and apparently directly the result of them. We have collected records of a number of these outbreaks among the Polynesians, &c., and brief notes of them may here be given.

Dysentery.

EPIDEMICS OF DYSENTERYIN POLYNESIA, &c.

	<u>Date.</u>	<u>Distribution.</u>
1.	1790	Society Islands.
2.	1795	New Zealand.
3.	1800	New Zealand.
4.	1800	Fiji.
5.	1800	Tahiti (Taiarabu).
6.	1818	Society Islands.
7.	1842	New Hebrides.
8.	1844	New Hebrides.
9.	1848	Hawaii.
10.	1854	New Hebrides.
12.	1875	New Hebrides.
13.	1882	Rotumah.
14.	1885	Fiji.
15.	1891	Society Islands.
16.	1893	New Hebrides.
17.	1829-30	Tonga, Rotumah.

New
Hebrides.

It will at once be observed that the New Hebrides⁽¹⁾ Group has had numerous visitations of the disease. In 1842 the natives generally throughout these islands suffered, and the mortality was great. At Erromanga especially, there were many deaths. The natives believed the disease to have been introduced by some hatchets which were taken ashore from a 'sandal-wood' trading vessel. It is quite possible the sailors introduced the disorder. It is supposed that about one-third of the population of the island died at that time. The epidemic in 1893 was especi-

(1) (88)₂ 329 - (89)₂₂ - (89)₁₀₆ - (89)₁₄₈ - (85)₂₀.

Dysentery.

ally severe, affecting both the natives and whites. Dr. E. Davillé[¶] gives a description of its origin and spread, he says, a Kanaka woman and her half-caste child returning home after a three years' engagement on the plantations in Queensland was landed by a labour-recruiting steamer [¶] at Futuna, and at the time she was suffering from dysentery. Futuna became a locus from which the disease spread. In a month fifty-five of the native inhabitants were dead, and several white children were also carried off. This same ship, disabled by a cyclone was obliged to take refuge in Port-Vila, and there were still a number of cases dysentery aboard. Soon afterwards the epidemic broke out in the Vila, Erracor, and Mele tribes; less severely than that at Futuna, yet it carried off numerous victims from the native communities. Before the disease abated, one-quarter of the Futunese had died. Dr. Gunn, who was resident medical missionary there at the time, and who lost several of his children during the epidemic makes a statement similar to the above. He adds, "The same vessel landed another infected person at Erromanga and forty-six persons died in consequence.

¶ La Colon. Franc. au Nouv. Hebr. p. 150.
 ¶ "Emprexa of Brisbane.

Dysentery.

Further, dysentery was introduced by the same vessels into quite a number of the other islands and many deaths followed." There can be little doubt that Dysentery was unknown in the New Hebrides until natives returned from residence with Europeans. The first outbreak ^① occurred when certain Nukapu men escaped from Fiji, many years ago, and made their way to their native island. The first appearance of the disease in the Society Islands ⁽¹⁾ was at the end of last century, when it broke out shortly after the visit of Vancouver's ship in 1790. It proved fatal to many of the inhabitants and was one of the earliest of the Polynesian epidemics of Dysentery. In the year 1800, the *Brittania*, a London vessel, anchored at Tairabu, in the Society Islands, and two sailors absconded; soon afterwards the disease in a milder form broke out, but was more extensive, scarcely an individual escaped. Another and very fatal epidemic swept through these islands between the years 1818-20. These diseases have generally passed through the islands from east to west, in the direction of the trade winds. In one instance a canoe from Huahine reached Tahiti when an epidemic was just

① (89) 74.
 (1) (85) 10 8.

Dysentery.

subsiding, and after remaining at Tahiti for a week or two, returned to Huahine, in the adjacent island group. Shortly after this, the people who had been in the canoe were attacked, and the disease ultimately spread as completely through the Leeward Islands (Huahine) as it had through the Windward Group (Tahiti).

Fiji. We find in Fiji also a truly endemic centre. The disease was unknown before the advent of the white man, and according to the natives also before the introduction of foreign bananas. The Fijians name signifies "The white man's disease." The earliest written record of its widespread epidemic in Fiji is that of the Rev. John Hunt in the Memoirs of the Rev. Wm. Ross, the first missionary in Fiji, written in 1843-4 though not published until several years later. His statement is as follows:-

"The first white people of whom the Fijians had any intercourse were four or five ship-wrecked mariners, the party was killed. Shortly after their death a dreadful distemper scourged the natives. It appears to have been a very acute dysentery, or a form of cholera. Its progress through the group was fearfully rapid and destructive. Those who were seized died in the most excruciating agonies." This epidemic was during 1800 or 1802-3, and it is describ-

Dysentery.

attack of thrush (Macake). This is a common infantile disorder in Fiji, and it is equally common for a mild form of diarrhoea to accompany it. If neglected it gets worse, diarrhoea increases, and the child wastes; diarrhoea remaining unchecked, ultimately proves fatal. Equally common is the acute diarrhoea brought on by exposure to wet and cold, or to the blazing heat. The Fijians believe that infants never suffer from true dysentery, but suffer only from a mucous diarrhoea. They recognise both dysentery and mucous diarrhoea in adults, but have a special name for the latter, which they appear to regard as a special complaint and call it Ka drami.

The following selected data are sufficient to illustrate the importance and severity of these diseases among the Fijians.[¶]

<u>Year.</u>	(P.C. of death (from bowel dis- orders to total <u>deaths.</u>)	(P.C. of adult deaths (from bowel complaints (to total <u>adult deaths.</u>)	(P.C. of deaths (of children (to total deaths <u>(of children.</u>)
1884	45.52	54.26	42.51
1885	44.13	42.77	45.31
1890	43.44	42.03	44.73
1892	40.84	44.30	33.52

It is interesting to notice also in these tables a general diminution in the death rate from these

Dysentery.

causes. The deaths of children under one year of age number 37 percent of the whole deaths, and these too are mainly due to bowel disease. The New Zealanders⁽¹⁾ suffered severely from dysentery and several extensive epidemics are recorded. Towards the close of last century a European ship called at Mercury Bay, near Auckland, and soon afterwards a severe epidemic of a disease called by the Maoris, makoko, or maripa, broke out and proved fatal to many persons. It had a dysenteric character, and caused death after a few days' illness. About five years after this another pestilence broke out, called rewarewa, and so many died that the living could not bury the dead. It commenced among the natives in the north, and also was dysenteric in nature. As a general rule diarrhoea and dysentery, especially the former, were common in the native villages, as evidenced by the many names they had for this disorder, and death frequently resulted from exhaustion, due to lack of proper food and treatment.

Other islands and groups in Polynesia and Melanesia in which dysentery and diarrhoea are endemic, or epidemic, are Rotumah, Tonga, Hawaii, New Caledonia, Mangarewa, Santa Cruz, Banks Islands, and less frequ-

(1) (86)₂₆ - (85)₂₄.

Dysentery.

ently at New Guinea. The Australian natives have not suffered so severely as the Polynesians, and Tasmania has always been remarkably free from dysentery. In the early days of settlement, Melbourne was an endemic centre, and in 1856, and 1870, there were numerous cases, many of them fatal.

Treatment.

The treatment as far as drugs or medicinal preparations are concerned is often adequate, but the diet and nursing is often very injudicious. For instance, in the case of an epidemic of dysentery among the children of a Fijian village, the patients were found being fed upon small oysters and land-crabs. Upon proper diet being substituted they rapidly recovered. Generally when a man is ill his friends confine themselves to feeding him and neglect to provide him with a receptacle for his excreta, so that the poor wretch if too weak to leave the house, is obliged to scrape a cavity in the earth beneath the mats, and lie day after day in the tainted atmosphere on mats infested with vermin, while the whole house is swarming with blow-flies. The children suffering from macake (thrush) often receive the juice of the Danidani (*Northipanax fruticosum*). In New Caledonia where dysentery

is so severe the andropogon schoenanthus, which is rich in tannin is found serviceable by the natives. The New Zealanders obtained relief frequently by masticating and then swallowing the leaves and tender shoots of the Koromiko (*Veronica salicifolia*), and the leaf of Kopata (*geum urbanus*). A decoction of the leaves of the tutu (*coriaria ruscifolia*) and of the ti (*cordyline Australis*) were also used, and the tannin-bearing inner bark of the Pohutukawa (*metrosideros tomentosa*) and bark of the Kawakawa (*Macropiper excelsum*), while the gum of the Harkeke (*Phornium tanax*) served as an excellent demulcent. The Australian aborigines used the *Eucalyptus kino* and also Kurrun gum which are excellent astringents, and as a demulcent, the roots of the orchid (*Cymbydium caniculatum*). The New Zealanders usually ^{accompanied} the administration of drugs with the repetition of charms to make them potent, such an incantation is the following, called the He Korere, used for the relief of diarrhoea:-

Titi puru e, titi puru e,
 Titi kohea, titi maimai,
 E tena te titi ka titi,
 Tena te puru ka puru
 Ko te puru ra tena,
 I purua ai te tupuna a Houtaiki.

Dysentery.

Translation;-

Stop up the looseness, stop up the looseness,
The purging will subside, the purging is stayed;
There is purging and there is stopping up,
For this is the remedy that stayed
The malady of thy ancestor Houtaiki.

TABES MESENTERICA, &c.

Tubercular disease causing enlargement of the abdomen is of extreme frequency among the natives of Polynesia, Australia, and New Zealand. Taplin observed it in the Victorian aborigines on the River Murray, where it appeared generally about the third or fourth year, and he also knew of a very severe case occurring in a man aged twenty-five. Tubercle is very wide-spread in Fiji, and tabes mesenteric and tubercular peritonitis, in both children and adults, is said to be its chief manifestations. The natives themselves recognise as a definite disease certain of the tubercular conditions of the abdomen. Particularly, that in which there is said to be "tenseness of the abdomen, with swelling, while the rest of the body wastes, and there is obstinate diarrhoea with or without vomiting." Tabes mesenterica has been supposed to follow as a sequel of Yaws in Fiji. In New Zealand also it is said to have caused among the Maoris at least half the deaths before ten years of age, and its victims presented a more than usually revolting appearance.

Tabes Mesenterica.

Distressing as the symptoms of this disease are among Europeans, they are infinitely more so in the Maori; the skin, instead of clear, becomes a dirty dark-brown, more particularly about the abdomen, where it frequently assumes almost a black colour; the eye-balls appear very prominent, and to this is frequently added the red and everted eyelids, devoid of lashes, peculiar to strumous ophthalmia. The native doctors have discovered the benefit of fish-oil in this malady, their remedy being the constant use of the oily meat of the dog-fish, which often proves beneficial at the earlier stages of the complaint. They also used the following well-known incantation called He Kopito in such cases:-

Kopu nui, kopu roa, kopu takitaki,
Kopu whataahu tena te ara,
Te hamama na kawea kowhitia
Pararitia, pupa, nau mai ki-waho.

Which being translated is :-

Big belly, long belly, stretched belly,
Bursting belly; there is the passage open,
Take it hence, pluck it out.

Tubercular peritonitis and scirrhus liver are supposed to occur in an inferior person in Tonga ⁽¹⁾ from accidentally touching any part of a chief's person, or anything whatever belonging to him, and

⊕ (85)₂₄ (Thomson).
(1) (81)₁ 434. Literally "to touch" or "press"

Tabes Mesenterica.

unless the ceremony of moemoe^⑤ be performed after such contact, they cannot eat without danger (as they suppose) of swelling up and dying. This consists in bowing the head (whilst sitting cross-legged before the chief), so that the forehead touches the sole of the chief's foot, (who sits in like manner) and then touching the sole of the same foot first with the palm and then with the back of each hand. And if a man has eaten anything without performing this ceremony when he had occasion for it, the chief applies the sole of his foot also to the man's belly, as a greater security against such swellings.

⑤ Which means literally "to touch" or "press"

M E N T A L D I S E A S E S .

- a. Mania.
- b. Melancholia & Fatalism.
- c. Dementia.

MENTAL DISEASES, &c.Native Terms:-

Lotohee	Insane	(Tonga.)
Vale.	"	"
Ulala, lolo	" demented	(Haw.).
Turtoo-wulkka	"	(Vict.).
Pupule	Insanity	(Haw.).
Pua	A madman.	(Haw.).
Porangitanga	Insanity	(N.Z.).
Porewarewa	"	"
Porangi	"	"
Wairangi	"	"
Haurangi	"	"
Angawooin	"	(Vict.).
Kaylung	"	"
Potete, Apa	Mad	(N.Z.).
Madub	"	(N. Guin.).
Daridari	Insane	"
Rimarim	"	"
Ahnag	Lunatic	(Ancity.).
Vaka-loloku	Melancholia	(Fiji).
Awhireinga	"	(N.Z.).
Paroro, Puroro	Brain Diseases	(Tah.).
Lolopoo, Lolokaa, Lolo	" "	(Haw.).
Ponui	" "	(Mang).
	(lolo, roro - brain).	
Lola, Lolo	Paralysed. Paralytic.	(Haw.).
Kopa.	"	" (Mang).
Ma'iali'i	"	" (Sam.).

