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RAROTONGA IN 1887:  
A HISTORICAL GEOGRAPHY OF AN ISLAND IN TRANSITION

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE  
UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN GEOGRAPHY

MAY 1973

By

Alexander H. Spoehr

Thesis Committee:

R. Warwick Armstrong, Chairman  
Abraham Piianaia  
Peter Pirie  
Allan Sommarstrom

DECLARATION

This study concerns the island of Rarotonga in the year 1847, and  
your interest may arise in Edward Shortland, Captain of Her Majesty's Ship  
Hercules, who in 1847 procured a British Protectorate over the islands  
of Rarotonga, Mangaia, Aitutaki, Mooki, Pitikau, and Uarua in the Cook  
Group.

We certify that we have read this thesis and that in our  
opinion it is satisfactory in scope and quality as a thesis for the  
degree of MASTER OF ARTS in GEOGRAPHY.

THESIS COMMITTEE

- R. W. Armstrong D.F.F.  
Chairman
- Abraham Tiauaia
- Allen Somnerston
- P. N. D. Pines D.F.F.

DECLARATION OF AUTHOR

I, the undersigned, do hereby declare that the  
above is a true and correct copy of the  
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that which was read to the Examiners.  
I declare that the above is a true and  
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as submitted to the Examiners, and that  
it is the same as that which was read  
to the Examiners.

## PREFACE

This study focuses on the island of Rarotonga in the year 1887, one year before the arrival of Edmund Bourke, Captain of Her Majesty's Ship Hyacinth, who in 1888 proclaimed a British Protectorateship over the islands of Rarotonga, Mangaia, Aitutaki, Mauke, Mitiaro, and Manuae in the Cook Group.

The records and literary accounts for Rarotonga during these early years are scattered throughout the world and without the help and advice of many people from institutions in Australia, England, Hawaii, New Zealand, and the Cook Islands, this study could not have been completed.

Special mention and thanks go to: Mr. George Cowan, Survey Department, Cook Islands; Miss Irene Fletcher, Librarian, Congregational Council for World Mission (LMS), London; Mr. William Hosking, Agriculture Department, Cook Islands; the Hon. Mr. J. MacCauley, Judge, Land Court, Cook Islands; Mr. Rangi Moekaa, Education Department, Cook Islands; Mr. W. H. Percival, Editor, Cook Island News; Mr. Nia Rua, Cook Islands; and Mrs. Carmen Temata, Librarian, Cook Islands Library and Museum Society.

### RAROTONGA TE ENUA

Rarotonga te enua tei tauria ia  
E te au manu o te reva e  
Kua riro Rarotonga ei metua no te au  
Pa enua i tai mai nei  
Aere mai  
E tama e maina  
Ki te tauranga  
Ki te tauranga o te manu  
Aue te tiare manea o te Kuki Airani  
Rarotonga nui maruarua e.

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## INTRODUCTION

During the last decade there has been an increasing emphasis placed upon the quantitative approach in geography. This development has occurred not only in the geographic field but in all the social sciences as well.

Within the wide spectrum of geographic study, perhaps one area lends itself least to these developments: that being historical geography. By its nature it depends a great deal on contemporary qualitative material which, while it may not be suitable for regression analyses, is nevertheless just as important to the historical geographer.

Man has been describing and passing information on to younger generations about his world since his awareness of it. With the advent of writing, it has become possible to describe situations and have them "live" indefinitely for future generations to study and ponder.

The historical geographer studies these past situations and "happenings" in the belief that, by doing so, a better understanding of current situations can be grasped. While the historian is concerned specifically with dates, events, and personalities, the historical geographer goes further. He investigates the relationships which each of these has to the land or region and their influences upon it.

This century has seen many excellent studies in historical geography. The work of the Englishman Henry Darby and his Domesday Geography of England (Cambridge, 1952-67) in five volumes must rank as one of the major historical geographies in the world. New Zealand and the Pacific area has been brought into focus through the studies of Kenneth Cumberland (New Zealand Topical Geographies, Christchurch, 1965-67) and more recently Ron Crocombe (Land Tenure in the Cook Islands, Melbourne, 1964). In

the United States there has been the work of Ralph Brown (Mirror for Americans; Likeness of the Eastern Seaboard, 1810, New York, 1943), Thomas Clark (Pills, Petticoats, and Plows; the Southern Country Store, New York, 1944), and Warren Tryon (A Mirror for Americans; Life and Manners in the United States, 1790-1870, Chicago, 1952) as they, too, have captured past glimpses of history.

This thesis is an attempt to capture a past glimpse of life on a small Pacific Island in 1887. Rarotonga was chosen for this study as very little previous work concerning this island has been done. Primary resource materials were extensively used. The missionary writings of Buzacott, W. W. Gill, and Hutchin were all consulted; their letters, journals, and reports offering many insights into 19th century island life. The writings of other contemporary island people, traders, politicians, and the islanders, themselves, offered some counterbalance to the missionary bias. Also of interest were various eyewitness accounts of visitors who periodically passed through the island on their way to New Zealand, Tahiti, or California. Finally, the scientific studies relating to Rarotonga by Bellwood, Crocombe, Grange and Fox, Wood, and others provided a knowledgeable framework in which to work.

The Cook Islands lie between 8° and 23° South Latitude and 156° and 167° West Longitude and are a collection of fifteen atolls and volcanic islands and islets comprising a total land area of 93 square miles scattered across 751,000 square miles of ocean.

The islands themselves are divided into two distinct geographic regions; the Northern Cooks and the Southern Cooks. While the Northern Group is a collection of atolls, the Southern Group is a conglomeration of different island formations including one atoll, two near atolls, four raised coral islands with volcanic cores, and one high island. It is the high island,

Rarotonga, situated at 21° 12' South Latitude and 159° 46' West Longitude, with which this thesis is concerned.

As all historical geographies need a focal point in time, 1887 was chosen. Historically, this year was far enough advanced from initial European contact that influences wrought by that contact were clearly visible. Also, politically, this was the final year the island was an entity unto itself. It was a free and self-governing island. On September 22, 1888, a British Protectorateship was established and the sovereignty of the island began to fade.