The Polynesians look upon a man as having a body which is merely the temporary abode of his soul ("Wailua"), and it is this soul which gives life, thinks, speaks, and acts; so when a man becomes maniacal, or is an imbecile, or delirious, the morbid state of affairs is looked upon as due to the operation of a second entity, differing somewhat from the soul, being considered sometimes as the ghost of an

Mental Diseases.

ancestor, called tupua, or an evil-demon, called atua or tindalo. This second spirit is heard speaking during the muttering and ravings of the lunatic, it is this spirit which throws him to the ground, jerks and rives him in convulsions, makes him leap upon the by-standers with a giant's strength and a wild beast's ferocity, impels him, with distorted face and frantic gesture, and peculiar unnatural voice, to pour forth wild incoherent raving, and even in his fury to rush and jump headlong over a cliff into the sea. Such a one seems to those who watch him, to have become the mere instrument of a spirit, demon, or god which has seized him or entered into him. Any one who has watched the actions of an epileptic or maniac, will see how natural it is for these savages to look upon such cases as due to "possession" by demons. That insanity is due to any cerebral derangement is perhaps the last belief they ~~could~~ would hold, for the brain to them was merely an unimportant mass of pulp, or kernel; the seat of thought, emotion, &c., they transferred to the abdomen, or diaphragm, or sometimes to the intestines, or gall bladder. The nearest approach to the savage theory of insanity is perhaps that of Theosophists, some of whom hold views indeed identical

Mental Diseases.

with savages, i.e., that insanity is due to "demoniacal possession."⁽¹⁾ The Tongans believe that every man has deep-seated within him the latent germs of mental or bodily disease, sent him by the gods; but for which they can assign no other reason than the delight the gods take in punishing mankind; this last opinion is however by no means universal, for generally speaking the malignancy of the gods, so commonly believed elsewhere, is not a Tongan doctrine. These primitive people distinguish between cases where demons or atua have come into a man of their own free-will to cause him illness, mental or bodily, and also cases of demoniacal possession in priests or medicine-men who are mediums and become for the time temporarily insane, giving forth in an inhuman, often squeaking voice, prophecies, diagnoses, and prognoses. Then again there are the cases of demoniacal possession or madness due to witchcraft. It is difficult to separate the practice of magic arts from the manifestation of a ghost's or spirit's power in possession; the two over-lapping one another so frequently. There is no doubt that madness was often pretended, so that the practiser of the deception might get the reputation of being a prophet. At Saa (Melanesia) a man will

(1) (89)₁₂₇ 56.

Mental Diseases.

speak with the voice of a powerful man deceased with contortions of the body which come upon him when he is possessed; he calls himself - a common dodge - and is spoken to by others by the name of the dead who speaks through him; he will eat fire, lift enormous weights, and will tell things to come. In the Banks Islands the people make a distinction between the possession by a Ghost that enters a man for some particular purpose and that by a ghost which comes for no other apparent cause than that being without a home in the abode of the dead he wanders mischievously about, a tamat lelere, a wandering ghost.

Wonderful feats of strength and agility used to be performed under the influence of one of these wandering ghosts. A man would move with super-normal quickness from place to place, he would be heard shouting at one moment in a lofty tree on one side of the village, and in another moment in a tree on ^{side} the opposite, he would utter sounds such as no sane man could make, his strength was such that many men could hardly master him. Such a man was seized by his friends and held struggling in the smoke of strong smelling leaves, while they called one after another the names of the dead men whose ghosts were likely to be abroad; when the right name was called

Mental Diseases.

the ghost departed, but sometimes this treatment failed. The Maoris induced insanity by means of sorcery, sometimes for revenge, as when a lover resorted to that form of witch-craft called whakatihaha, in order to drive mad and kill the woman who had repelled his advances. The Mycoolon tribe of Australian aborigines believed in an invisible spear which by sorcery is made to enter his body, leaving no outward sign of its entry. The victim goes on hunting and returns home as usual; in the night he becomes ill, delirious, or mad, and dies next morning.

(a) MANIA.

We have pointed out that mania is usually attributed to so-called "demoniacal possession," by the Polynesians. The "demon" may be

- (a) a god.
- (b) "ghost (of a friend or ancestor),
- (c) " "wandering," homeless spirit, or
- (d) "wicked spirit or demon,

and such ghosts and spirits may enter the victim, or medium,

- (a) of their own free will, unsolicited, or
- (b) by the machinations of the sorcerer, or
- (c) when solicited by the medium, priest, medicine-man, seer, sorcerer, &c.; in this latter case

setting up merely an assumed temporary paroxysm; simulating mania, while true mania is accounted for by the two preceding beliefs. The Australian aborigines also believed mania to follow the introduction of magic weapons into their bodies.

Australia.

So far as can be gathered from the account published by early explorers and colonists, in Australia insanity was exceedingly rare among the aborigines in their native state (i.e., "Myall blacks."). From such accounts as exist it appears that when insanity did occur, if the subject was violent and aggressive, he was promptly killed. They thus acted as did the Polynesians and Maoris, and in fact most savage peoples, and carried out to its fullest extent, in

this respect, the great principle of the survival of the fittest - practically working in the direction of stamping out the malady. In addition to this, their simple, quiet, open-air mode of life, and absence of consanguineous and incestuous marriages tended to lessen its frequency among them.

In later years, as the white settler, and other Europeans gradually spread over the land, submerging the blacks, up-setting all their social structure, ruining their morals, and converting them into beasts, whose only desire and aim became the satisfying of their lusts, and vicious desires; then drink, consanguineous marriages, vice, and all the other evils of civilization acting on their untempered nervous systems, produced mental degeneration and in many cases led to insanity. Mr. Philip Cancy, in an appendix to Mr. Brough Smyth's learned and monumental work on "The Australian Aborigines," says:- "I have never observed insanity or hereditary or chronic complaints among the natives, except in those vitiated by the white people." The growing amount of insanity, and the greater tendency to it in so-called civilized aborigines, are well illustrated, as Dr. F. Norton Manning⁽¹⁾ points out, by the statistics of Queens-

(1) (88)₄₄ 857.

Mania.

land and New South Wales. In Queensland the blacks have until recent years remained beyond the confines of settled country, and since 1868, out of a population of about 20,000, only 14 cases of insane natives have been admitted to the Queensland Asylums. The aboriginal population of New South Wales has for some years been merely a miserable remnant, "civilized" for the most part, afflicted with the diseases and practising the vices of the white man, and devoid of the nobler and better characteristics of the race. Since the year 1868, eighteen aborigines have been admitted to the Asylums of New South Wales from a population which has never during that time exceeded 2,500, and is now less than half that number. It is also noteworthy, that during the decennial period,

	1868-1877	8 cases were admitted; and
during	1878-1887	10 " " " " ,

showing an increased number of cases, whilst the aboriginal population had decidedly decreased. In 1881, the proportion of insane among the aborigines in New South Wales, was 2.83 per mille, and at the end of 1887, it was upwards of 5 per mille. This latter figure is even lower than it would have been had the duration of life of the aboriginal in confinement been greater. It is extremely short, however, and much below the average of that of Europeans under

Mania.

similar conditions. Thus it seems likely, though from many causes our data are insufficient, that we can trace the development of insanity in these tribes (N.S.W.) from a time when insanity was extremely rare among them, to one in which it is almost twice as common as among the white inhabitants in the same territory. Of thirty-two cases admitted to the Queensland and New South Wales Asylum, Dr. Manning gives the following record.

<u>Admitted</u>	<u>Males.</u>	<u>Females.</u>	<u>Total.</u>
Admitted	24	8	32
Died	17	3	20
Discharged	3	3	6
Remaining	4	2	6.

In addition to the above, 2 half-castes were admitted.

A considerable portion of these cases were due to drink; four or five were due to imprisonment, but the chief factor was doubtless "civilization."

As is usual in dark-skinned people, the majority of the cases were of mania, usually acute, and as a rule accompanied by terrible violence. In certain cases there were extremely vivid hallucinations of sight and hearing; and in one case, the patient not recognising how own reflection, persistently smashed mirrors, or tore them down when in fixed positions, so as to get at the source of the voices which annoyed him.

Australia.

The cases in which recovery took place, six in number, where none of them in hospital more than eight months. In only one of them was there relapse, and in this, the cause of the original attack and of the relapse was drink. Twenty out of the thirty-two cases died, the causes of death being phthisis (8), Epilepsy (2), serous apoplexy (3), maniacal exhaustion (1), and several others from "marasmus" without tubercular or other manifest ailment. [Ⓞ]

New Zealand.

Of the manifestations of mental disorder in the New Zealanders of the early days, we have no reference in the two valuable papers, by Sir John (then Dr.) Batty Tuke, ⁽¹⁾ and Dr. Arthur S. Thomson. ⁽²⁾ The latter, writing in 1854, after much experience of the Maoris, states that Insanity and Idiocy are rare among them; "In the extensive district of Poverty Bay, out of 2145 persons, there were, in 1849, two idiots and one insane person; and at Taurangi, in the Bay of Plenty, in 1849, out of 2411 souls, there was no insane or idiotic person. "Temporary fits of insanity" he adds, "the result of chronic and acute disease, are occasionally observed; but the above data show that true insanity and idiocy are rare. Most of the cases of insanity I have heard of among the New

Ⓞ (83) 44 357.
 (1) (86) 26.
 (2) (85) 24.

Mania.

New
Zealanders.

Zealanders may be referred to the shape of the head, mechanical injury, old age, or supersitition; all of which causes, with the exception of the last, it is not in their power to prevent. There is one New Zealander in the Auckland Lunatic Department, who has been "mad" several times. The disease is produced by excessive intemperance. His tribe lives at a distance from Auckland, from them he escapes to Auckland, where he obtains spirits, until he gets delirium tremens, and attempts to destroy himself; a few weeks' detention, and no spirits restores him. It is the only instance I have ever heard of a strong desire for spirits among the aborigines." This last significant statement is in marked contrast with those referring to the Australian aborigines, and the remarkable temperance of the Maoris doubtless lessened the frequency of insnaity among them. Dr. Tuke writing in 1864 also remarks on the comparative rarity of mental disease among the Maoris. The manifestations of mental aléniation most frequently met with by him were, in the order of the frequency of their occurrence, idiocy, senile mania, and dementia, morbid impulse, such as homicidal and suicidal tendencies, and general paralysis. "All the forms of mania, monomania, and

Mania.

New
Zealand.

melancholia observable are purely emotional, a fact which might be anticipated, when their peculiarly excitable temperament is taken into account. An orator at one of their meetings, when wound up to the proper pitch, might be readily taken for a maniac by one not conversant with their usages; and the same person might easily mistake a paroxysm of passion, as evinced by a native on very slight provocation, for the ungovernable rage of the insane." A few weeks ago I received a communication from Dr. E. G. Levinge, Medical Superintendent of the Christchurch Asylum. He states that during the fourteen of fifteen years he has had charge of the above institution, only five or six Maoris were admitted, and none during the past two or three years. "There are two or three considerable Maori Settlements in the district embraced by this asylum. Their simple mode of life and comparative freedom from anxiety, worry, intemperance, and the usual exciting causes of insanity are in favour of their comparative immunity."

Polynesia.

We have but scanty information concerning mania among the Polynesians proper, and the Melanesians. Dr. Maurice Vincent declares that mental affections

Polynesians. are almost unknown among the New Caledonian natives. Several cases of mental exaltation in Polynesians have been admitted to the Australian Asylums, cases of homicidal mania are not very uncommon, and I have known a Fijian during a fit of temporary insanity, "run amuck" and kill several people, a well known instance, of this was the case of "Fiji Joe" in Auckland some years ago. Paton reports a case of Homicidal mania in the New Hebrides. Dr. Bowe⁽¹⁾ describes the striking peculiarity of mania complicating pneumonia as observed in the Melanesians in Queensland. "It most frequently comes on a few days after the commencement of the disease, and it might be regarded as delirium, but against this view it is to be noted that it lasts generally three or four days after the temperature has subsided. In a few instances I have noticed that it made its appearance after the acute stage of pneumonia was over. The mania is sometimes accompanied by a good deal of violence, and occasionally the patient will clutch the iron bars which guard the windows of the strong-room, and shake them like a wild animal trying to escape."

(b) MELANCHOLIA AND FATALISM.

The so-called "rapidly fatal melancholia of the South Sea Islanders" is a condition well-known to most people. This fatalistic tendency which has so often been observed, not only in the Polynesians proper but also in the Maoris and Australian aborigines, and which leads to death after a shorter or longer interval of deep depression and utter hatred of life, is most frequently due to superstitious belief and **sorcery**. A Maori who unwittingly desecrated a sacred (tapu) spot is often seized with an unbearable superstitious remorse. The unhappy victim rolls himself up in his mat, refuses sustenance, and seems to pine away, simply from a loathing of life. The self-imposed starvation does not appear to be the actual cause of death, so much as a pent-up storm of emotion - what is expressed by a "broken heart" being the ^{nearest} approach to his condition which suggests itself. Dr. Batty Tuke knew of a case which "proved fatal in less than three days, the subject of it previously being in apparently in rude health, and possessing a herculean frame". He also mentions another case where a Maori, to all appearance well, and who certainly was not suffering from any disease of the thoracic viscera, became melancholy, apparently chag-

Fatalism.

rined at life; he said he was going to die, and die he did within ten days. The above was rather a protracted case; many well-authenticated instances are on record where the victim pined away in three or four days. If, then, a native prognosticates a fatal result to his illness, it is of little use for European practitioners to try to convince him to the contrary, and all his medicines are of no avail. This is a most important point, and one which should never be lost sight of by those medical-men who are called upon to treat these natives. In such cases of melancholia the only hope of recovery is, I believe, to call in the native sorcerer who can by his incantations and ceremonies effectually dispel the mental cloud and thus save the patient. As illustrating the despondent state of mind into which the Maori falls when ill we cite the following laments:-

Alas, thou cannot find a remedy,
 The gods have otherwise decreed; Whiro[Ⓞ] by his
 Axe has all my bones disjointed, and I am
 Torn asunder as a branch snapt from its
 Parent stem by some rude blast, and falling
 With a crash is rent in pieces.
 I did it; I brought this death
Upon myself in meddling with the sacred things
 Which e'er displease the gods; and now
 As in a desert I'm bereft of every succour,
 Emaciated, and folorn, vwracked with
 Pain of body, and distress of mind, I turn me
Round to die.

Ⓞ Whiro - the god of robbery and lies.

Fatalism.

Such was the song of the daughter of Kikokiko, Chief of the tribe Ngatiwhatua, of Kaipara, who was afflicted with an incurable disease. In another lament by a chieftainess who imagined she was hastening to decay under the displeasure of the gods, we find these lines:-

Ah this animal Mokoroa [♠] has
 Thrust his teeth into my flesh, and
 Grasp'd my body with his numerous
 Teeth, and thus I am being eaten up.
 The pain that wracks my body is like
 An army passing on, each wounding
 As he passes.....
 Aye, there's little
 Hope of my recovery, I am hastening to the dust,
To appease the gods, who haunt my spirit hence.

In both these cases however the priest-physicians had performed their numerous rites and ceremonies without avail, and moreover there was definite disease present, so these cases while illustrating their tendency to despondency, are not true examples of "fatalism" or the "rapidly fatal melancholia," which occurs quite independently of bodily disease.

A new phase of this "fatal melancholia" is frequently seen in Fijian girls and youths, who have sickened and died after the sudden discovery and disruption of an amorous intrigue; an interesting example of the profound mental shock which may be

Fatalism.

experienced by people who are generally unimpressionable. Then again when a Fijian becomes ill, of any save the most ordinary malady, he probably makes no struggle for life. If he appear to be very sick his friends will dutifully dress him in his last clothes and oil his body for the burial. Instances are known where a Fijian, ill of some chronic malady, has fixed the date of his death two or three weeks before its occurrence and died on the appointed day. And in times of epidemic sickness, these islanders become what they call tagaya - overwhelmed, dismayed, cowed - abandoning all hope of self-preservation, and becoming incapable of any effort to save themselves or others. In these places the victims of the sorcerers die from this fear and despair. This was shown in a striking way when a sorcerer informed a white man at Hawaii that he was about to pray him to death ("Anaana"), and the white man replied that he too could pray. The priest supposing that the white man was practising black arts against him, sank into despondency and despair and finally died. Many such deaths are known, and caused by a hundred-and-one different forms of sorcery, for instance, there is a strange method of magical attack used at Savo, and known in Florida,

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called Vele, a word which means to pinch. The man who has the secret of this takes in a bag upon his back the leaves and other things in which mana (supernatural power) for this purpose resides, and seeks to find the man alone, he goes to injure. When he finds him, he seizes him, bites his neck, stuffs the magic leaves down his throat, and knocks him on the head with a club, but not so as to kill him. He then leaves the man, who goes home, relates what has happened and dies in two days. Death being due in such a case to this peculiar form of melancholia. As it is also in the Bank's Islands, where they use a remarkable engine of mischief called the tamatetiqua (ghost shooter). A bit of bamboo is stuffed with leaves, a dead man's bone, and other magical ingredients, the proper mana song being chanted over it. Fasting adds power to this and other charms. The man who has made or bought one of these holds it in his hand, with the open end of the bamboo covered with his thumb, till he sees his enemy; then he lets out the magic influence and shoots his man. Some years ago in Moto, writes Codrington, a man named Isvitag waiting with his ghost-shooter in his hand for the man he meant to shoot, let fly too soon, just as a woman with a child upon her hip stepped across the path. It was his

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sister's child, his nearest of kin, and he was sure he had hit her full. To save her he put the contents of the bamboo into water, and the child took no hurt. If this had not been done death would probably have followed. In another case a man of Ava, had declared his intention of shooting his enemy with his tamatetiqua at an approaching feast; but he would not tell who it was he meant to kill. To add force to the ghostly discharge he fasted so many days before the feast began that when the day arrived he was too weak to walk, and had to be carried to the dancing place. There he sat as the dancers rapidly passed him circling round, a fearful object, black with dirt and wasted to a skeleton with fasting, his "ghost-shooter" within his closed fingers stopped with his thumb, his trembling arm stretched out, and his bleared eye watching for his enemy. Every man trembled inwardly as he danced by him, and the attention of the whole crowd was fixed on him. After a while, bewildered and dazed with his own weakness, the rapid movements of the dancers, and the noise, he mistook his man; he raised his arm and lifted his thumb. The man he aimed at fell at once to the ground, and the dancers stopped. Then he saw he had failed, and that the

Fatalism.

wrong man was hit, and his distress was great; but the man that had fallen was ready to expire, when he was made to understand that no harm was meant him, took courage again to live, and presently revived. No doubt, adds Codrington, he would have died if the mistake had not been known. The Australian natives also have been known to die from this "fatalism," and Prof. Stirling⁽¹⁾ relates an instance where he saw a fine robust man who had received a spear wound through the fleshy part of the thigh. Nothing could have looked healthier, he says, and more promising than the condition of the wound, and he pronounced a speedy recovery. The man, however, on being told that the spear had been "sung", that is, had undergone an incantation which bewitched it, proceeded to pine away, and he eventually died without the intervention of any surgical complications which could be detected. The Rev. Geo. Taplin⁽²⁾ when discussing the cause of deaths among these aborigines mentions that "the blacks died less, perhaps, of any specified diseases than of a mysterious inability (and uncarefulness too) to live, to which those succumbed who are (and have discovered that they are) not "the fittest." It is

(1) (89) 149 IV. 129.
 (2) (88) 56 197.

Fatalism.

also recorded[Ⓟ] that the Gippsland aborigines would charm by means of the Makthar or real name of the person; and several of them retiring to some lonely spot, and drawing on the ground a rude likeness to the victim, would sit around it and devote him to destruction with cabalistic ceremonies. Such was their dread of proceedings of this sort, that, not infrequently, men and women who learnt that they had been made the subjects of incantations, quickly pined away and died. Australians who are imprisoned frequently become as we have stated, melancholic, such cases tend at any early stage to dementia.

Nostalgia or "home-sickness" is another manifestation of this tendency to melancholia, and it has proved fatal in many cases. The remnants of the Tasmanian native race when banished to Flinder's Island, according to Surgeon Barnes,⁽¹⁾ many of them, died from no positive disease, but from "home-sickness." South Sea Islanders who were induced to take a voyage in a trading vessel often suffered from this condition, and such a case is thus described:- "That very evening, when the dark blue of his native hills sunk in the horizon, the poor savage leaned over the bulwarks, dropped his head upon his chest, and gave way to

Ⓟ (88) 547.
 (1) (83)₄₆⁵⁶ 174.

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irrepressible emotions. Though a certain mirthfulness succeeded his first pangs at leaving home, Wymontoo gradually relapsed into his former mood, and became very melancholic. Often I noticed him crouching apart in the fore-castle, his strange eyes gleaming restlessly, and watching the slightest movement of the men." [Ⓟ] Death or suicide often results in such cases.

(c) Dementia.

Congenital amentia is most frequently met with, among the Maoris, in all its varieties, from mere weakness of intellect to the drivelling idiot, and, as elsewhere, is characterized by the small head and retreating brow; and next, senile dements, who are occasionally liable to fits of maniacal passion. A considerable portion of those natives who reach advanced age settle down into a torpid, inanimate state. Senile dementia is also common among the Australian aborigines. Of six cases in the Gladesville Asylum, (N.S.W.) 5 of them were of primary dementia. All forms of insanity, whether of mental exaltation or mental depression, in these people, tends rapidly to develop into a condition of dementia, with filthy and

Dementia.

degrading habits, and accompanied by failing health. In New Guinea people of feeble intellect, both male and female, are frequently met with, and are treated with great good humour and consideration by the other natives. Idiocy ("natimi ahnag") is also met with in Anéityum, and the Georgian and Society Islanders look upon idiots as divinely inspired, and accordingly treat them with respect.

OTHER CEREBRAL DISEASES, &C.1. Epilepsy.

Komokomo	(Haw.)	Komo - to enter.
Hopii	(Tah.)	"the falling sickness"
Makakimoa	(Tong.)	
Kida	(Fiji.)	

Epilepsy is said to be unknown among the New Zealanders, and is an uncommon disease generally throughout Polynesia. Cases have been seen in Tahiti, where the treatment seems to be that called potata, the patient being held down while somebody tugs at his feet. At New Caledonia and in Australia the natives occasionally suffer from it. Three cases, in all of which the fits were well marked and severe, have been observed in the asylums of New South Wales and Queensland, two died. The Rev. Geo. Taplin frequently saw cases among the aborigines of New South Wales. (1)

2: General Paralysis of the Insane, &c.

No cases of general paralysis have been observed in Australian natives. Dr. Batty Tuke saw two well-marked cases in Maoris, in the native village near the settlement of Wangarin. (?)

Romilly⁽²⁾ observed a case of delusional insanity in Fiji. An elderly lady who imagined she was married

(1) (84)₁ 194; (88)₁₉ 540.
 (2) (89)₉₅ 70.

Mental Diseases.

both to him and to the Governor. She also firmly believed she was the the mail-steamer, and walked about all night imitating its whistle. She woke him one night to deliver the mail, which consisted of a number of banana leaves tied up with cinnet.

Suicide was not uncommon in cases of mental derangement, anger, or jealousy, and by wives on the death of their husbands. It seems to have been exceptionally frequent at the Kingsmill and Savage Islands. In Fiji the rate, in recent years, does not seem to have been excessive. In 1890 it was .008 per mille and in 1891, .005 per mille. In England during 1887 the rate was .008 per mille.

Treatment.

Generally a maniac or idiot is kindly treated if harmless, but if violence, or homicidal tendencies developed, the patient was bound hand and foot or in some cases killed. In some cases of senile dementia the Australians abandoned the patient, leaving him to perish in the forest. The Melanesians are also kind to their insane. At Florida, for instance, one Kandagaru of Boli went out of his mind, he chased people, stole things and hid them. No one

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blamed him, because they knew he was possessed by a tindalo ghost. His friends hired a wizard who removed the tindalo, and he recovered. In the same way not long ago in Leper's Island there was man who became mad. The people conjectured that he had unwittingly trespassed on tabooed ground belonging to the god tagaro, and that the ghost of the man lately sacrificed there was angry with him. The doctors were called in; they found out whose ghost it was by calling on the names of dead men likely to have been offended, they washed him with water, made powerful by incantations, and they burned the vessel in which the magic water had been, under his nose; he got well. In a similar case they will put bits of fringe of a mat which has belonged to the deceased into a cocoanut shell and burn it under the nose of the possessed. Strong smelling leaves are similarly used.

When a Maori becomes mad (porangi), he is taken to a tohunga (priest-physician), who first makes an examination as to the cause of the disease. He and the sick man then go to the water side, and the tohunga stripping off his clothes takes in his hand an obsidian flint. First he cuts a lock of hair from the left

Mental Diseases.

side of the sick man's head and afterwards a lot of hair from the top of his head. The obsidian flint is then placed on the ground, and upon it the lock of hair which had been cut from the top of the head is held aloft in the left hand of the tohunga, while in his right hand he holds a common stone, which is also raised aloft, while the following Karakia (incantation) is being repeated by him:-

Tu, divide, Tu, split,
This is the Waitapu flint,
Now about to cry aloud,
To the moon of ill-omen.

Then the tohunga breathes on the flint, and smashes it with the stone in his right hand. After this he selects a shoot of the plant toetoe (*Arundo conspicua*) & pulls it up, and then fastens to it both locks of hair. Then diving into the river, he lets go the toetoe and locks of hair, and when they float on the surface of the water, he commences his great karakia (1) thus:-

This is the Tui of Tu-i-rawea
This is the Tui of Uenuku
Where lies your fault?
Was eating Kutu your fault?
Was sitting on tapu ground your fault?
Unravel the tangle,
Unravel, untie.
Take away the fault from the head
Of the Atua who afflicts this man.