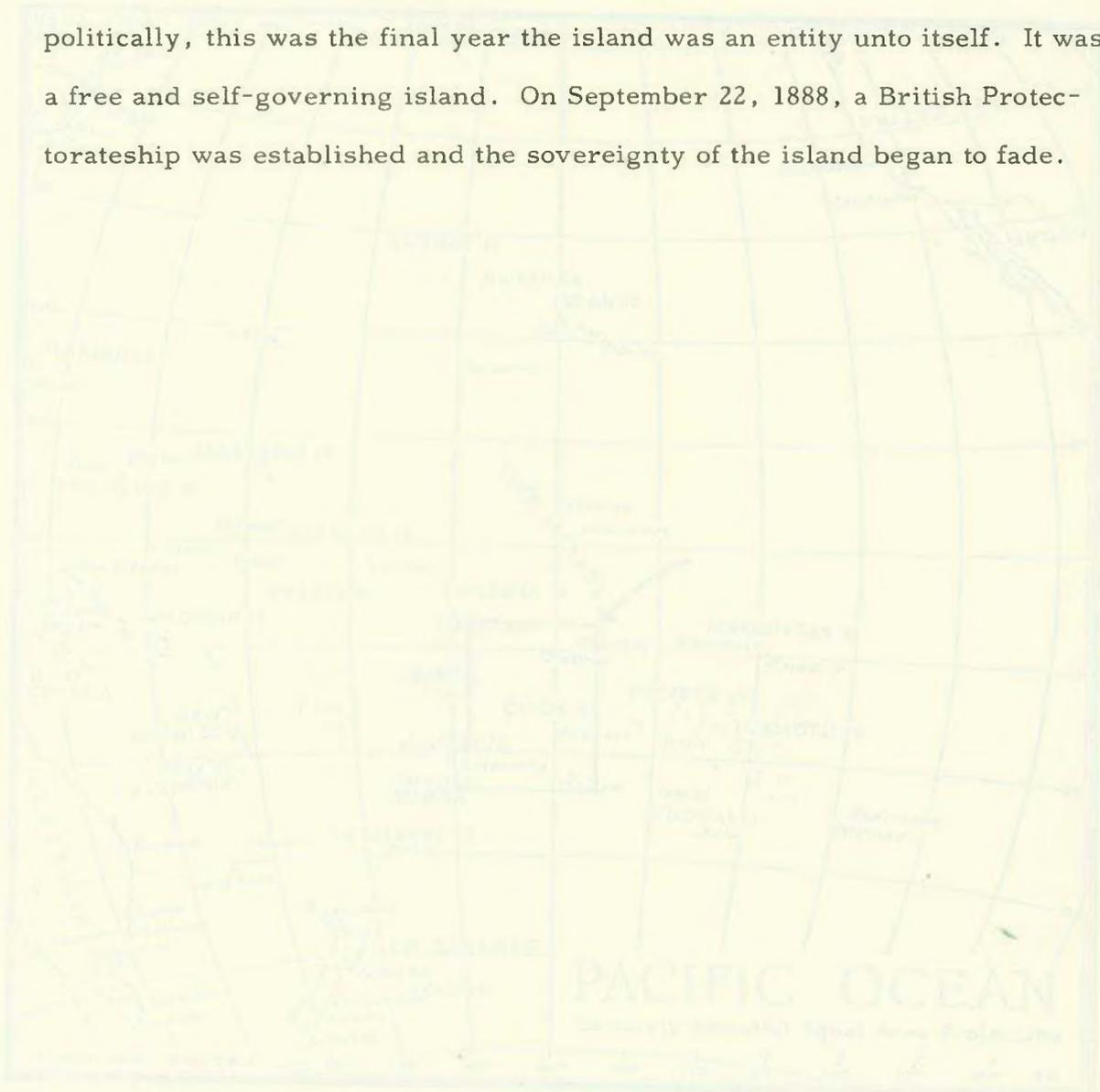


Figure 1  
Pacific Ocean

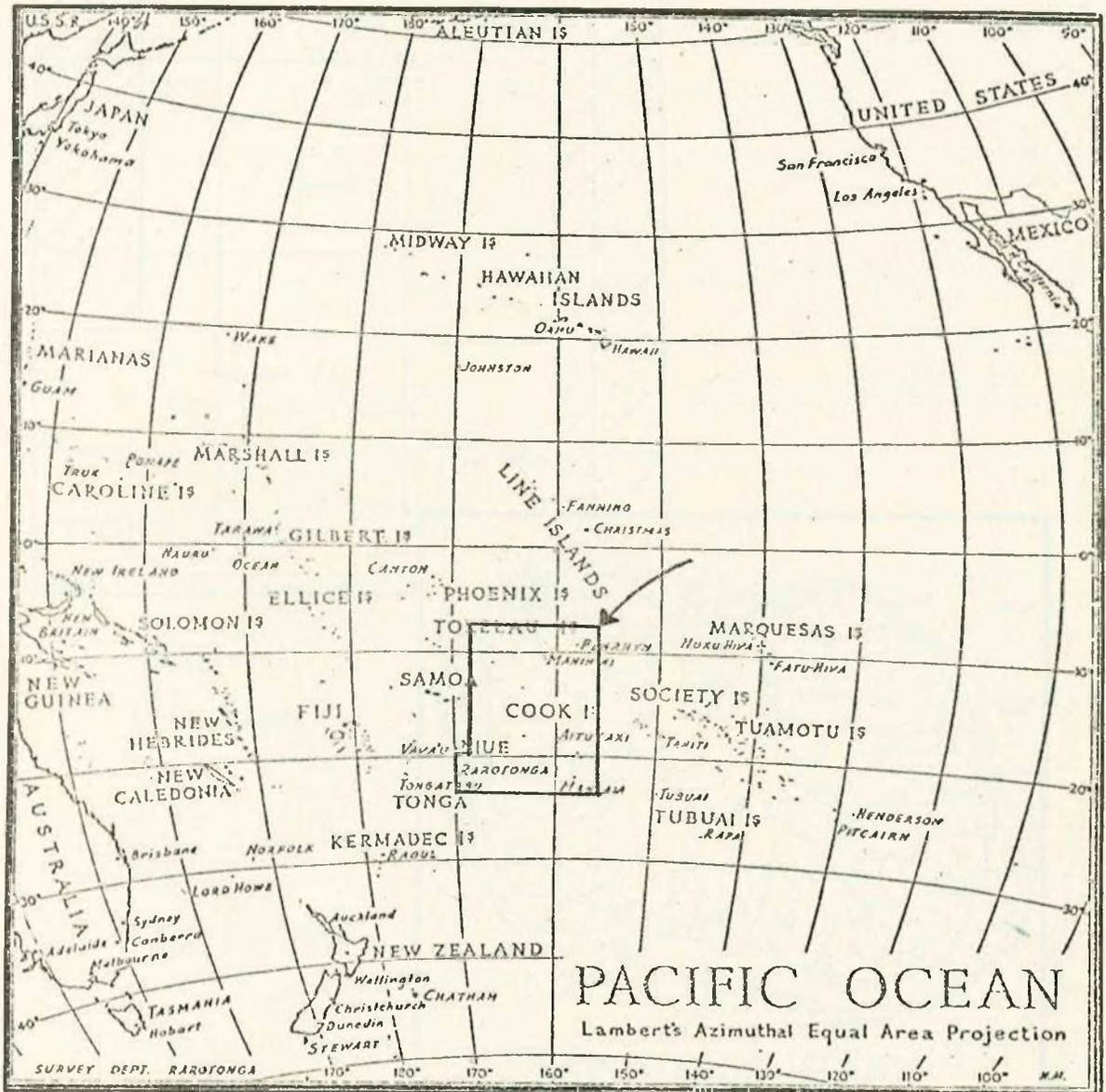


Diagram 1

Pacific Ocean



## CHAPTER I

## THE PEOPLE

The composition of Rarotonga's population in 1887 was similar to that of other small Pacific Islands in the late 19th century. The majority of inhabitants were islanders from Rarotonga and her neighboring islands. As in Tahiti and Hawaii, a small but gradually increasing foreign element had also found its way to the island's shore.

Traditional accounts of Rarotonga's settlement extend back to the 9th century when the first of three major migratory waves of people landed on Rarotonga. These first inhabitants, known as the "Tangata Enuā" (People of the Land), have left little in the way of historical record, however, the Ara Metua (the Old Road) is a legacy to their past presence. This seventeen mile road which at one time circled the island is still in use today, remaining as a viable monument to these early inhabitants. It is not known from where these early settlers came, however, most legends identify their homeland as "Iva," an island which may have been in the Societies, the Marquesas, or Samoa. Most historians agree that by A.D. 875, these early peoples were living on Rarotonga in relative tranquility. (Gosset, 1940; 6)

A second migratory wave of people led by the warrior Tangiia landed on Rarotonga about A.D. 1200. He and his followers journeyed from Raiatea and succeeded in finding Rarotonga on their second attempt; their initial course taking them too far to the south. Because of this failure Tangiia named his newly found island "Rarotonga" (Raro=below / tonga=south).\*

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\* Rarotonga has been known by other names which include:

1. Te Pukai Tangitangi o Papa ("The Ever-Listening Ears of Mother Earth")
2. Nuku-tere ("Floating Island")
3. Tumu te Varovaro (Reference to an early chief who settled on the island)

The Tangata Enuā fought Tangiia and his settlers and probably would have defeated them had not there appeared a third group of migratory peoples under the leadership of the warrior chief Karika.

Karika joined with Tangiia and together they defeated Rarotonga's original settlers. Karika and his canoes had sailed from Manu'a in the Samoan Group and somehow rendezvoused with Tangiia at Rarotonga. Their meeting at Rarotonga has given rise to many speculations about the two warriors. Karika may have known of Rarotonga's existence earlier and attempted a deal with Tangiia by asking for his assistance. Whatever occurred, these early voyagers and their accomplishments remain alive in the island's legends.

The complete story of Rarotonga's European discovery has yet to be told. On July 25, 1823, the missionary John Williams accompanied by his Tahitian understudy Papeiha landed on the island. Others, however, preceded them. Local historians have recorded visits of the Bounty in May 1789, the Seringapatam in May 1814, and the Cumberland in August 1814. (Gosset, 1940; 1-15)

Captain James Cook never viewed Rarotonga despite his extensive exploration in the area, discovering and charting the islands of Manuae, Mangaia, Atiu, and Takutea, and despite Rarotonga's comparatively large size and height.

After 1823, the missionaries gradually gained prominence in local society. They encouraged the islanders to plant and trade with whaling and trading vessels which occasionally put in for supplies. Some who manned these vessels jumped ship and settled on the island. Others not so fortunate still left their mark on the island. Gradually European, Asiatic, and Negroid strains were introduced into the island population.

Of the 2,000 people living on Rarotonga in 1887, only a small portion were of foreign extraction and most of these were Europeans. Ex-sea captains, settlers, traders, and merchants from England, New Zealand, the United States, and Germany accounted for most of the European residents who preferred to make their home in the Avarua area as it was the center of commerce and trade; professions in which most were engaged.

The Chinese arrived on Rarotonga in the late 1870s and early 1880s. Most had ventured from California or Tahiti and, taking local wives, established themselves in the community as planters or proprietors of small shops around the island. A glance at the receipt book of one of the early trading firms in the 1880s renders the names of "Ah Men" and "Ah See" as having two of the more active accounts. (Factorei Societe Commerciale, 1882-1884)

A few black seamen and many of their white brothers serving on American whaling ships also found Rarotonga's shores very inviting and left as fond remembrances island children with mixed heritages. By 1887, most of the whalers had long departed though a few still continued to live with their local families on the island.

Generally, when compared with their compatriots in Tahiti and Hawaii, the behavior of Rarotonga's foreign population was exemplary. Their numbers were always small, and they maintained a healthy respect for the strength of the local ariki (chiefs) and the church. In 1881, seventy foreigners were reported living on the island. (Gill, SSL, August 16, 1881) Within fourteen years that number would reach one hundred and forty-seven, an increase of 100%.

Indigenous populations have never fared well when infused with technically more advanced peoples from other cultural spheres. Besides the trauma of "cultural shock" there is always the more subtle danger of disease from

which the local population may have little or no immunity.

Rarotonga was no exception. Even though the London Missionary Society attempted to record annually the island's population, no count could be found for 1887. However, estimates given by people on the island state the population was between 1,800 and 2,000 people. (Exham, November 23, 1888; 32 and Kelley, 1885; 49) If the Rev. John Williams' estimate of 7,000 people for the year 1828 was at all accurate, this represented a population decrease on Rarotonga of 4,000 people in fifty-nine years.

While some might dispute the early estimates of missionaries elsewhere in the Pacific as being terribly inaccurate, Rarotonga presents a different case. The island's lack of size and the closeness of family groups would make it fairly easy for the Resident Missionary to keep track of the island's population, especially as virtually all the population lived in villages established by the missionaries themselves.