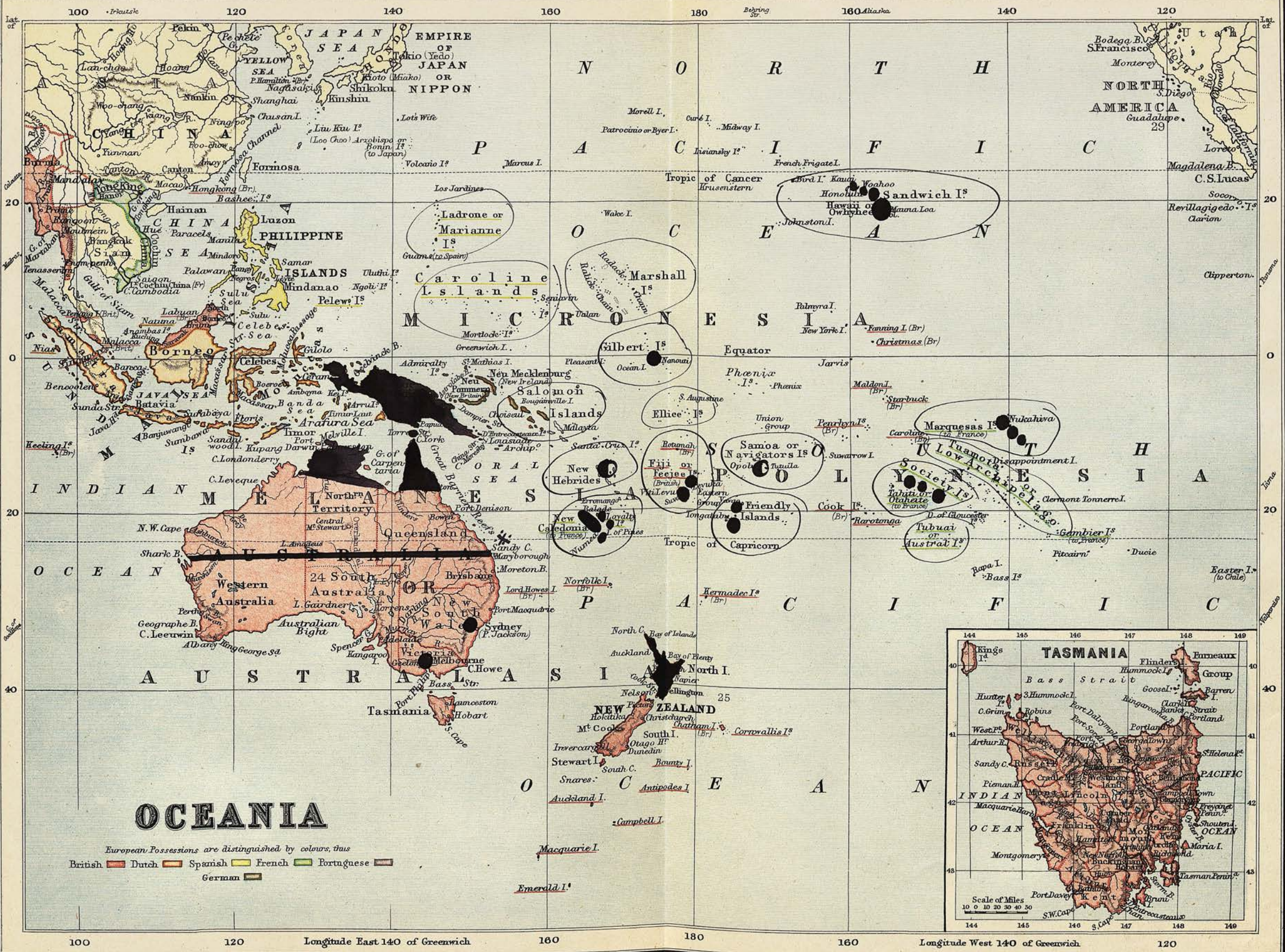
Mental Diseases.

Take away the disease,
 And the Mana of the curser.
 Turn your Mana against your tohunga,
 And your Whaiwhaia.[Ⓟ]
 Give me the curse
 To make as cooked food.
 Your Atua (spirit or demon) desecrated,
 Your tapu, your curse,
 Your sacred-place-dwelling Atua,
 Your house-dwelling Atua,[Ⓟ]
 Give me to cook for food.[Ⓟ]
 Your tapu is desecrated by me.
 The rays of the sun,
 The brave of the world,
 The mana, (spiritual power) give me.
 Let your Atua, and your tapu
 Be food for me to eat.[Ⓟ]
 Let the head of the curser
 Be baked in the oven,[Ⓟ]
 Served up for food for me
 Dead, and gone to-night.

The latter part of this Karakia is a curse directed
 against some tohunga supposed to have caused the
 disease by this art of Makutu (witch-craft). We have
 in the above valuable charm the key to the Maori etiol-
 ogy of insanity as well as their mode of dealing with
 such cases. They also in certain cases gave herbs
 to the insane, such as the juice of the pith of the
 poisonous tutu tree (*Coriaria ruscifolia*).

[Ⓟ] An incantation so-called.
[Ⓟ] A form of cursing.

LEPROSY.



OCEANIA

European Possessions are distinguished by colours, thus
 British ■ Dutch ■ Spanish ■ French ■ Portuguese ■
 German ■



Leprosy.

○ . doubtful.
 ✕ No cases of Leprosy in aboriginals south of this line.

LEPROSY.

Native Terms:-

<u>Taiko,</u>	(N. Z.)	Leprosy.
<u>Ringamutu</u>	(N. Z.)	<u>Mutu</u> - to cut short.
<u>Mutumutu</u>	(N. Z.)	"A kind of leprosy? where-
		by the first joint of a
		finger or toe falls off.
<u>Luawhenua</u>	(N. Z.)	Leprosy; a leper;
		"covered with sores."
<u>Tuwheke</u>	(N. Z.)	Leprosy.
<u>Putuputu</u>	(N. Z.)	Leprosy.
<u>Tuhawaiki.</u>	(N. Z.)	Native leprosy.
<u>Ngerengere</u> †)	
) (N. Z.)	Leprosy - having a face
<u>Matangerengere</u>)	badly ulcerated; also
		benumbed. (<u>mata</u> - face).
(Lepo †)	(Haw.)	to be dirty, unclean,
		dirty generally, defiled).
<u>Mai-peke</u>	(Haw.)	Leprosy. ("Chinese sick-
		ness.)
<u>Katia</u>	(N. Cal.)	Leprosy.
<u>Kilia</u>	(Tong.)	Leprosy; a leper, (kili-
		skin).
<u>Oovi</u>	(Tah.)	Leprosy.
<u>Pupure</u>	(Tah;)	Leprosy, or a disease
		resembling it; also a
		leper. (purepure - spott-
		ed).
<u>Namasaki</u>	(Ancity)	
<u>Gem Katikak</u>	(N. G.)	"body white."

The History of Leprosy in the Hawaiian Islands ⁽¹⁾ is so well known that I need do no more than briefly recall the leading points, and refer to some important and recent developments which are not yet widely known. For the sake of clearness the main features of the history of Mai pake (Leprosy) may be rendered in the form of a table thus:-

† or ngere ngere (Tuka). (1) (89)₀ - (89)₂₂ -
 † Not applied to Leprosy. (89)₃₃ - (89)₉₂ - (88)₆₁ -
 (89)₁₅₈. &c.

Leprosy.

1777. The islands were discovered by Capt. Cook. He observed no evidence of Leprosy, nor did subsequent voyagers.
1848. Gold discovered in California. Many Chinese "rushed" there.
1856. Hawaii in constant communication with California, Chili and China. (Hillebrand writes "leprosy was unknown before 1859, and after close scrutiny cannot be traced further back than the year 1852 or at the most 1848.")
1859. Hillebrand first recognised the disease as leprosy. (The natives had observed the disease as early as 1851 and Hillebrand saw cases in 1853.). Government made grant for the foundation of leper colony.
1863. The disease seemed to be spreading.
1864. Six cases reported from the village of Kaslua. Reported to be spreading to other islands.
1865. Leper settlement founded at Molokai.
1868. 274 cases reported among whole population.
1873. 800 lepers at Molokai.
1894. 1152 lepers reported.
1898. 1100 cases at Molokai. The government physicians and agents of the Board of Health declare that leprosy is diminishing in the islands.‡

As early as 1823 the Rev. C. S. Stewart wrote concerning the Sandwich Islanders - "The majority are more or less disfigured by eruptions and sores, and many are unsightly as lepers. The number of

‡ Davidson's Hygiene, &c., p. 429.
‡ Report of Board of Health.

Leprosy.

either sex or of any age who are free from blemishes of this kind is very small, so much so that a smooth and unbroken skin is far more uncommon here than the reverse is at home! They formerly supposed the white colour of the Europeans skin to be the effect of illness, and hence beheld it with pity. Their own skins being to some degree whitened by leprosy. The Hawaiians are one of the few native races which are more leprous than the Chinese. Their great and prolonged isolation, followed by the sudden introduction of foreign habits and later of a considerable number of Chinese, may in some way account for this, but the precise reason cannot be discovered.

The mode of life of the Sandwich Islanders certainly favoured its spread, and it is important to note that there always have been a large number of lepers mixing with the general populace, and marriages between the leprous and non-leprous are freely contracted. Only cases with marked tubercular development were usually reported. The simple, smooth, or anaesthetic form not being generally recognised as lepra. The lepers at large in 1838 numbered 500 or 600,⁽¹⁾ 750 others being in the settlement at Molokai. The number of fresh cases admitted

(1) (88)
61.

Leprosy.

to the Lazaretat Molokai, each year, commencing from 1866, has been:-

141. 70. 155. 126. 57. 183. 105. 487. 91. 212.
96. 162. 239. 125. 51. 232. 71. 301. 108. 103. 23. and
during the two years 1888. to 1890, 798.

The annual death rate at Molokai was in 1887 12.54 per hundred, this being lower than usual. In later years the death rate has been diminishing and this is looked upon as an indication of the diminishing severity of the disease.

Leprosy is by no means confined to this section of the Polynesian race and its history and progress in Southern Islands is in some cases decidedly alarming.

New Caledonia.

There are fears that the terrible record of leprosy in Hawaii is to be repeated in New Caledonia. Thomson declares that here is to be found an outburst which began to manifest itself about the year 1883 both whites and blacks are being infected, and in many ways it resembles the early outbreak in the Hawaiian Group. Leprosy is almost the only endemic disease in New Caledonia, it is said to have been introduced by a Chinaman in 1866, and since then has been continually increasing, now all the tribes con-

Leprosy.

tain lepers. In 1880 the attention of the officials was drawn to its presence and on the rapid spread of the disease in 1883, especially among the natives in the northern parts of the island; Brassac advised the establishment of lazarets. This was not done. In 1888 Forne reported hundreds of cases, but the government did not care to go to the expense of segregating the lepers. In 1890, 70 cases were isolated, but probably 4000 or 5000 cases exist among the various tribes. The northern tribes are said to be decimated.

New Guinea. (1)

The disease occurs here in sporadic cases and is confined to the native population. The natives have no fear of it and do not seem to recognise it as a special disease, nor have they any name for it other than the general term for a sore or ulcer. It is generally mild but tubercular cases are also met with. Mutilations from leprosy are not common, but cases are sometimes met with in which the toes and fingers have been lost. One case is described as "A middle-aged leper who could not crawl, whose bones were so softened by the loathsome disease that both arms and legs were crooked and bent." Sir

(1) (88)₄₄ 48; (89)₁₁₅; (89)₃₃; (88)₅₇.

Leprosy.

William M'Gregor, who saw many hundred of these Papuans only noticed half a dozen cases of leprosy amongst them.

Gilbert Islands. (1)

Drummond's Island, one of this Group, is described as being densely populated and many of the natives were found suffering from leprosy. The Solomon Islands are said to be free from the disease, but in 1894 a Solomon Islander was confined in the lazaret at Little Bay, near Sydney. Whether he had contracted the disease in his own or some other island, I cannot tell.

Marquesas Islands. (2)

Leprosy is said to be very prevalent throughout the Marquesas Group and no attempt has been made to isolate those affected. Native lepers may be seen dipping their mutilated hand into the common bowl of poipoi (a sort of paste). The disease seems to be unusually severe amongst them, leading to mutilations and not being of the mild type more common in Southern Polynesia.

Society Islands. (3)

The disease is known here as "Oovi" but it is not of common occurrence.

- (1) (89)₇₈ 314.
 (2) (89)₃₃ (89)₁₀₄ - (89)₉.
 (3) (88)₁₈ (89)₃₃ -

Leprosy.

Leprosy is also known to occur in the Friendly Islands⁽¹⁾ (Tonga), and probably at the Navigator Group⁽²⁾ (Samoa), and the New Hebrides.⁽³⁾ This list of Polynesian Islands only includes those in which leprosy is known definitely to exist.- that there are any islands of importance in Oceania where this disease does not exist, has been doubted by some authorities. Brunet said that leprosy occurs in all the islands of Polynesia.

New Zealand ⁽⁴⁾

Leprosy is said to have been of frequent occurrence amongst the Maoris many years ago. In all probability they brought the disease with them from "Hawaiki" when they first came to New Zealand about 600 years ago, and the disease increased for a time but has now gradually died out. Three cases only were reported in the last census.

The Maoris have a legend of a priest born before the flood, and named Te-whai-po ("incantations chanted at night") his skin was not like other men, but all white from leprosy.

The classical account of leprosy in New Zealand, is that of Dr. Arthur S. Thomson, published in 1854^④.

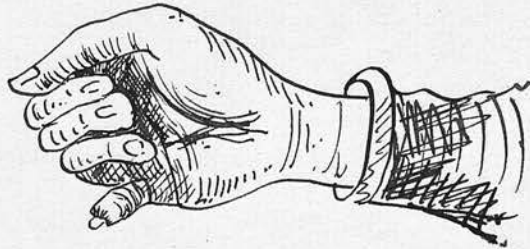
(1) (2) (89)33. (4) (88)16 - (89)22 - (85)19
 (3) (86)20 221. (87)9.
 ④ (85)24 496.


Leprosy.

He saw six cases. He named the disease Lepra Gangrenosa, and states that;- "The Ngerengere, or the Lepra Gangrenosa of the New Zealanders, commences with a cutaneous eruption on the extremities, which extends over the front of the body. The eruption presents in some parts, the oval patches and the copious exfoliation of a brown colour, scaly, morbid cuticle, observed in lepra vulgaris; the irregular patches of psoriasis, and, occasionally the innumerable fissures, the elongated and extensive cracks as in ichthyosis." This is accompanied with troublesome pricking and itching. The eruption for months or years, increasing, and decreasing, and disappearing partially or entirely. Gradually the hair on the eyebrows, eyelashes, whiskers and beard fall out; not the hair of the head, the axillae, or the pubes. The skin becomes livid, the eyeballs prominent, and the copious discharge of tears flows from them. The voice changes its tone; the face, nose, lips, the forehead and eyebrows, become swollen and shining, but not tubercular. The skin is dry and harsh but never anaesthetic. In about a year (it may be more or less) from the appearance of the eruption, a small boil, blister, or dry crack, appears in the direction

Leprosy.

of the flexure, on the last joint of some of the fingers or toes. The soft parts ulcerate by a dry process, the phalanx falls away and the part heals. Every year one or more of the joints fall off. There is sometimes pain along the lymphatics during this process. The other fingers or toes are dry, shining and scabby like and the hand assumes a deformity somewhat like the main-en-griffe of nerve leprosy, "the fingers being kept bent, the skin and tendons



LEPRA GANGRENOSA IN A MAORI. 

("The fingers are a little swollen - the middle one, at the point unusually so. The first joint of the little finger has dropped off, and the point of the dead bone of the second phalanx is protruded and perfectly white - the red flesh is seen thro' the thin cicatrix. The fingers are all bent, but dry and warm. Sensation good.").

Leprosy.

appearsto contract and the fingers are stiff; dislocation at some of the joints takes place." The acute sense of touch of the fingers is injured, yet feeling is not quite lost, unless in the fingers about to drop off. Three, four, or more years may elapse before the whole toes or the fingers are lost. The appetite and digestion are good. The general health does not appear to be impaired, and the body keeps up its usual weight. Sexual desire is diminished. Lupus of the face, according to Tuke, also frequently adds to the horror of the affliction, destroying the nose and cheeks. Thompson⁽¹⁾ did not observe this in any of his cases. Infants are never attacked, a boy of about twelve years of age has been seen affected. Most of the cases occur after puberty, and under thirty. Males appear to suffer more commonly than females. Several members of one family have died from it. It is not always, though usually fatal. Its duration varies from one to five or eight years. The disease appears to have been more frequent early in this century. Thomson knew a Maori who had seen ten cases in one village. In 1854, if a native were asked if he knew anyone ill with Ngerengere, he would generally recollect one or two cases. Four cases were seen at the Auckland Hospital in four years. Lepra Gangrenosa

Leprosy.

has occurred in all parts of New Zealand, but chiefly in the North Island in the Rotura and Taupo districts. The Maoris believe the disease to be inflicted by the gods, through priests and witches, for a violation of the laws of tapu, and for other transgressions. It is believed to have died out on the introduction of Christianity, since which time the native gods were supposed to have lost the power of inflicting this disease. It is interesting to note that unlike the lepers in southern Polynesia, the sufferer from Ngerengere was tapued and he was fed apart from healthy people, and it was believed that the disease might be communicated by touch.

Although there are several thousand Chinese in New Zealand, leprosy is of rare occurrence among the general population. Dr. Bakewell claims to have seen one or two cases amongst the white and one in a Chinaman. As previously stated only three cases of the native leprosy are known to exist at present among the Maoris. They are among the tribes residing in the district north of Auckland, and they appeared to be of recent origin.⁽¹⁾ One case of supposed leprosy was found also near Rotorua.

Australia.

Thompson[®] writes concerning leprosy aboriginals:-
 "I think it may be confidently asserted that no record of lepra among the aboriginal in any explored part of

(1) (89)122. [®] Leprosy Prize Essays. New. Sydenh. Soc. (89)9.

Leprosy.

the continent has ever been made; and (though less confidently) that no records exist which contain such vague descriptions or such cursory remarks as would give rise to strong suspicion that leprosy lay concealed in them." He continues - "The Australian aboriginals are certainly susceptible to leprosy and there are undoubted cases on record but the disease is exceedingly rare among them." The diseases of the Australian blacks have rarely been studied carefully by medical men who have been brought into contact with them, and all that is known of leprosy in the Autochthons has been quite recently recorded. All such cases have been found in the northern parts of the continent. Several have been reported from Cooktown and Barrow Point in Queensland, and Thursday Island between Cape York and New Guinea. Concerning a case in the northern territory of South Australia, Mr. Giles (1) wrote as follows;- "I knew the blackfellow since 1879, (then) there was nothing wrong with them; but about four years afterwards his toes rotted off both feet; in fact, half the instep was gone, and then his fingers came off, all but the thumbs of each hand - and I think one finger was left. He never complained of pain." He belonged to the Katherine River district and had never been to the north coast. Other evid-

Leprosy.

ence comes also from the northern Territory. It was collected by Mr. Reginald Stow, who states:- "I was on the E. Aligator River in June 1893, and stayed with the buffalo-hunters three days. Among the aboriginals camped beside us was a man about twenty years of age, and of apparently good physique. He had lost every vestige of his toes and fingers, and all that remained of his hands and feet looked like little black clubs. I found (also) a man who appeared to have developed the disease at between forty and fifty years of age. This man had (had) the disease about three years, and had then lost the big toe of one foot. He had not the expression peculiar to the six or seven other cases I have seen, and he at times suffered pain in the affected foot. As far as I could learn from the Aborigines, the disease, whatever it is, was with them before the coming of the white man; they have no dread of it. I have only seen six or seven natives suffering from this disease, but I am told by the buffalo-hunters that there are a great many a little way back, and one hunter assures me that he would have no difficulty in rounding twenty in a day. I can quite credit this, for one day I struck a camp with three out of six affected. In two out of three cases I noticed white patches on the hands and wrist. The natives say that it always takes one form, and the

Leprosy.

hands and feet disappear from the fingers and toes downwards. The only case recorded of the disease occurring in an aboriginal woman is that of a native of the MacArthur River (N.T.) about 28 years of age, her ears were hanging down "like a piece of dough;" her hands and feet were covered with white patches and dry scales. In the same district a young man, about 20 years of age, was observed; he had lost all his toes, otherwise he was apparently in robust health.

No case of lepra among the natives has been recorded in Australia south of the latitude of Maryborough, Queensland. The first case was reported in 1892. It cannot be said definitely on our present knowledge - whether the disease was imported or existed amongst the autochthons prior to their mixing with foreigners. The origin of the disease according to the coast blacks, dates back to a time when only the Malays were visiting the Port Essington and Bowen Straits localities.

Treatment.

The Maoris endeavoured to cure the disease by keeping the sufferer from sunrise to sunset, in a vapour bath; and they had a variety of incantations applicable for this disease, which the priest-physician

Leprosy.

or tohunga repeated while the patient was steaming. It was to Mai-waho (or Tama-i-waho), that all offerings were made, ceremonies performed and incantations chanted for the leprous. He was apparently a deified priest-physician who when living was a "most eminent man, of great healing power and influence." It was he who taught Ta-whaki many powerful incantations for the purpose of healing diseases. The food given to them during the treatment was entirely vegetable; no pork or fish was allowed. All the cases however ran their course unchecked, although benefit was gained from the treatment. The Fijians treated the leper much more energetically, he was taken to a small empty house and stripped of every article of clothing, his body was then rubbed all over with green leaves, and then buried in them. A fire is then kindled, and a few pieces of the Sinu gaga (*Excaecaria Agallocha*) laid on it. As soon as the thick smoke, which is extremely irritating to the eyes, begins to ascend, the leper is bound hand and foot, a rope fastened to his heels, by means of which he is drawn up over the fire, so that his head is about a foot above the ground, in the midst of the irritating smoke. The door is then closed and his friends retire a little distance, whilst the poor

Leprosy.

sufferer is left to cry and shout and plead from the midst of the suffocating fumes, but he is often allowed to remain for hours, and finally becomes unconscious. When he is though sufficiently smoked the fire is removed, the slime scraped off the body and deep gashes cut in the skin until the blood flows freely. The leper is now taken down and laid on his mat to await the result. In some cases death - in many, it is said, life and health. The Rev. W. Moore of Rewa, knew a native named Lawaleou, who was thus treated and was cured. Whether his was really a case of leprosy may well be doubted.

B E R I B E R I .



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BERIBERI IN POLYNESIA.

Native names:-

Pantjakit papoea

New Guinea.

No attempt has hitherto been made to define the limits of distribution of this disease in Australasia and Polynesia, and it seems to me that it is time attention was drawn to its gradual dissemination throughout these islands and the institution of endemic centres which are to be found in certain of the island groups and perhaps in various parts of the Australian continent. The text-book references to Beriberi, as it occurs in Polynesia, are many of them unsatisfactory and sometimes erroneous.

Australia.

The earliest reference to the disease in Australia occurring in the medical literature of the country seems to be that in a paper, which appeared in 1856, entitled "On Barbiers" by Richard Eades, M.D.; in this he gives the history of three of his cases. One was that of a man whose legs felt as if "they were asleep," and he "never enjoyed a good sleep." "Barbiers," says the author, "slowly and surely, and most insidiously crept along, from the sentient extremities of the nerves of his toes, to the feet and ankles, until it seized upon the motor nerves of the gastrocnemii,

Beriberi

and the great flexors and extensors of the thigh. His utterance became thick, his intonation indistinct, and slightly hoarse. He trailed his feet, and in walking made an effort as if throwing one foot before the other; ----finally the erect posture became painful, and could be maintained only for a few minutes, ----there was no indication of cerebral disturbance. The first symptom in this case, was a tingling and weakness in the fingers, causing him unconsciously to drop his pen when writing; he sometimes felt as if minute gravel was in his shoes, ---this feeling occurred about ten days after the tingling in his fingers was first noticed." The illness extended over three months and resulted in complete cure. All the cases were in Europeans. The notes on these cases certainly do not impress one that the disease these patients suffered from was really Barbers, but in an account such as this it is necessary to draw attention to the above article. The best known epidemic in Australia is that reported by Wetherall as occurring at Wyndham, E. Kimberley, W.A.; among sixty aborigines who had been imprisoned, and were allowed half a pound of rice each daily as rations. Beriberi is also to some extent endemic in the Northern Territory of South Australia; and according to Dr. P.

Beriberi

M. Wood, of Palmerston, (N.T.) it became endemic during the years 1879 and 1880. He reports a small (1) but fatal outbreak which occurred in 1887 in the gaol at Palmerston, and as in the Kimberley outbreak aborigines were the sufferers. Seven were attacked, and these severely. Of these two died; the rest recovered. A few weeks before, the aborigines had to be placed on a diet of rice instead of bread, and half the usual quantity of fresh meat, and during that time there was a scarcity of fresh potatoes. The Chinese did not suffer at this time, and indeed throve well on the same prison diet. The aborigines who recovered were given fresh potatoes as soon as possible after the onset of the attack, and were soon in good health again. In treating the cases Dr. Berill found digitalis very beneficial also digitalis combined with iron or ammonia and cinchona, and a diet of fresh vegetables. The disease has occurred also at Sydney and Melbourne among Chinese and other Orientals, and the outbreaks seem to have been due to infected rice and other food. (2) Those therefore who hold that the disease is endemic in Australia have some ground for their belief, and in all cases the disease appears

(1) (88)₄₄ 58. (86)₁₅ 30. 2. (83)₃₅ 390.

Beriberi

to have been traced to rice or beans imported from
New Guinea Beriberi districts in China. Manson says "it is
 known in New Guinea" ("west coast" - Hirsch), "and at
 times is very prevalent among the crews of the pearl-
 ing fleet in the neighbouring Torres Straits." (1)

It is quite possible for the crews of these vessels
 to have introduced this disease into Australia, and
 they are believed also to have brought small-pox and
 syphilis. In the recently published manual of
 Diseases of the Nervous System⁽²⁾ by Sir W.R. Gowers,
 the astonishing statement is found that Beriberi is
 a disease "having apparently its chief homes in-----
New Zealand,-----the South Pacific Islands, etc.