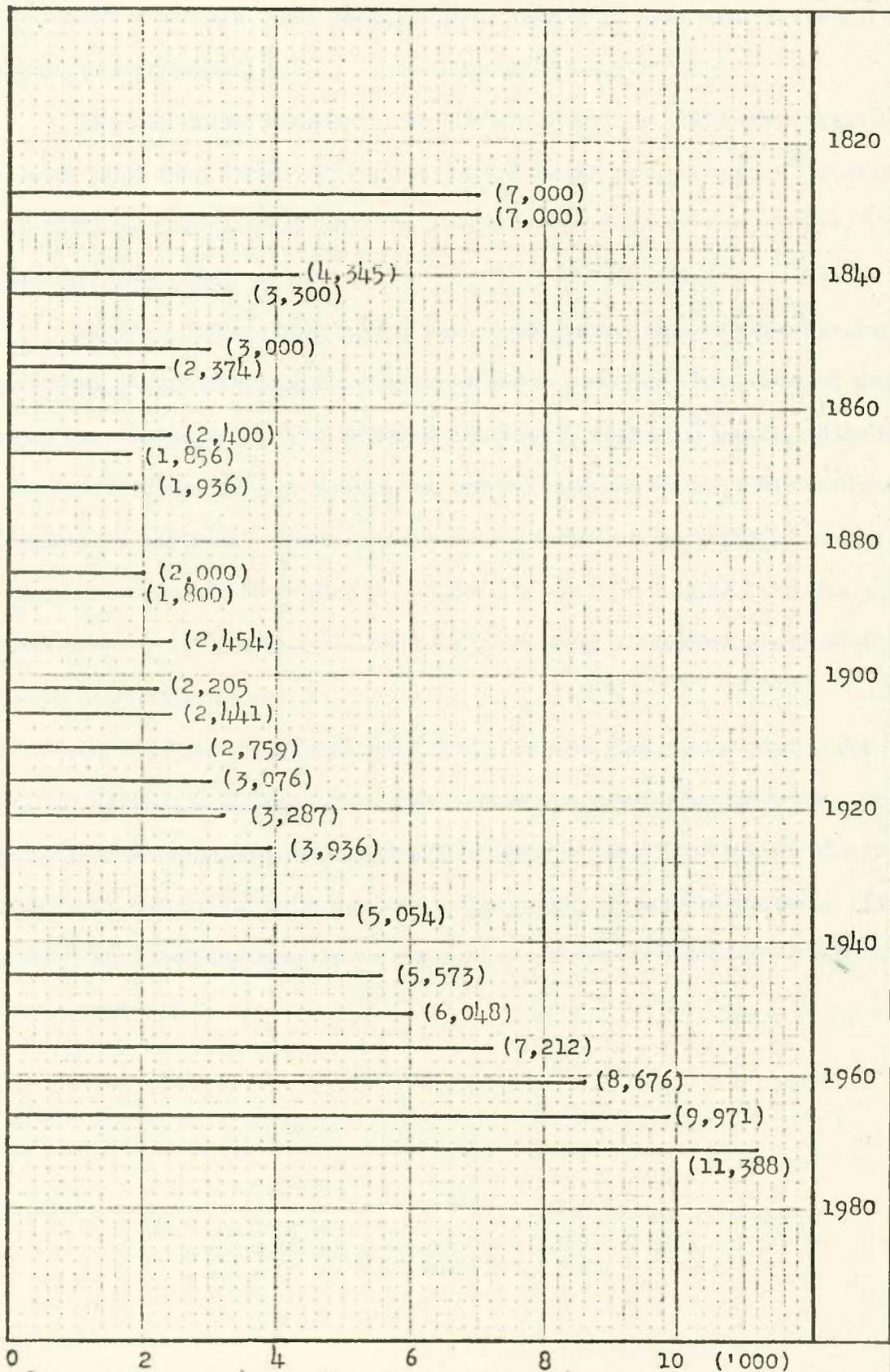
While the late 1880s and 1890s marked the nadir of Rarotonga's population, the years between 1831 and 1853 reflected the island's most drastic population decreases. Lack of immunity to introduced diseases and natural disasters contributed mostly to these decreases.

The early missionary journals frequently mentioned the havoc "hurled down" upon the island population from dysentery, measles, smallpox, whooping cough, and influenza. In 1887 Hutchin wrote the Society headquarters in London:

The number of deaths...largely exceeds the number of births; this is largely owing to an epidemic of whooping cough, which carried off a number of the young children. (Hutchin, 1888; 11)

Hutchin, himself, was touched by this statistic as his small son born on the 28th of September died three days later. (Hutchin, 1887)

Table 1  
Rarotonga's Population 1828-1972



Nature, too, played her part. Hurricanes in 1831 and 1846 destroyed many homes and crops. The people without houses or food soon weakened and were prone to disease.

The population declined at an alarming rate until 1853 when actually one more birth than death was registered (92 births as opposed to 91 deaths), "a circumstance so unusual, that it actually excited hopes for the future."

(Buzacott, 1866; 104)

Besides disease and "acts of God," emigration also affected Rarotonga's population. Many Rarotongans left the island as crew for short-handed ships during the whaling era. The Resident Missionary estimated that by 1849 close to one hundred Rarotongan youths had left the island from one district alone. (Beaglehole, 1957; 72) Year in and year out large numbers of Rarotongan youths in their prime continued to emigrate; some traveling to Australia, Hawaii, Japan, and Europe while others journeying to California and New Zealand in search of gold.

By 1887 this trend had slackened, but still many ships plying the Pacific had Rarotongans serving as crew. More and more islanders, too, were coming to Rarotonga from the neighboring isles in search for work. Mangaian and Atiuans quite frequently arrived to find work on copra plantations. This not only increased the local labor supply but also compensated for Rarotonga's population drain.

## CHAPTER II

### LAND, SOCIETY, AND VILLAGE DEVELOPMENT

#### 1. Land

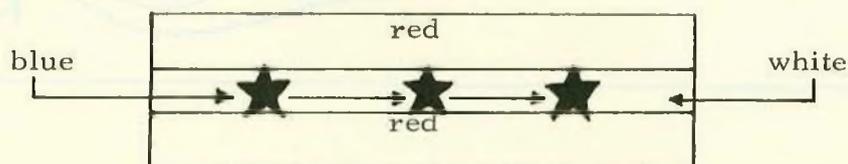
There are three major land divisions or districts on Rarotonga: Takitumu, Te Au o Tonga, and Puaikura. While their boundaries periodically changed prior to 1823, the missionaries soon stabilized them after their arrival. The boundary line between Puaikura and Te Au o Tonga ran from Tuoro ("Black Rock"), a large protruding outcrop on the coast, upland to the mountain peak Te Reinga o Pora, across Maungaroa to Te Rua Manga, where it turned southward towards the shore passing through a spot called Torea-iva at the coast. The Takitumu District shared one side with Puaikura while on the other, the line moved eastward from Te Rua Manga passing over Te Kou and Te Manga and dropping to the sea at Te Aka Rua. Te Au o Tonga filled the intervening void stretching from Te Aka Rua to Tuoro.\*

Within each of these large districts was a series of smaller land divisions known as tapere. Each tapere generally ran from the mountains to the sea and was under the control of a chief or mataiapo. In 1887 Takitumu had twenty-six such divisions, Te Au o Tonga nineteen, and Puaikura nine.

As each district was subdivided into tapere, so too was each tapere

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\*Rarotonga's National flag in 1887 possessed three blue stars in its mid-section; one for each of the three districts.



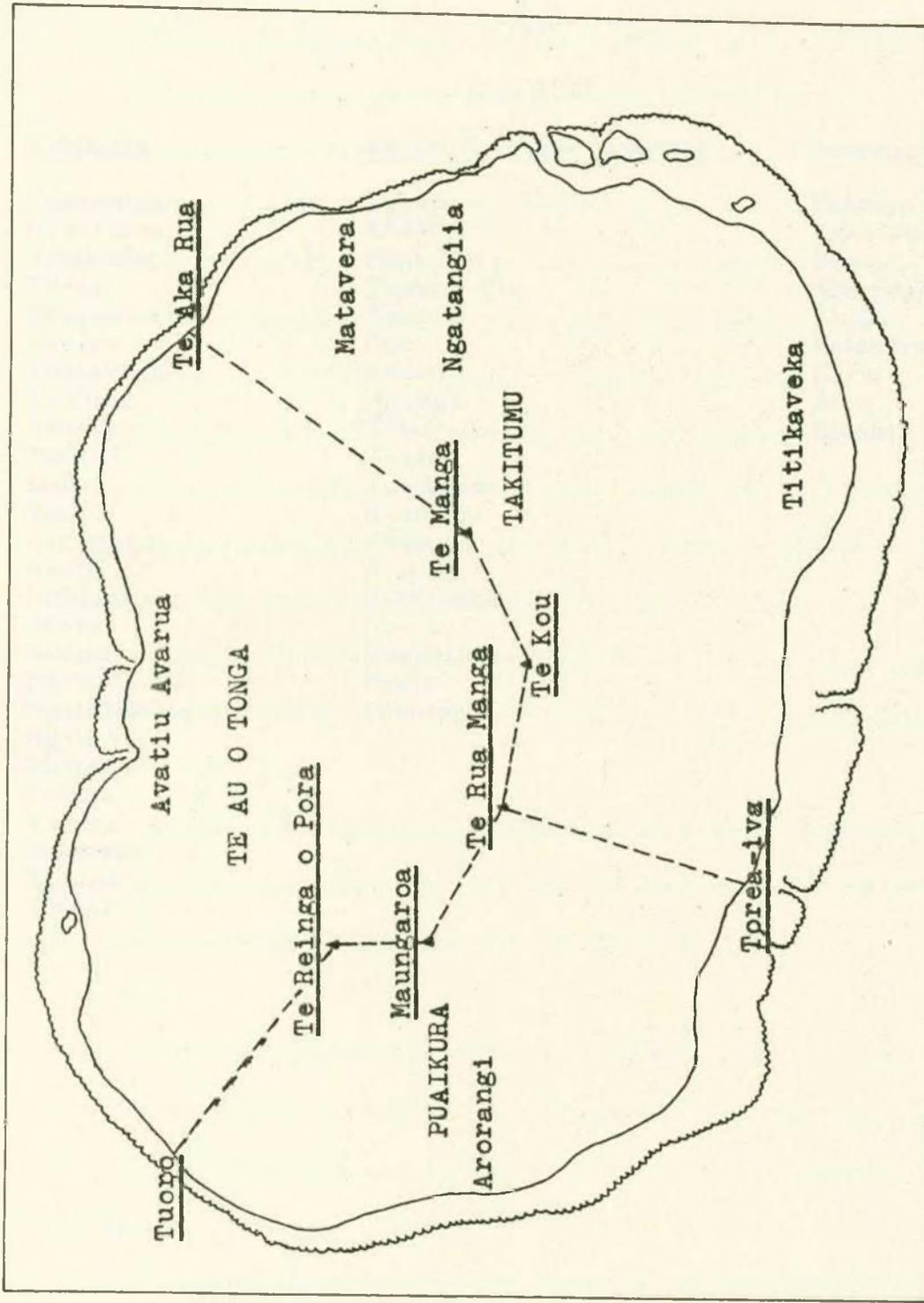


Diagram 4  
The Districts of Rarotonga

Table 2  
The Tapere Of Rarotonga

1887

## DISTRICT

<u>Takitumu</u>	<u>Te Au O Tonga (Avarua)</u>	<u>Arorangi</u>
Vaimaanga	Tupapa	Pokoinu Raro
Avaavaroa	Kiikii	Tokerau
Totokoitu	Puna-Tara	Inave
Turoa	Tapae-I-Uta	Arerenga
Arakuo	Tapae	Akaoa
Kauare	Pue	Vaiakura
Titikaveka	Vaikai	Kavera
Te Puna	Ngatipa	Aroa
Akapuao	Takuvaine	Rutaki
Tikioki	Tauae	
Maii	Tutakimoa	
Vaii	Ruatonga	
Aremango	Avatiu	
Areiti	Atupa	
Nukupure	Kaikaveka	
Aroko	Areanu	
Avana	Puapuautu	
Ngati Vaikai	Nikao	
Ngati Maoate	Pokoinu	
Ngati Au		
Turangi		
Pouara		
Vaenga		
Matavera		
Tupapa		
Titama		

subdivided into smaller units called kainga. With the ariki functioning at the district level, the mataiapo at the tapere level, and the matekeinaga, or relatives, of both at the kainga level, the whole system was neatly tied together.

All members of a tapere were generally granted free access to its uninhabited mountainous area as well as to its coastal reef and associated deep-water frontage. However, an ariki could at any time place an animal, area, or object under his direct protection by proclaiming a tapu (restriction) or by establishing a ra'ui (refuge). These traditional prohibitives restricted use and entry and remained in force until the ariki decided otherwise.

The present landholding system has been in effect since the early years of this century and the formation of the Cook Islands Native Land Court. The Court introduced new land laws based on the European experience in New Zealand with the Maori. It is interesting to note that these new laws have come to be identified as the "traditional" laws of the land by the island populace. (See Crocombe, 1961 for a full discussion of Rarotonga's landholding system and its evolution.)

In 1887 land ownership was still traditional to the extent that titled families maintained control. Women, too, had land rights before and after marriage as did their natural and adopted children.

## 2. Society

There were three major divisions in Rarotonga's traditional social structure; the titled, the untitled, and the slaves. The titled were all those with some degree of rank and generally included the older siblings of noble families.

The ariki titles were the most powerful and were associated with early migrational developments. The Pa and Kainuku titles of Takitumu were related to the arrival of Tangiia. His canoe was named "Takitumu" and all the

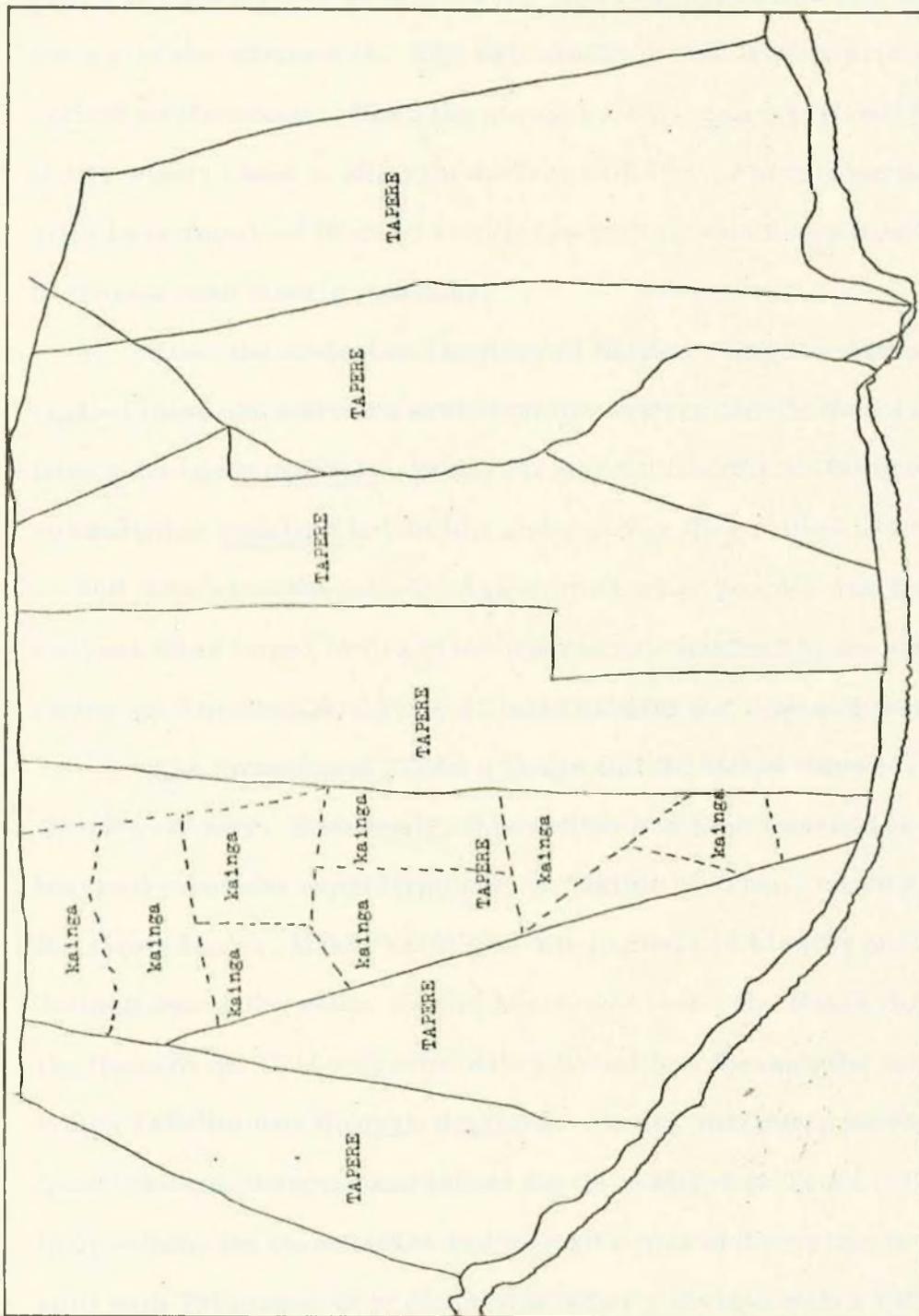


Diagram 5  
Rarotonga's District Land Divisions

members of his party settled in the district which now bears that name. The Pa Ariki line trace their descent back to a son of the Tahitian ari'i Iro. Iro's son, Pa, accompanied Tangiia on the voyage to Rarotonga and became an adopted son of the adventurer. The Kainuku line extends back prior to Tangiia's arrival on Rarotonga. When the voyager from the east arrived, the Kainuku family wisely chose to align themselves with him. Since those times, the two ariki have remained in close association with one another yet have continued to respect each other's autonomy.

After the arrival of Tangiia and Karika, refugees who had fought against these two warriors settled on the western side of the island. Years later a renegade mataiapo, Rongo'oe, was banished from Takitumu. He persuaded other mataiapo to join him and together they settled in what became a second district on the island. Again, the earlier peoples who had settled in the area were forced to flee to the mountains. Gradually, the area developed under the Tinomana Ariki into a viable district and a second power center.

The formation of Te Au o Tonga and the Makea titles occurred during the 19th century. Previously, this section had been awarded to Karika and his family and was considered part of Takitumu. Then, shortly before 1815, the area's leader, Makea-te-Pa-Tua-Kino, died and his title and lands were divided among the eldest sons of his three wives: the Makea Nui line descending through his first wife, the Makea Kariki line through the second, and the Makea Vakatini line through the third. Shortly thereafter seven mataiapo from Takitumu defected and joined the three Makea in Te Au o Tonga. By their action, the three Makea had enough power and prestige to successfully split with Takitumu. It is doubtful whether a divided Makea title would have lasted for long as jealousies and territorial desires among the three title holders were evident at the time of the missionaries' arrival. The mission-

aries, in their desire to keep the peace, solidified the status quo as they found it in 1823. Thus, the divided title survives to this day.

Politically and socially, the ariki wielded a great deal of authority and obtained their strength through the amount of land they controlled. The other major titles included: mataiapo, rangatira, komono, kiato, and ta'unga.

While political power was manifested in the ariki title, it was invested in the mataiapo who actually installed the ariki in his position and gave him their support. If a mataiapo disagreed with an ariki, he had the right to change allegiance though he risked not only his life but also his land which fell within that ariki's jurisdiction. Upon a mataiapo's death the eldest son usually assumed the title though it could be contested by younger or related children in the family.

The rangatira and komono titles were similar in that both were generally held by younger members of an ariki or mataiapo family. Expected duties accompanied each title. Upon accepting a rangatira title, the person was given a special name by which he was officially referred. A land allotment was also awarded to increase the mana of the title. Generally, the rangatira was expected to supply his ariki or mataiapo with food and offer his assistance if at any time it was needed. The length of a rangatira's service depended upon the whim of his appointer as the title was not hereditary. The komono title deputized its holder to represent with full authority the mataiapo at social functions. A land allotment was also customary and the komono was expected also to provide food if needed. This title could be awarded to persons outside the mataiapo's family if merit and circumstance warranted.