Manson and Davidson make no mention of the disease as
 occurring in New Zealand, and concerning the Islands
 of Southern Polynesia it is stated that "Doubtful
 reports about it come from --- the Gilbert Group,
 from Tahiti and others of the South Sea Islands."

New Zealand^{ports} have been visited on two occasions
 by ships having on board cases of beriberi. About
 the year 1887-89 a vessel is said to have reached
 Onehunga (Auckland, N.Z.) having several cases on
 board, they were removed to the Auckland Hospital and
 1. (89)₁₆₆ 455. 2. (89)₁₆₁ 186. ☉ vide N.Z. Herald.

Beriberi

were treated in that institution, most of them proving fatal. The second case is that of the barque Lothair, which put in at the port of Nelson, in consequence of a mysterious disease, which proved to be Beriberi, having broken out on board. The Lothair is an English ship and was bound from Hong Kong to Callas. Four of the crew and one passenger had died. The captain stated that the symptoms of the disease were uselessness and paralysis. "It first seized the feet and legs, and crept upwards to the stomach till it reached a vital part, when death ensued. There was no pain or swelling, no loss of appetite or spirits, no vomiting; in fact all ate heartily throughout," and seven men, who were still suffering when the ship reached Nelson, had good appetites. Their legs were useless, and they staggered on attempting to walk. From this description there can be no doubt as to the disease being beriberi. The ship was placed in quarantine and the disease abated.

An endemic locality, not mentioned in the English or other text-books, is the New Hebrides group of islands. M. Haurigot⁽¹⁾ reports numerous cases of beriberi in the group almost always serious, some-

(1) Les Établissements Français dans L'Gnde et en Océanie. p. 149.

Beriberi

times fearfully fatal; death resulting two or three days after the incidence of the attack, and the mild type with recovery in a few days, is commonly observed.

Swelling of the ankles or of the hand, is generally the first symptom to appear, in the cases occurring among the colonists, who recognise the dangerous nature of the malady, and know that immediate and active intervention alone will save those affected.

The swelling of the feet extends rapidly to the legs, abdomen, and the face of which the decolouration and puffiness are characteristic features of the malady.

In the severe type the patient complains of a sense of constriction in the chest which is extremely painful, causing him to give forth terrible cries especially at night. The disease is most frequently met with

among the native inhabitants and those working on the plantations of the settlers. The adjoining island of

New Caledonia⁽¹⁾ has also been visited, the source of infection being Tonquin. In 1891 again the natives

were attacked by beriberi, the disease was supposed to have been transmitted to them by a convict.⁽²⁾

Fiji, a little to the east of these two groups has been the seat of a severe outbreak, chiefly affecting

(1) (89)₃₅ 415. (2) Arch. de Med. Nav. 1891. p.464.

Beriberi

Swick
Islands

the Japanese labourers. But it is at the Sandwich Islands in the north, that we find it more extensively prevalent. The disease was introduced by labourers from Japan and became prevalent in various localities, and it has been found to persist for a considerable time at certain plantations and houses, a fact which Dr. D. Campbell⁽¹⁾ draws attention to as going to show that it is "a place as well as a food disease." During the twelve months from March 1886 to March 1887, in the District of Kona,^φ including the City of Honolulu there were 20 deaths from Beriberi, during the twelve months ending March 31st 1889, there were 7 deaths recorded, and in the same period during 1885-⁽²⁾ 86, 26 deaths were recorded from this disease. There were also during these periods 26 and 41 cases of dropsy respectively, and during the former 18 cases of paralysis, these returns quite possible included some cases not recognised as beriberi. Dr. Campbell reports that at Kanai, one of the islands of the group, beriberi is not nearly so virulent amongst the foreign section of the population as it formerly was. Dr. R. Oliver of Molokai, calls attention to "several epidemics of malarial origin," and says "The last

(1) (89)₁₅₈ 155. φ (88)₆₁ 60. (2) (88)₆₂.

Beriberi

one was the most severe, and was marked by entirely new features." I include an account of the symptoms of these cases in this chapter, believing that many persons will be inclined to look upon them as arising more likely from beriberi infection, than from a malarial cause. Dr. Oliver says⁽¹⁾ "the disease commenced with the usual signs of fever of a mild type. There was no great rise of temperature, nor did the pulse vary much from that met with in such cases. But in three or four days from the commencement of the fever, rapid and extensive serous effusions took place, either as general dropsy or in one or other serous cavities. In one case there would be effusion into the cavity of the pleura of one or both sides; in another into the peritoneal sac; and in several cases there was dropsy of the pericardium. I was called to one case, in which the only dropsical symptom was an enormous distension of the scrotum. In some cases, but not in many, there was partial suppression of urine; but in a very small per centage could I find any traces of albumin. In all cases after the appearance of the dropsy, there was marked depression of the vital powers. Throughout the course of the disease, there was neither numbness nor

(1) (89)₁₅₈ 161.

Beriberi

paralysis, nor any nervous symptoms, such as are met with in beriberi. The epidemic seemed to select lepers only for its subjects, no non-leprous residents having been attacked." The conclusion that these symptoms were due to malaria and not to beriberi merely because of the absence of nervous symptoms, seems unjustifiable. Cases of this disease occurring in Hawaii are also reported by Sutcliff in the "Occidental Medical Times:"⁽¹⁾ They were also of the "wet" variety of beriberia hydrops.

Beriberi is thus gradually spreading eastward from Japan and China in the north, and from Malaysia through Melanesia to Polynesia, and by the presence of Orientals in Australia, into the large towns of that Continent. New Zealand, also having a population of 5000 Chinamen is a likely field for further extensions of this deadly disease, which according to Manson "annually kills its thousands and tens of thousands. It makes the settlement of many fertile lands almost impossible. It kills off the planter's coolies like flies, and makes his plantations unprofitable. But," he continues, "it is a disease which can to a great extent be prevented; and it is a

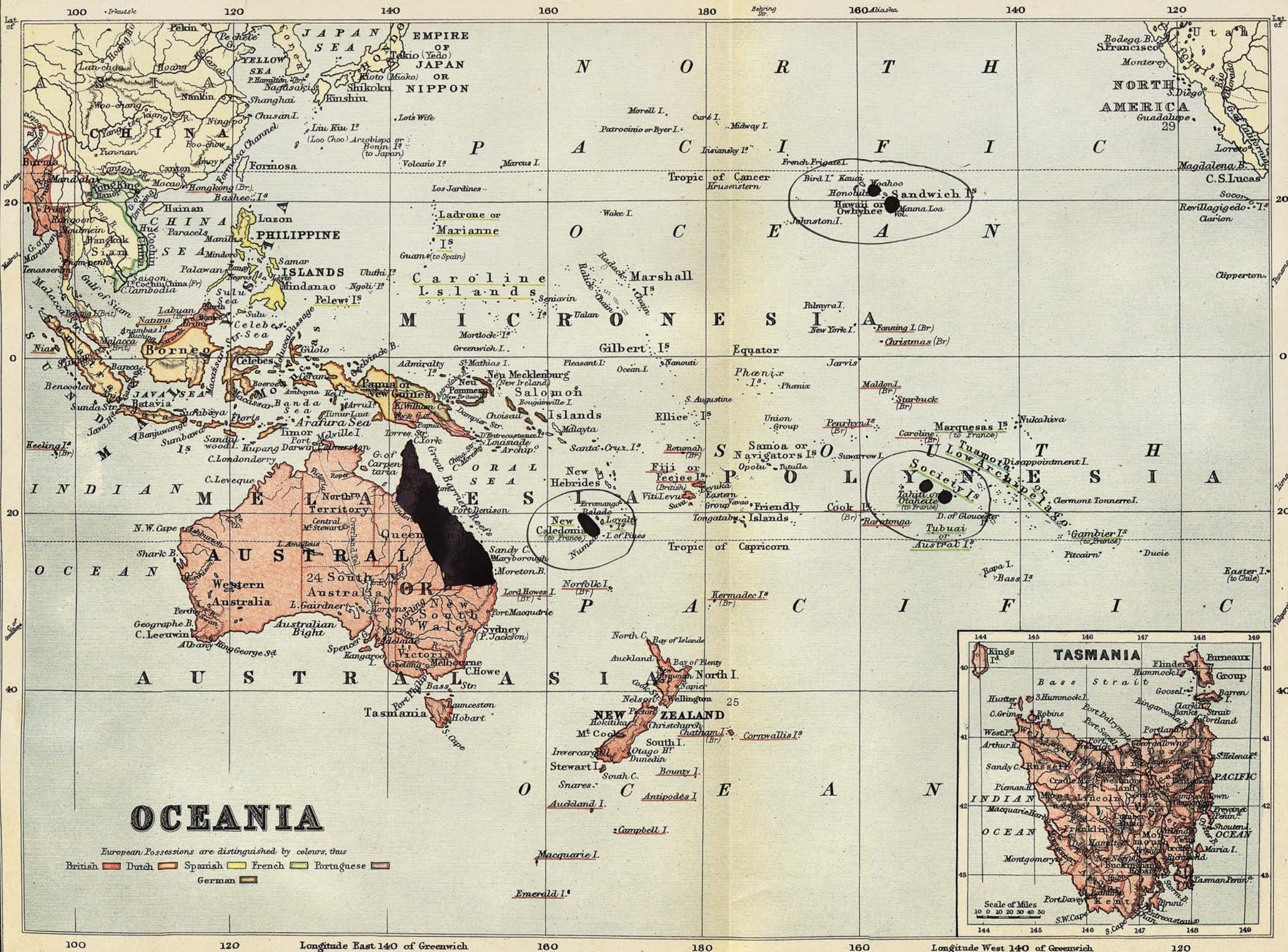
(1) Feb. 1892.

Beriberi

disease which can, by proper management, be robbed of much of its danger. Its recognition, therefore, is of the first importance. Many times, in beriberi perhaps more than in most diseases, early and correct diagnosis means saving life." (1)

(1). "The Necessity for Special Educ. in Trop. Med."
B.M.J., 1897. II. 985.

D E N G U E .



Distribution of Dengue. (Endemic and Epidemic.)

Engraved & printed in colours by

Wit A. K. Johnston, Edinburgh & London.

DENGUE.

Dengue⁽¹⁾ has for many years been an occasional epidemic disorder of the Polynesians, and it has recently swept through the white residents in the northern parts of Queensland. A succession of epidemics occurred in the Society Islands (Tahiti) during the years 1847 to 1856, being especially extensive during the summer of 1852-53. Epidemics occurred at New Caledonia during 1884-85, and in 1885 Fiji was visited by epidemics of Influenza and Dengue. The latter disease appearing now for the first time amongst these islanders. The malady occurs sporadically in the Hawaiian Islands from time to time. During the rainy season the Sandwich Islanders suffer from a disease called by them "bonon" or "sigh". There can be little doubt that it is dengue. During the past four years Queensland has been swept from north to south by a series of epidemics of this fever. In the southern towns about 40% of the inhabitants were attacked, but in the north the incidence was heavier, scarcely 25% escaping. There were well marked differences in the types of disease as observed in the different localities and in many points the clinical phenomena differ from those recorded in the

Dengue.

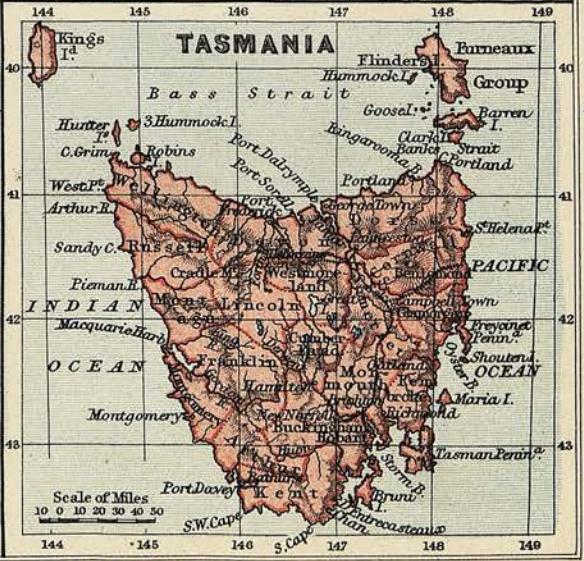
classic accounts of De Brun and Manson. Manson states that "in uncomplicated dengue the mortality is almost nil," and Davidson that "Dengue is never directly fatal, except in the case of old or otherwise worn-out subjects, in whom fatal syncope has in a few instances been observed. The few deaths that occur in patients suffering from dengue are the result of some anterior or intercurrent affection rather than of the disease itself. The prognosis is thus entirely favourable in every case, however distressing or even alarming may be the symptoms." In Queensland the disease was by no means so mild and non-fatal, for the 1897 epidemic in the northern part of the Colony resulted in many deaths. Many new symptoms not usually mentioned in the text-books were observed, as nephritis, abortion, mania and melancholia. Quinine and antipyrine were the drugs found most efficacious in the treatment.

M A L A R I A .



OCEANIA

European Possessions are distinguished by colours, thus
 British ■ Dutch ■ Spanish ■ French ■ Portuguese ■
 German ■



Engraved & printed in colours by

Malaria

● Endemic
 ○ " (?)

Wit & A. K. Johnston, Edinburgh & London.

MALARIA.

Native Terms:-

| | |
|----------------------|--|
| <u>Kuni</u> | (Haw). (also - "praying people to death" - a form of sorcery). |
| <u>Neyueyu.</u> | (Aneity.). |
| <u>Nauud ipnyin)</u> | (Aneity.) - Tertian ague. |
| <u>Auud ipnyin.)</u> | |
| <u>Kunawiri</u> | (N. Z.) wiri - to tremble. |
| <u>Fa'a-ma'alili</u> | (Sam.) - to be in the <u>cold</u> stage of a fever. |
| <u>Mellapun?</u> | (Bismarck Arch.) |
| <u>Feke-feke</u> | (Tonga). |

We know very little concerning the ideas of the natives as regards the nature of this disease; the Hawaiian name "Kuni" suggests a belief in the "black-arts" of the sorcerer as the source of the malady, and that is most likely what they, and most other Polynesians, would attribute it to.

I find the disease to be much more widely disseminated throughout this oceanic region than is generally supposed, although as a general rule the type is mild. In some regions although the natives maybe almost exempt, the disease is liable to attack European settlers with great severity, this is particularly the case in British New Guinea, (1) the whites being attacked severely in comparison with the autochthons who have the disease in a milder form. The Baxter River (2) district is very unhealthy,

(1) (89)
(2) (89)¹¹⁵ 600.₁₀₅

Malaria.

one night on shore there, at some seasons, is quite sufficient to give a European this fever. The entire sea-coast for some distance inland, is here low and swampy. Very few natives are found in the locality. The Manumanu (1) (or Bird) River, and the Edith River regions are also particularly noted as malarial centres. At Port Moresby the natives do not suffer much but Europeans all sooner or later are sure to be affected. The type of the disease amongst the white inhabitants is extremely irregular, the onset being sometimes sudden and without premonitory symptoms, the duration varies greatly and the severity is uncertain. Frequently, it does not follow great exposure to cold, wet, heat, or travelling and sleeping in swampy, mangrove country; at other times it arrives under apparently favourable sanitary conditions. The milder attacks commence with a feeling of cold and uneasiness, with headache and lumbar pains, which continue until a perspiration ensues and ends the paroxysm. In many cases a man will take his breakfast, will be suffering from such an attack at noon, and next morning will again feel quite recovered. In other cases, especially in new arrivals, it remains persistent

(1) *ibid* p.13

Malaria.

and is attended with much prostration, relief coming only after a change of climate. Such cases are serious if the patient cannot tolerate quinine. Sometimes the disease lies dormant in the system, breaking out after one has left the country. A lengthened residence in New Guinea does not seem to lessen the risk to the infection. Europeans are not affected during the dry season (May - Nov.), but during the wet season (Decr. - Apr.) the fever is very prevalent, even the natives suffering. The rank vegetation and abundance of decaying vegetable matter are perhaps important factors in the etiology of the disease in this island. The most common predisposing cause appears to be exposure to cold wind, also great fatigue and exposure to the direct rays of the sun. In Dutch New Guinea (1) the attacks are sometimes very severe and accompanied by delirium and high fever and afterwards there is jaundice for a time. There is some evidence, of an indefinite nature, that Malaria exists in the islands off the east coast of the New Guinea, i. e., New Britain and New Ireland (2) (Neu Mecklenburg), we know that it exists in the Solomon Group, (3) the low-land ~~being~~ too unhealthy for Europeans to live on.

- (1) (89)116 214.
 (2) (89)85 286.
 (3) (88)54 XXXII. 454.

Malaria.

The Santa Cruz (1) Islands, especially Vanikoro, the most southerly of the main group, is covered with dense forest and is said to be very malarious. The native population is small. Similarly at the Banks Islands (2) and the New Hebrides Group malaria is one of the most common of the prevailing diseases. New Hebrides has an evil reputation for fever, being unsurpassed probably in the whole of Polynesia, both for the frequency and severity of the attacks. One author writes of "cette fameuse fièvre des Neu Hebrides." As in New Guinea, there are certain seasons during which the fever is quiescent but during the rainy months there is a marked increase in the number of cases. Even during the dry season the natives are subject to mild attacks, and Dr. Daville who had under his care seventy black labourers at Port-Vila noted thirty attacks of fever among them during the dry season (July to October), the patients recovered after two or three days rest. We find in these islands the most favourable conditions for ague,—swamps, damp-ground, abundant rain, high temperature and sudden changes in the winds. Simple intermittent fever, continued fever, and cachexia are the common forms in the New Hebrides, particular-

(1) (89)₆₂ 448.(2) (87)₂ 168.

Malaria.

ly the two latter, which are also the most serious, owing to the anemia and other conditions set up. The mild intermittent fever is merely a preliminary stage leading to the continued form, which is often difficult to diagnose from typhoid. In a general way the fever in this group of islands conforms to the ordinary type, characterised by the three stages of cold, heat and **sweating**. The special character of the fever being its relative mildness, the absence of any really alarming complications. Among the rarer and irregular forms of the disease which have occasionally been observed in the New Hebrides are the syncopal form of which Dr. E. Daville⁶ saw only three cases in two years, all three being in natives of the islands. In the three cases the symptoms were the same, "sudden fainting with a feeling of great pain in the region of the heart, rapid discolouration of the tissues, and almost instantaneously a state of apparent death, followed by exceedingly profuse perspiration, then instead of feeling well, the patient is much depressed, prostrated, thoroughly worn-out, and has a sensation of great thirst." Other irregular types are also found, and neuralgias, febrile insomnia, and neuritis are occasionally met with. The fever in the New Hebrides is complicated, during the

Malaria.

cold stage, by constipation, the contrary is the case, according to Davillé⁽¹⁾ in Cochinchina where severe diarrhoea and vomiting are the rule. Very considerable enlargements of the spleen are seen, particularly among the white residents. All the islands of the group seem to be equally insalubrious, and natives coming from other parts of the Pacific seem to be equally susceptible to the disease as Europeans. Early during this century a gang of Hawaiians and Rotumans were landed at Erromanga⁽²⁾ (N.H.), soon they were all attacked by intermittent fever, several died daily, and out of the party of one hundred and twenty Sandwich Islanders only a boy and a woman lived to return to Hawaii. This would seem to indicate that even black races coming to malarious districts are not always immune. At Tanna (N.H.) too, fever is common, and an especially severe outbreak to have occurred there about the year 1844. In marked contrast to the above mentioned group is New Caledonia which is noted for its remarkably fine climate and all writers on that country are loud in their praises of it, rejoicing especially in the remarkable absence of Malaria. This has been attributed to the presence of the niaouli (a species

(1) (89)₁₀₆. Ch. XIII.

(2) Asiatic Journal 1832, P. 128.

Malaria.

of eucalyptus), and Dr. Maurice Vincent(1) has observed since 1890, that malaria has appeared in those places where these trees have been destroyed. Thus we must now include this district among those known to be malarial, but at the same time it is necessary to draw attention to its great rarity. In the Florida(2) Islands at Tavaniahia on the west coast of Maramasiki, the natives have built their houses well up on the hills because of the malaria which follows on a residence in the regions lower down and near the passage. Ships passing through this passage have become infected, both white and black passengers being attacked. Fiji(2) is comparatively free from malaria, and in the smaller islands the disease is never seen, but in the largest - Viti Levu - the fever is fairly common near the debouchure of the rivers; the attacks are mild. Intermittent fever, so common in groups further north, was unknown in Fiji, according to one author,(4) "until imported specimens of it began to appear." This, if true, is an important statement. Rotumah(5) a British possession to the north of Fiji is during the rainy season unhealthy, Romilly lived there for

(1) Les Canaques de la Nouvelle Calédonie, p. 110.

(2) (89)

(3) (89)⁸⁵ 371. (87)₁₆ 6.

(4) (88)₉ 671.

(5) (89)³²₉₅ 104.

Malaria.

a time and he once described the life there as being in a vapour bath, it had rained incessantly for three weeks and every man on the island with the exception of himself had malaria. Wilkes⁽¹⁾ observed some irregular intermittent fever in Tonga and Martin⁽²⁾ describes it as consisting of a cold stage, not generally succeeded by perspiration. "The returns of the paroxysms are very uncertain; sometimes two, at other times three, four, or five or more days intervene. The patient is sometimes well for a month and then the disorder returns. The native name for this disease is Feke-feke. Samoa⁽³⁾ is reported free from malaria, as also are the Society Islands⁽⁴⁾ and the Gambiers.⁽⁵⁾ Thus we find the disease extremely prevalent in the island groups to the west of Oceanic, no important island being absolutely malaria free. As we progress eastwards among the islands of the southern Pacific the fever becomes milder and rarer, and very little occurs east of Long. 180°. Within recent times malaria appears to have become frequent in the Sandwich Islands - epidemics have occurred in some of the islands, of by no means a mild type. It is remarkable that

- | | | | | |
|-----|--------------------|------|-----|------------|
| (1) | (84) ₁₀ | 33. | (4) | Dutroulau. |
| (2) | (81) ₁ | 260. | (5) | Hirsch. |
| (3) | Wilkes. | | | |

New Zealand, having a temperature of about 60° Fahr. for several months, a considerable rainfall, much heavily wooded and uncultivated land, and in some places considerable areas of swamp, should be so free from malarial disease. People who live on the dampest soils rarely are affected with this fever, and Europeans who have contracted malaria in other countries are reported to have recovered after a few years residence in New Zealand. Before the arrival of the whites the Maoris lived generally on the higher lands and often on the sides of volcanic hills, but when peace came they preferred to settle in the valleys, and often built their houses on water-logged soil, in such cases "fever and ague" are said sometimes to have resulted. Tasmania is free from malaria and so also is the greater part of the continent of Australia, not the whole however for in some parts of Queensland, (Rockhampton⁽¹⁾ ^{Peak} Peak Downs District, Cook Town,⁽²⁾ Halifax Bay ⁽³⁾ &c.) the fever is sometimes severe. On the North coast in the Northern Territory at Ports Darwin and Essington it is also rife. We find malaria prevailing generally in the northern part of this Colony, on

(1) (86)₉ 24.(2) (88)₂₂ 370.

(3)

Malaria.

the eastern coast and in the Gulf of Carpentaria, and in those districts where the dense scrubs with rich soils are found, as well as in the low lying marshy country. In districts where malaria was scarcely or never known, it appears when the soil is worked for the first time. On the Johnstone River in the early days of settlement before the dense scrub was cut down, malarial fevers were prevalent, and a considerable number of Europeans died there, or were invalided in consequence; but as the ground became cleared, so this fever became ^{of} a mild type and less prevalent. The same also applies to Gairns; malarial fevers are the prevailing sickness in the Gulf of Carpentaria. The proportion of fever cases treated in the Burke District Hospital, to all the rest has been for the past three years about one to four.

Queensland ⁽¹⁾ though generally healthy yet at each new settlement malarial fevers prevail for a time, especially in the north, and as the country becomes more fully occupied and drainage and clearing extend, the fever line is found to recede, and many places at one time deemed most unhealthy are now found to possess a reputation for salubrity. At Cooktown ⁽²⁾ an outbreak usually occurs when the rainy season.

(1) (86) 24.
 (2) (88)₂₂ 370.

Malaria.

sets in. "It appears more like an epidemic," and, "it is pitiable to see men, women and children hardly able to crawl about - it is a surprise to see a healthy person." So writes one author. The prevailing form in all parts of Australia where the disease occurs appears to be a mild intermittent fever often of a low type. Mr. W. D. Wildey⁵ states that "Swamp fever and ague" are very prevalent amongst the Australian aborigines in the region of Port Darwin (N. Territ.). Other observers declare that the tribes located at the head of the Mitchell River,⁽³⁾ and the Cape River also are affected occasionally.

The preceding account of the geographical distribution varies rather considerably for those in many of the textbooks. Hirsch's account of the distribution in Polynesia is fairly accurate but not altogether. The appearance and increasing frequency of the disease in the Sandwich Islands, and the occasional cases in New Caledonia and New Zealand, also the great frequency of the disease, not only in New Guinea and New Hebrides but in almost all the intervening chain of islands are to be especially noted. Doubtless many parts of Australia have been rendered free from malaria by the action of the Eucalypts in draining the land. Nevertheless

"people get ague repeatedly while living in Eucalyptus forests." (1)

Etiology.

It is interesting to find malaria non-existent in many parts of Polynesia and Australasia where apparently all the conditions are present for its production. Even in adjacent islands resembling one another in every respect, it may be absent from one while prevalent in the other. In New Guinea and New Zealand, there are considerable areas of swamp land, but exposure in these districts does not seem to lead to attacks of fever. Mosquitos are very numerous in New Zealand but not in the Marquesas Islands - in neither does malaria prevail. In certain cases the disease appears to have been introduced by infected persons, it being absent from those islands previously. There is undoubtedly evidence of a very gradual spread of the infection eastwards through Polynesia from Melanesia.

Type.