A fourth title, kiato, was used to designate members in an ariki's domain who had achieved honorable standing either through valorous deeds or loyal service. These people were usually the organizers of the community

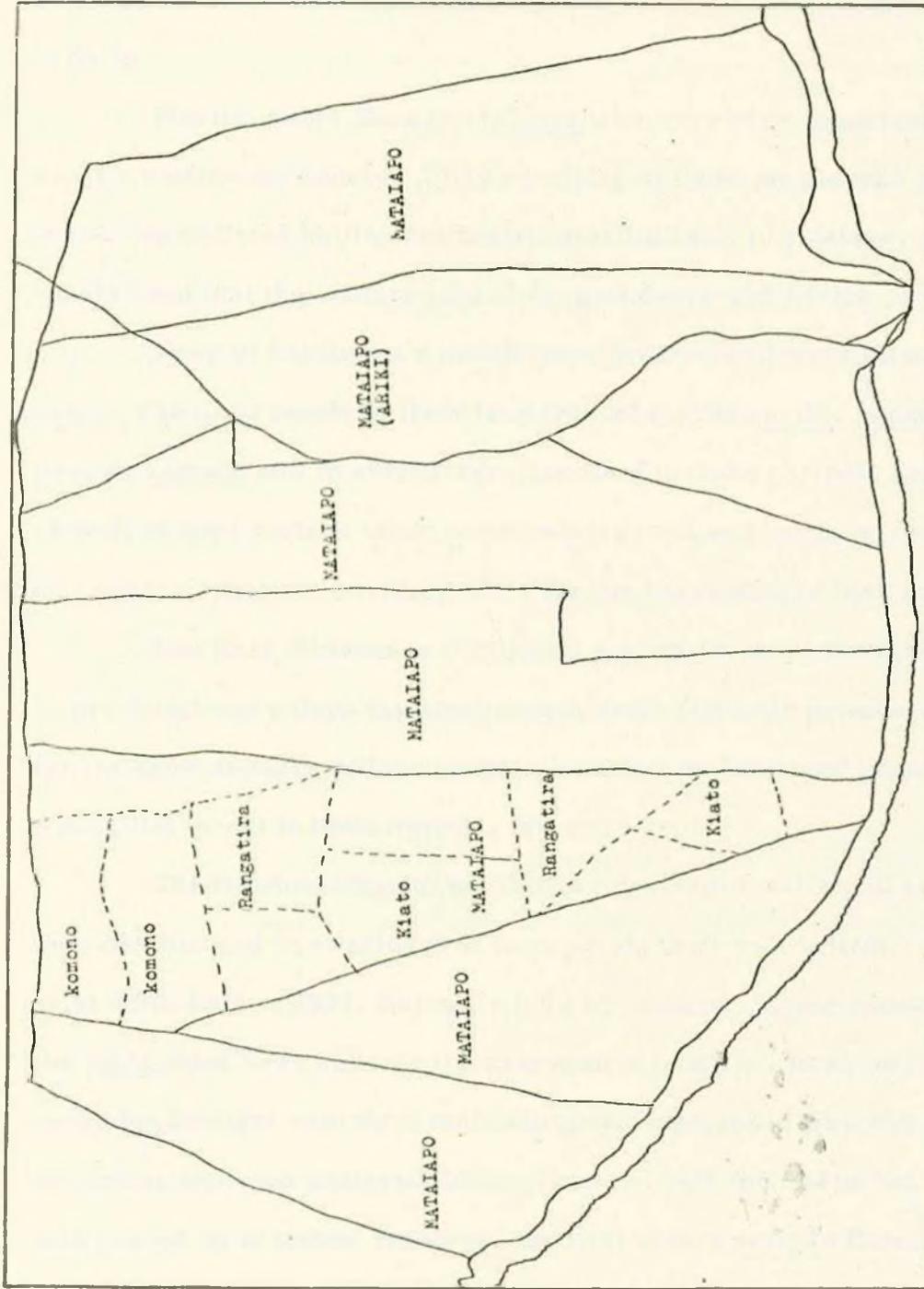


Diagram 6  
Rarotonga's District Social Titles of Land Ownership

and made the necessary arrangements which accompanied births, deaths, and marriages. Like other titles, land was awarded, but this title was not hereditary and usually was not passed on within the family unless there was cause to do so.

Finally, there were the ta'unga who were very important in Rarotonga's traditional society. They consisted of those people who possessed certain specialized skills; craftsmen, spiritualists, physicians, etc. And it was to them that the leaders turned for assistance and advice.

Many of Rarotonga's people were untitled and were referred to as unga. The unga received their land from respective ariki, mataiapo, ranga-tira, or komono and in return were expected to make periodic food offerings as well as meet various other requirements such as tending to needed repairs of a noble's home or providing labor for the harvesting of his crops.

The final division in traditional society involved the tuika'a or slaves. In pre-missionary days captured women and a few male prisoners were kept for the more arduous village tasks. However, as bonded persons presented a potential threat to their owners, few were kept.

The missionaries did not destroy the traditional social system though they did succeed in altering it to incorporate their own beliefs. Of the six ariki titles held in 1887, five were held by women. In pre-missionary days, the ariki titles were entirely the prerogative of males, however, the missionaries brought with them their European experience whereby the sex of an ascending monarch mattered little. Thus, in 1845 the Makea Nui Ariki title was passed on to Makea Tevairua, the first woman ariki in Rarotonga's history.

A second and perhaps obvious change which occurred after 1823 was the discontinuation of holding bonded men and women. As has already been

mentioned, this practice was never widespread on the island.

A final and again obvious change was the status and role of certain ta'unga. With the coming of Christianity and its island-wide acceptance, the role and status of the spiritual ta'unga disappeared. In his place the missionaries substituted the orometua, or village pastor. He was the Christian spiritual spokesman for the village and was usually from that village originally. He was provided with food and accommodation by the village people and functioned as an advisor to the ariki. He was also the London Missionary Society's link to the village and was directly responsible to the Resident Missionary.

Island society in 1887 blended islander, foreigner, and missionary. Of the island's six ariki, three dominated the scene: Makea Takau, Mere Pa, and Tinomana Mereana. All were women and the reasons for their dominance were numerous. Foremost was the mana of the titles they held. Of the six titles, these three commanded the most land.

Another factor was the strong will and physical presence of the three women themselves. One official remarked after meeting Makea:

Makea reminds one of Liliuokalani... Her presence commands respect, nay, even love; and that her dusky subjects do love her, combined with fear, there is no doubt because she has... the "evil eye," and can work mischief untold on those who displease her. (Wragge, 1906; 134)

As Makea was respected by her subjects so too were the other ariki by their people. This feeling gave rise to a strong paternal relationship between ariki and subject. Mere Pa, despite some land problems, remained fair in matters concerning her people, while Tinomana showed a great concern for her peoples' drinking problems. It was this concern which moved her to initiate the 1887 Drinking Codes. (See Appendix)

Economic factors were also involved. The three ariki controlled areas which could accommodate shipping, and shipping meant trade. Makea Takau

Table 3

## Ariki of Rarotonga

## I. ARIKI TITLES AT THE BEGINNING OF THE EIGHTEENTH CENTURY

A. Pa-Te-Ariki-Upoko-Tini

B. Kainuku

C. Tamaariki

D. Takaia

E. Makea Karika

F. Tinomana

G. Ta-'U'u-O-Te-Rangi

H. Arera

I. Io

## II. ARIKI OF 1887

<u>District</u>	<u>Title</u>	<u>Name of Title Holder (Sex)</u>
Avarua	Makea Nui	Makea Takau (f.)
	Makea Karika	Makea Karika Tavake (f.)
	Makea Vakatini	Makea Taniera a Makea (m.)
Arorangi	Tinomana	Tinomana Mereana (f.)
Takitumu	Pa-Te-Ariki-Upoko-Tini	Pa Upokotakau = Mere Pa (f.)
	Kainuku	Kainuku Pekarau (f.)

utilized the harbor facilities at Avarua and Avatiu. Her "Palace" was built on her grounds at Taputapuatea and as most visitors disembarked at Avarua, it had long been the receiving place for many dignitaries and visitors to Rarotonga. Mere Pa had a harbor at Ngatangia that was used when the others were too dangerous. And even Tinomana had an anchorage offshore at Aorangi which was occasionally used to bring people ashore.

Finally, the ariki chose their husbands well. Makea's husband held the major ariki title on the island of Atiu and was a leader in his own right. Mere Pa's husband, Opura, was the son of the early island historian and pastor, Maretu. He was described as a "determined and resolute, yet just man: a man of clear insight and strong will...a great help to his wife in carrying out the law of the land." (Hutchin, 1888; 8) Both were good husbands and consorts yet possessed strong minds which, among other things, commanded the respect of their wives.

In foreign matters Makea usually held forth as the island's spokesman. As early as 1844 her family as well as the other ariki petitioned Queen Victoria for British protection. Tahiti and other Society Islands had fallen to the French and the ariki, backed by the Resident Missionary, feared for Rarotonga's sovereignty. These early appeals met with little response and it was not until the 1880s that serious consideration was given to Rarotonga's possible annexation. The building of the then proposed Panama Canal put Rarotonga directly in line with trading lanes between New Zealand and the canal. It was argued that port facilities at Rarotonga would safeguard British interests in the Pacific and limit French expansion. The London Missionary Society, too, was still quite upset at "losing" Tahiti to a Catholic order and did not intend to have a similar situation occur on Rarotonga.



Figure 1  
Makea Takau



Figure 2  
Tinomana Mereana

In 1887, the anti-French mood was still strong. The ariki from far-off Rurutu and Rimatara in the Tutuai Group explicitly asked Makea to contact the British on their behalf and ask for immediate British protection. Britain declined. In 1885 Makea and her husband made an appeal for the establishment of a protectorateship over Rarotonga. The appeal was answered three years later.

The distinctly European foreign population was a small but increasing segment of the island's society. A few foreigners constructed large European-style homes in which were found all the accoutrements of their past life styles. Cutlery, large devon chairs, polished circular tables, wall mirrors, and large four poster beds were all necessary furnishings for such a surrounding.

Most socializing among the resident Europeans was done on Friday and Saturday nights when the men might gather and talk of the day's events and perhaps the island's future. One such group met at the home of Mr. Henry Nicholas and included such notables as Mr. Richard Exham, long-time trader and British Consul; Mr. Arthur Browne, the father of W. P. Browne who later introduced motion pictures to Rarotonga; Mr. Charles Ward, trader and future Postmaster; and Mr. Charles Banks, auditor and accountant for the firm of Donald and Edenborough.\*

Life was not so leisurely for other foreigners on the island. The Chinese had only recently arrived in 1887 and were not fully accepted socially by either the Europeans or the islanders. Many Chinese men took local women as de facto wives. The men worked hard and were quite successful managing small businesses and raising coffee and cotton for trading purposes. Such

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\* Banks, as a teller for Wells Fargo in San Francisco, absconded with close to \$100,000, fled to Rarotonga, married an Atiuan girl, and became a respected member of the business community.

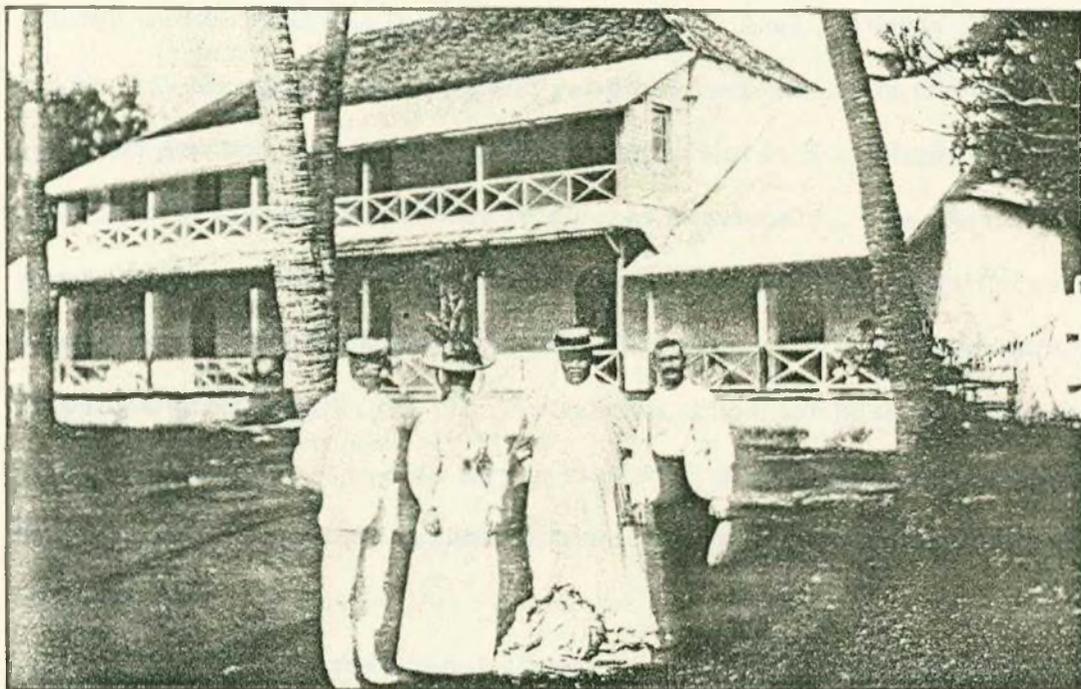


Figure 3  
Makea's Palace at Taputapuatea

households tended towards local ways of living as it was easier, less expensive, and more familiar to the woman of the household.

There was only one religion on the island-Christianity, and one denomination thereof-that professed by the London Missionary Society. At the head of the church hierarchy on Rarotonga was the Resident Missionary appointed by the Society's Directors in London. He was entirely responsible to the Society for church training and religious instruction on the island. In 1887 this position was held by the Reverend John J. K. Hutchin who had arrived with his wife and family five years previously. The missionary family was housed at Takamoa in Avarua in a large spacious house built of coral block. Under Hutchin's guidance the churches on the island conducted their programs successfully, the church training school for missionary work continued to produce young men for the ministry, and the island school system developed by the church continued to meet the educational needs of the island's children.

Periodically the London Missionary Society's sailing ship John Williams put into Rarotonga bringing with it supplies, church personnel, and mail from home.

Thus, the people on Rarotonga in 1887 were all part of a transitional society respecting local authority, observing Christian beliefs, and modeling itself on European standards. The people had their hopes, dreams, and desires; some would succeed and others would fail, but all were a very real part of the then contemporary island life.

### 3. Village Development

In 1887 the Avarua-Avatiu area was Rarotonga's largest village unit. Five other major villages dotted the island's coast line, however, none had experienced the same degree of development.

Modern village development began with the arrival of the missionaries in 1823. John Williams remained on the island only for a brief period but left his friend and pupil Papeiha to carry on in his absence. Papeiha attempted to establish a mission station and encouraged the people of the island to relocate and settle in the vicinity of the station at Avarua. However, political and logistic problems finally forced him to abandon his early attempts to bring the people together as a unit. Takitumu under Pa Ariki began to re-establish itself as the seat of island power, and many who had come to Avarua initially returned to their former homes in Takitumu. The Avarua people had also grown weary of the small settlement. As it was located in their district they felt honor-bound to supply the necessary food items for the people living in the settlement and shortly they found that their own supplies were almost completely depleted. As food became scarce, many of the settlers returned to their own plots around the island to collect and gather food for their families living in Avarua. Soon many opted to remain in their own tapere instead of making the arduous trips between planting lands and mission settlement. By 1827 when the first European Resident Missionary, the Reverend Charles Pitman, arrived, the Avarua settlement was but a small assemblage of people mostly from the district itself. It was not until the following year that the island's chief village designer arrived in the personage of the Reverend Aaron Buzacott.

Buzacott reflected prevailing contemporary attitudes of English society. England had given the world such men as Cook, Banks, and Watt, and while she had lost her colonies in the New World, other places yearned for her favor. She had defeated Napoleon on the continent and prided herself on her scientific technology. The future was bright for English civilization and all that it stood for; character with style, ritual with dignity, and order with purpose.

By 1831 Buzacott and Pitman had remodeled the Avarua settlement into a small village reflecting order and neatness.

A new chapel had been erected, of considerable elevation and superior construction...The schoolhouse stood by its side... At the back were two houses...the dwellings of the chief and the missionary...A wide pathway ran through the middle of the settlement, on either side of which stood the native dwellings. These with their windows and doors neatly painted, and with front gardens tastily laid out, and well-stocked with flowers and shrubs, gave to the whole scene an air of comfort and respectability. (Curson, 1968; 41)

Avarua's population continued to grow as more and more people forsook their homesteads and houses made from breadfruit and coconut trunk frames, walls of vertical slats of au, and roofs of kikau for coastal lots and houses of crushed coral block and lime. These new sturdier homes were built by communal effort, and Buzacott taught the villagers the art of their construction.

Many islanders from Puaikura also came to live in Avarua. Petty jealousies and intermittent periods of strife between them and the Avarua people, however, finally forced Buzacott and Pitman to advise Tinomana Ariki that a new settlement should and would be built in his district. The site was chosen and the new settlement, Arorangi, was successfully completed within a matter of months. Homes of coral block were built along a mile and a half stretch of straight road. Each home had its own symmetrical lot and was protected from the sea by numerous trees which girted the shore. A small church and school house were also constructed in the center of the settlement.

(Gill, W., 1856; 40)

Ngatangia developed as a small settlement soon after Pitman's arrival in 1827. He established a small mission station and chapel at the base of Ngatangia Harbor and began to encourage people to resettle near his mission grounds. Progress was slow, but gradually people began to filter down to the coastal settlement.

Table 4

## Rarotonga's Population: Pre-Contact - 1895

YEAR	POPULATION			TOTAL	REFERENCE
	Avarua	Arorangi	Takitumu		
Pre-Contact				34,000*	Davis, 1947; 215
1828				7,000	Williams, 1838; 19
1831				7,000	Buzacott, 1866; 103
1840	1,183	1,112	2,050	4,345	McArthur, 1968; 167
1843				3,300	Gill, W., 1856; 72
1851				3,000+	Gill, W., 1856; 107
1854	735	627	1,013	2,374	Buzacott, 5 Dec. 1854
1864				2,400+	Krause, 10 Apr. 1863
1867				1,856	Chalmers, 16 Nov. 1867
1872				1,936	Gill, W.W., 7 June 1872
1885				2,000	Kelley, 1885; 49
1888				1,800	Exham, 24 Nov. 1888
1895	1,102	540	812	2,454	Census, 1895

\* Davis qualifies this as being seemingly too high and perhaps a total pre-contact Cook Island figure.

In 1849 the people living in the northern tapere of Takitumu broke away from Ngatangia and established their own village, Matavera, complete with church. This happened again in 1854 when the eastern tapere incorporated themselves into the village of Titikaveka.

The Takitumu District is twelve miles long and the logistical problems associated with distance between agricultural lands and settlement were simply too great for it to endure as a single village unit.

Not until the 1850s did these villages begin to grow and expand. Epidemics and diseases, natural disasters, and emigration severely limited population growth. However, with the advent of merchants, traders, and whalers, the commercial port centers at Avarua, Avatiu, and even Ngatangia began to develop.

The villages had developed further by 1887. The Avarua-Avatiu village complex was the home of most of the Europeans on the island for land could be leased at Avatiu at low rentals and for periods extending up to thirty years.\* (Moss, 1891a; np) The island's major business firms rimmed the narrow crushed coral road that connected the two harbors. In Avarua Henry Nicholas's cotton gin as well as a lime juicing plant were located off the main road. Tucked along back pathways were small teashops and a full complement of illegal saloons and grog shops. Further on was Makea's Palace, Takamoa, the Avarua Church, and the school house. Bordering the road on both sides were dozens of uniform coral block houses, some in states of disrepair but most with well-kept and beautiful gardens.