In the New Hebrides group and in New Guinea while the mild form of intermittent or ague is common, yet the severer varieties, mixed forms, &c., are found as, bilious intermittent, haemoglobinuric fever, Syncopal and others, elsewhere in Polynesia, and the northern parts of Queensland, and the eastern and

Malaria.

northern coasts of Australia, the mild intermittent is the prevailing type. The commonest forms in Queensland are the intermittent, and especially the quotidian, also the tertian and quartan. Remittent and Typho-malarial cases also occur. The typical malaria, observed by Dr. White at Geraldton, is described as of a malignant nature, often fatal. The system of the patient appears charged with the poison, and the onset is sometimes sudden, at others there is a history of neglected intermittent or remittent. In most cases it has a tendency to run rapidly to a fatal termination. In the early days of settlement on the Johnstone River, when the malaria was at its worst, there were numerous cases in which jaundice supervened before death. The intermittent cases are usually mild in Queensland, the remittent more severe, and the typho-malarial decidedly fatal. From the latter death may occur on the second day, otherwise the patient recovers in two or three weeks, and is then apparently proof against malaria for a considerable time.

Race.

None of the natives in the malarial regions are immune, but generally, though not always, they suffer less. We have mentioned severe cases occurring in

Malaria.

the New Hebridean blacks, and the very fatal epidemic among the Hawaiians and Rotumans, who were engaged cutting the sandal wood at Erromanga, in the New Hebrides.

Malaria and Phthisis.

Early in the century Wells declared that malaria and phthisis were opposed to each other, and in 1856 M. Bedonine formulated his views as follows:-

(a) "That where malarial endemic fevers are prevalent, phthisis is rare, and that the frequency of one class of cases is universally proportionate to the other;"

This is most decidedly the case in Oceania - phthisis being rare in those districts where malaria is so common - on the other hand, among the natives of Southern Polynesia and New Zealand as well as Australia, in districts relatively or absolutely free from the fever, phthisis is of extreme frequency. [§]

We have no proof however from these places of the other conclusions, namely (b) "that where malaria decreases, phthisis increases; and (c) that phthisis is more curable in malarious regions than in others." ⁽¹⁾

[§] It is important to note however, that the malarial district is inhabited chiefly by Papuans, who differ considerably as a race, from the Polynesians.

I N F L U E N Z A .

INFLUENZA.Native names:-

| | | |
|---------------|----------------------|-------------------|
| Tarutawhiti | (N.Z.) | "foreign disease" |
| Rewharewha | (N.Z.) | "epidemic" |
| Taiawa | (N.Z.) | "a foreigner" |
| Tarewha | (N.Z.) | "foreigner" |
| Mare | (Mor.) | |
| Inhailigidga | (Aneity.) | |
| Inheuligidjin | (Aneity.) | |
| papalangi | (Fiji) | "foreign." |
| Nruwi | (Narrinyeri, Anetr.) | |

The Polynesians, Maoris, etc., generally recognised the foreign origin of this disease as their names for it signify. Its introduction among them was so definitely connected with the visit of some ship that they readily recognised the source from whence the evil arose. The white man's gods were the cause of the illness - the Maoris attributed it to a "pakeha" or foreign god, called Rewharewha; the Tahitians viewed the missionaries as the murderers of their countrymen, under the supposition that the epidemics were brought upon them by the influence of these foreigners with their god. They did not scruple to tell them that He was killing the people; but that by and by, when Oro (their god) gained the ascendancy, they too (the missionaries) should feel the effects of his vengeance. The Tahitians accused the Spaniards

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of introducing a disease like influenza to their island, during the visit of a Peruvian ship as long ago as the interval between Cook's first and second voyages. When a person takes ill in Tanna, the first question to be decided is, whether the disease is due to nahak (sorcery) or is a "foreign thing" (Influenza, dyentery).

Epidemics of Influenza

among the Polynesians, Australians
and Maoris.

| | <u>Year</u> | <u>Area</u> | <u>Season</u> |
|-----|-------------|-------------------------|---------------|
| 1. | 1773-77 | Tonga. | |
| 2. | 1820 | Society Islands. | |
| 3. | 1821 | N. S. W. | |
| 4. | 1826 | Australia. | |
| 5. | 1830 | Samoa. | Sept. |
| 6. | 1836 | Austr. (N. S. W.) N. Z. | Oct. |
| 7. | 1837 | Samoa. | May. |
| 8. | 1844 | New Zealand. | Nov. |
| 9. | 1846 | Samoa. | |
| 10. | 1848 | Hawaii. | Jan. & Dec. |
| 11. | 1849 | Hawaii. | |
| 12. | 1852 | Austr. Tasmania. | |
| 13. | 1853 | Penrhyn Islands. | |
| 14. | 1854 | New Zealand. | |
| 15. | 1860 | Austr. Tasmania. | June - July. |
| 16. | 1863-4 | New Caledonia. | |
| 17. | 1885 | Norfolk Island. | |
| 18. | 1885-6 | Fiji. | |
| 19. | 1891. | Fiji. | |
| 20. | 1892 | Austr., Victoria. | |
| 21. | 1893 | N. Guinea. | |

Remarks on Influenza Epidemics.

(1). In Tonga there is a tradition of a destructive epidemic between the years 1773-77. The symptoms were severe headache resulting in death after a few days illness. It was called by them Gagan which means "headache." It seems probable that the disease was Influenza. (1)

(2). Concerning this outbreak in the Society Islands we have the following note - "a distressing epidemic, which spread through the whole group of islands and proved fatal to many people. It was a kind of Influenza, affecting the lungs and throat; many attacked with it lost their voice. This kind of calamity has been frequently experienced in the islands since they have been the resort of foreign shipping, though we are not aware that it prevailed before." (2) In these islands, according to the corroborative statements of Bennet and Ellis, influenza appears every time that a foreign ship arrives, and Williams and Barff have pointed out the striking fact that, in all cases, the strangers themselves have remained exempt or almost exempt from the epidemic. (3) A writer in the Asiatic Journal (3) quotes some remarks concerning an epidemic in New South Wales, and reported in the

(1) (89)₁₄₈. (2) (85)₁₀ 35. (3) (82)₄.

Influenza

Sydney Gazette, Aug. 1820. This outbreak which had some of the characters of Influenza occurred at a time when fine westerly winds, inclining to the southward, had been prevalent. It is described as a specific contagion. Its symptoms were strangely varied; in some instances it attacked in hectic cough, accompanied by acute spasm. In other cases it produced, as well as cough, a severe affection in the ear, with a pus occasioned by internal inflammation, extreme debility and pain. The natives were no less affected than the colonists, and one pointing to the N.W., confidently affirmed, that all distemper proceeded from that quarter; and, with equal confidence affirmed that whenever the wind should settle southerly, it would be all blown away, and health restored. Whether this was really Influenza or not we cannot say - it is certainly doubtful. (4) This is described as an "epidemic of influenza" which carried off many of the Australian aborigines. It seems to have had some connection with a hot northern wind, the symptoms were "violent head-aches, cough, sneezing and inflamed eyes," with rapid pulse and fever. (1)

(5) Turner⁽²⁾ refers to this outbreak and believes it

(1) (82)₃ 172. (2) Nineteen years in Polynesia, p. 536.

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to have been the first that occurred in the Navigator's Islands (Samoa). It prevailed directly after the arrival of the ships which brought the missionaries, during the Aana war. Ever since there have been returns of the disease almost annually. It is generally preceded by unsettled weather, and westerly or southerly winds. Its course being from east to west. The outbreak lasting for about a month and passing off as fine weather and steady trade winds set in. In many cases it is fatal to old people and those who have been previously weakened by the bronchitic and other common pulmonary diseases.

(6) Quoted by Hirsch, from the Lond. Med. Gazette, XX. 129. o

(7) This epidemic is said to have been universally severe and followed by death in very many cases. (1)

(8) The 1844 epidemic⁽²⁾ carried off multitudes of Maoris, many dying from exposure to cold while suffering from extreme fever. It is impossible to prevent them jumping into the nearest stream while suffering from a burning fever. At this period Taylor⁽³⁾ says "the same complaint was raging in all the Australian colonies, as well as in the various settlements of New Zealand."

(1) *ibid* p. 222. (2) (86)₂₆ 227. (3) (85)₇ 255.

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(9) A severe epidemic (Turner), during the months of Dec. and Jan. [Ⓟ] The Samoan Islands are yearly visited, during the wet season, (Oct. to April), with a severe type of Influenza. Sometimes it passes through the islands twice during the season. Its course is from east to west, and the greater part of the people are affected by it. From Nov. to Jan. 1847 the epidemic was very severe in degree and almost universal, and a more than usual number of deaths occurred. In a district of 2500 people there were 60 deaths, in other places a still larger proportion; while in many very few indeed died. The districts in which it was most fatal appear to have been those in which marshy ground and damp air were prevalent.

(10) In December 1848 influenza broke out suddenly among the natives and foreign residents of all the Sandwich Group of islands. This epidemic proved the longest and most severe of the kind which had ever been witnessed up to that time. (1)

(11) This year was called the year of death, Influenza, Measles and Whooping Cough, having swept off at a low estimate, 10,000 of the aborigines.

Ⓟ The Samoan Reporter. (1) (36)₂₂ and (38)₁₇ 31.

Influenza

(12) An interesting point about this, as about certain other epidemics to be referred to later, is the fact that as well as human beings animals of all kinds were also affected; dogs especially died in great numbers. (1)

(13) This appears to have been the first appearance of the disease among the natives of Penrhyn Island. The crew of the brig "Chatham," which was wrecked there in 1853, were the first Europeans to land on the island. About three months after their arrival an epidemic broke out among the blacks, and caused many deaths. The chief symptoms were high fever and intense headache, the disease being frequently fatal after a few days illness. The crew of the brig were quite free from such disease at the time, but later some of them caught the disease, apparently from the natives; the whites were not so seriously affected as the aborigines. (2)

(14) At the first outbreak in New Zealand, which was contemporaneous with a widespread prevalence of Influenza throughout Australia, the papers recorded that at this time immense numbers of fish were thrown up on all their shores; in a later epidemic among the Maoris the illness first attacked poultry, and pigs, and dogs,

(1) (86)₁₂ 257. (2) (89)₁₄₃.

Influenza

later causing many deaths in the native villages - which always swarmed with dogs and poultry. (Lady Barker).

(15) The type in this epidemic was Nervous - respiratory, and in Tasmania the disease was particularly widespread and fatal. (1)

(16) Quoted by Hirsch from Arch. de Med. nav., 1866. V. 23.

(17) The disease was very widespread at Norfolk Island in 1885. The Rev. A. Penny⁽²⁾ reported nearly every one ill and the epidemic as a very severe one: "in some cases pleuro-pneumonia set in and ended in very rapid death."

(18) Influenza, Dysentery and Dengue prevailed and together caused a thousand deaths. (3)

(19) Fifteen hundred fatal cases from Influenza and Whooping-cough were reported during this outbreak.

(20) We are not sure that the aborigines were affected by this epidemic. The Europeans in Melbourne suffered severely and "it seemed to be due in some measure to a change of the wind suddenly from North to South, or south-west," such a change being not infrequently followed by outbreaks of influenza.

(1) (86)₁₂ 257. (2) Ten years in Melanesia.

(3) (89)₁₄₈

Influenza

(21) Chalmers reports many deaths having taken place in the gulf of Papua during this, apparently the first recorded outbreak in New Guinea.⁽¹⁾

Influenza like measles attacked these native races with great severity, proving rapidly fatal in many thousands of instances, in Polynesia, Australia, New Zealand, and Melanesia. The natives of these places suffer more distress from the disease than do Europeans. They always complain of great headache, and the Maoris have called it "the head-splitting disease." The lungs also are often affected very much, especially at the beginning of an attack, there being a great deal of dyspnoea with rhonchi and râles, and high temperature, 103° or 104° Fahr., and Dr. Bowe⁽²⁾ reports that when they (melanesians and polynesians) were attacked at their work they are often seen "gasping for breath," and then they throw themselves down and say they are "close by dead." These people generally recover speedily.

In Western Australia an outbreak occurs twice a year, at the change of the season, from summer to autumn, and winter to spring. Amongst the aborigines it is very fatal, but the whites do not suffer so

(2) (89)₁₃₅. (2) (88)₄₄ B-60.

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severely but it invariably runs through the whole length and breadth of the Colony, attacking even isolated stations in the bush. (1)

Treatment.

The Fijians sought relief by drinking plenty of warm water, rolling themselves up in mats, and laying down in their houses. The headache was also treated by cutting the forehead with sharp shells or obsidian, and the fever by jumping into the sea or some river. When the Influenza was very rife in the north island of New Zealand, one of the Maori tohungas (medicine-men) gave out that he had found a cure for the "head-splitting disease," as it was called.

It was a compound of roots, bark, and leaves of trees, with certain shrubs burned together, the ashes of which were kneaded into a paste with hog's lard. This he sold to his countrymen in balls the size of a common marble, charging thirty shillings for each. They were bought with avidity by timid persons, who when they felt the least pain, in any part of the body, made an incision in that part, and rubbed a portion of the compound into it. It was astonishing, says White, to see how many cures were effected by it amongst those in whose imagination alone the disease had existed.