Arorangi was the second most populated village on the island and was the home for many of the outer island laborers who worked on the district's

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\* Sections in Avatiu generally leased in half and full acre lots for C\$30 to C\$60 a year.



Figure 4  
Traditional Rarotongan House Made of Thatch and Bamboo Slats

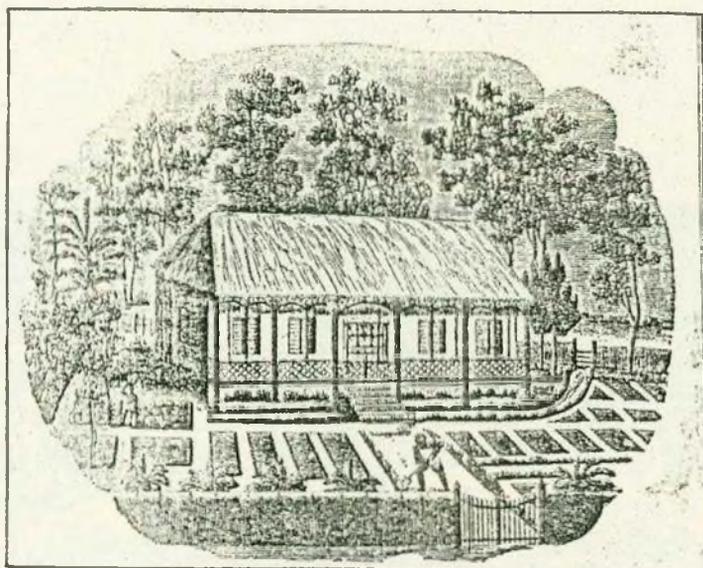


Figure 5  
Coral Block House Introduced by the Missionaries



Figure 6  
Typical European House



Figure 7  
Large Wooden House with Thatch Roof

cotton, coffee, and copra plantations. Otherwise, it had changed little since 1831 except for the addition of a well-kept walkway which extended along the road for the entire distance of the village. Tinomana Ariki's house, the Arorangi Church, and the school were the focal points in the community.

In Takitumu, Ngatangiia still had the largest population though it was not more than a third of that found in Avarua. Matavera and Titikaveka had experienced little change with both populations remaining small and clustered around their respective schools and churches. There was little of the hustle and bustle experienced in Avarua. The people tended to look after themselves and did not encourage foreigners to settle in their midst.

The villages were connected by a road system which circled the island. Travel had improved since the early days of 1823. Then the only major road or path was the Ara Metua or inland road. By 1887 the coastal road or Ara Tapu had established itself as the major road on the island. As villages were established along the coast, the older inland road became obsolete. More and more traffic travelled near the coast on a small path which began to grow. Gradually the coastal road developed until it connected all the village centers. Still, however, both roads were used, and one complete circuit of the island's 19.3 miles of coastal road took several hours by horse coach. Many smaller trails and paths led off from it, sometimes joining with the Ara Metua or meandering up the lush river valleys.

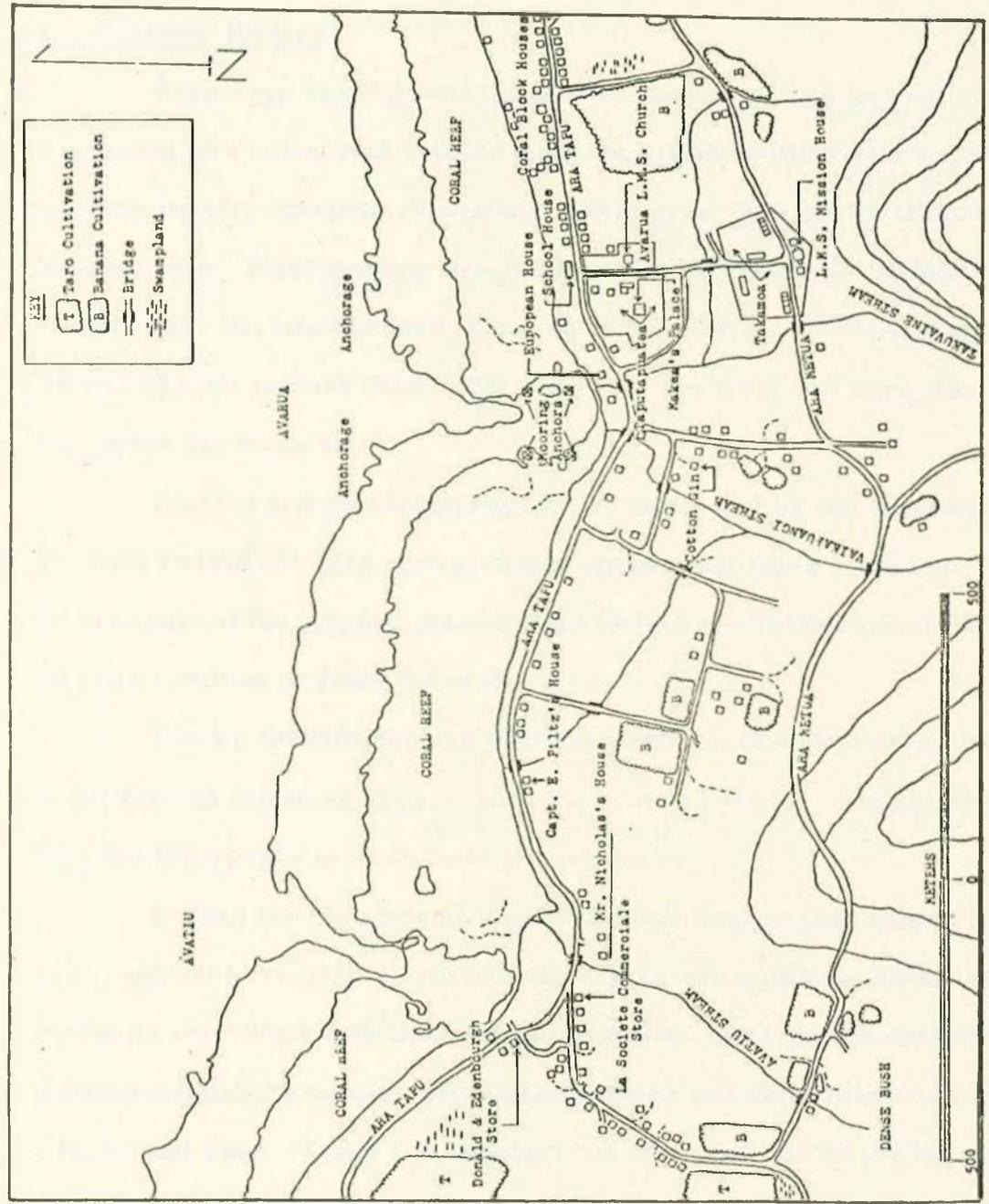


Diagram 7  
The Avarua-Avatiu Area in 1887

## CHAPTER III

### THE NATURAL ENVIRONMENT

#### 1. Geologic History

Rarotonga has followed the classic pattern of high island development. Beginning as a submarine volcano more than thirty million years ago and working its way upwards, the island slowly grew through the Oligocene and Miocene eras. First ejecting basaltic lavas and then during its final stages of activity in the late Pliocene changing to periodic phonolitic eruptives, Rarotonga rose to more than 3,000 feet above sea level and more than 15,000 feet above the ocean floor.

Erosion and dissection rapidly occurred and by the conclusion of the Tertiary Period the main core area was undergoing rapid reduction. Today no remnants of the original dome remain though the Takuvaine and Avatiu Streams continue to drain the crater area.

During the Miocene and Pliocene small cones appeared on the flanks of the central volcano and grew with the central complex. Peaks such as Te Kou and Maungaroa are remnants of such cones.

During the Pleistocene, the island building process ceased and, as deep internal pressures increased, the island was uplifted. Today bench remnants associated with this uplift are visible. Reef growth continued to develop around the island while inland erosion and deposition continued at a fairly fast pace. Today the situation has changed little as the island approaches its latter stages of development.

Table 5  
Rarotonga's Geologic History

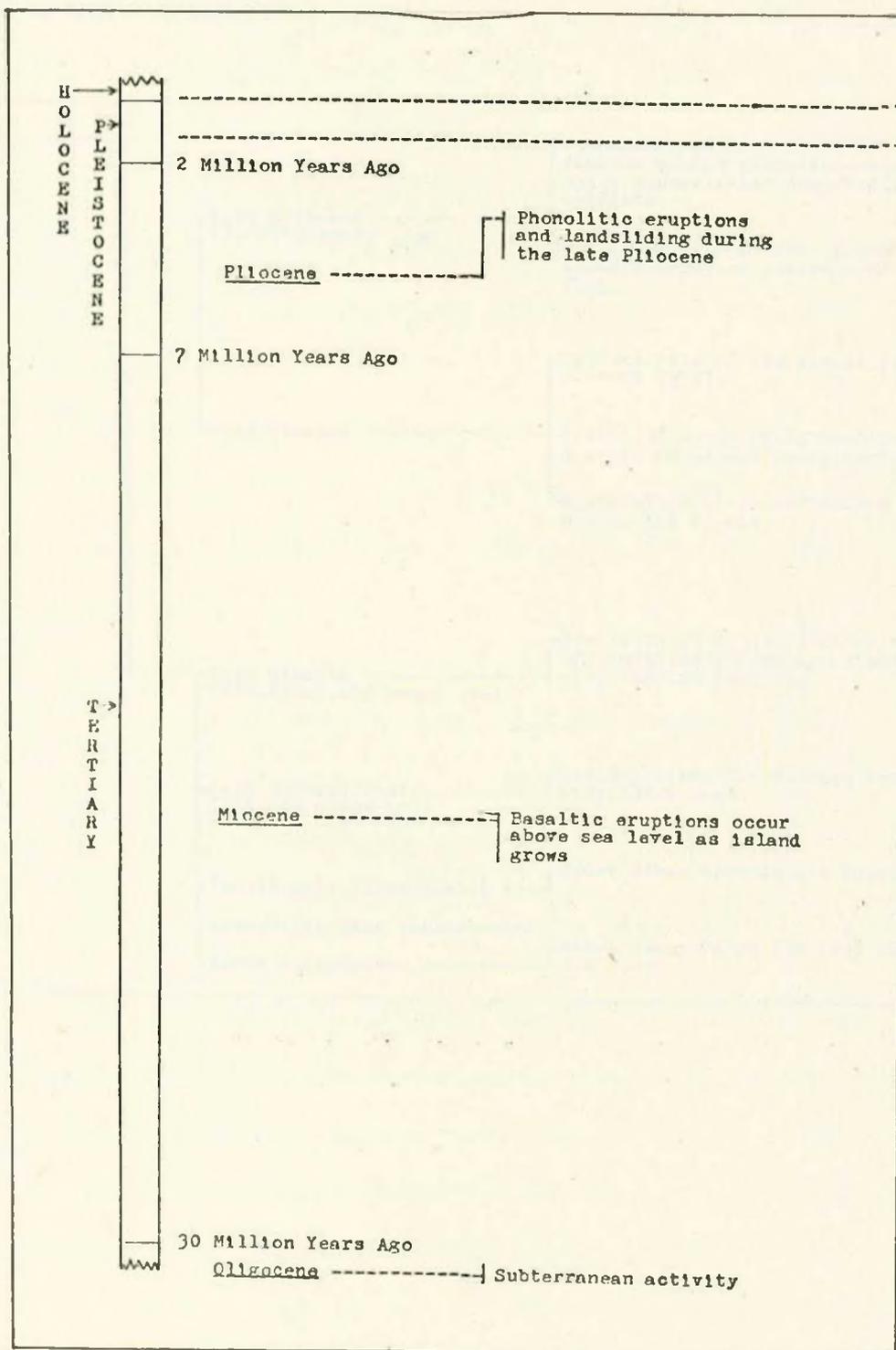
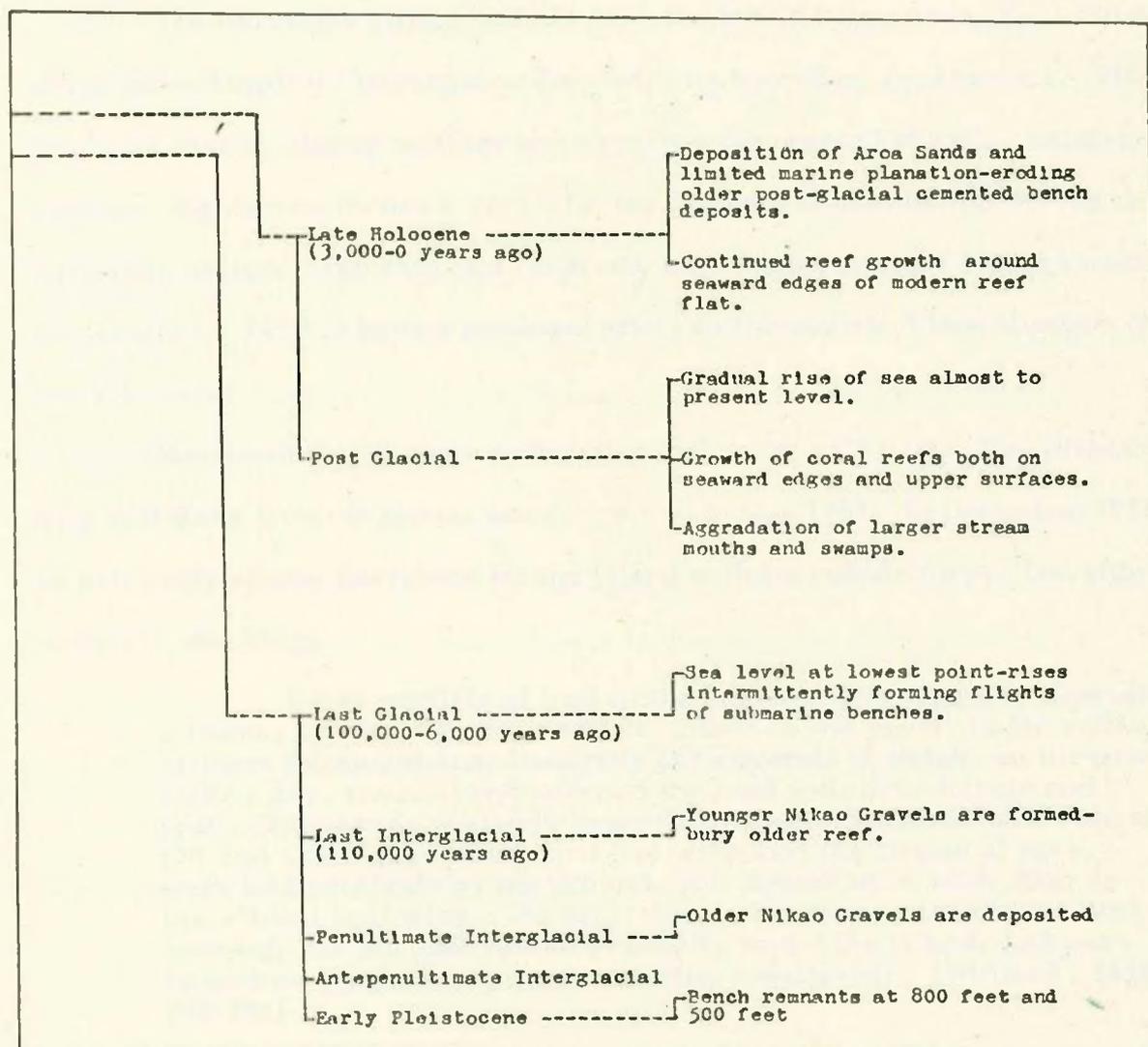


Table 5 (continued)  
Rarotonga's Geologic History



## 2. Climate and Weather

Rarotonga has two seasons: a hurricane season running from November to March and a winter season stretching from June through September.

The hurricane season results from the island being under the influence of the Inter-Tropical Convergence Zone with its travelling depressions. This produces humid, cloudy weather and usually a fair amount of rain. Rainfall averages eighty-one inches a year with the majority of rain falling during the hurricane season. The rain and relatively high temperatures (Average mean temperature = 74° F.) have a profound effect on the soils and lateralization is quick to occur.

Hurricanes were very destructive in Rarotonga's past. Two disastrous ones and many tropical storms were recorded before 1887. In December 1831 an extremely strong hurricane hit the island with incredible fury. The aftermath was shocking:

Every particle of food in the island was destroyed. Scarcely a banana or plantain tree was left, either on the plains, in the valleys, or upon the mountains; hundreds of thousands of which, on the preceding day, covered and adorned the land with their foliage and fruit. Thousands of stately breadfruit, together with immense chestnut and other huge trees, that had withstood the storms of ages, were laid prostrate on the ground, and thrown upon each other in the wildest confusion...So great was...the destruction that no spot escaped; for the gale verred gradually round the island, and performed most effectively its devastating commission. (Williams, 1838; 392-393)

Again in 1846 Rarotonga was lashed by a serious hurricane which again not only destroyed agricultural produce but caused heavy damage to the settlements at Ngatangia and Avarua. (Gill, W., 1856; 88-89)

While the missionaries were not unknown to use hyperbole to their advantage, the fact remains that Rarotonga has been struck by hurricanes which have caused widespread damage. While those which occurred in 1831 and 1846 were extremely strong and generally rare occurrences, one can

expect a "very bad blow" about once every fifty years. In 1888 another "bad blow" did occur which again damaged buildings and destroyed crops.

Rarotonga's winter season is quite pleasant and is marked by the presence of cooling southeast trade winds. During the winter months the Inter-Tropical Convergence Zone moves northward crossing the equator, leaving the island under the influence of the trade winds. This makes for cooler, milder weather.

### 3. The Natural Zones

Approaching on a sailing ship in the 1880s, Rarotonga cut a dramatic image on an otherwise flat horizon. Deep blue water changed rapidly to lighter hues as it pounded against an encircling raised reef which extended from the shore. The beach area was seen as a thin white strip separated from a coral reef and the lush green foliage extending to its uppermost perimeters. The lush growth continued inland and then blended into deep valleys and mountain ridges. The ridges rose rapidly and ended in jagged mountain peaks and lofty mountains which could be seen from sixty miles at sea.

Generally, five natural or geographical zones, each with its various functioning systems, were distinguishable; the deep sea, the reef and reef flat area, the beach and coral strand, the low-lying swampland interlaced with terraces and fans, and the interior highlands.

The systems within the first two zones have changed comparatively little over the years, however, systems in the latter three have been substantially altered by man's arrival. Nowhere were man's influences felt more strongly than on small island areas such as Rarotonga where the buffering effects of great size and diversity were lacking. (Fosberg, 1965; 5)



### The Deep Sea

The ocean depths around Rarotonga range from 15,600 to 17,200 feet. (Summerhayes, 1967; 1388) At 13,000 feet below sea level the island has a diameter of about thirty-one miles and rises fairly steeply from a gently sloping ocean floor. The fact that deep water is reached quickly after leaving Rarotonga's shore limited the growth of shallow-water fish populations which seem to be more plentiful during the cooler winter months as seasonal temperatures create slight variations in the ocean's temperature.

At sea various species of sea birds fly in flocks looking for fish. Some such as the kota'a (frigate bird) and the ngoio (noddy) spend most of their lives at sea while others like the kuriri (sandpiper) can be seen occasionally along the shoreline. The habits of these birds have not felt the impact of man for they have been protected by the sea. Their terrestrial cousins, however, have not fared as well.

### The Reef and Reef Flat

The reef and reef flat area is one of Rarotonga's more pronounced physical features. The reef itself surrounds the island and varies in width from 150 to 1,500 feet.

Rising from a submerged shelf thirty feet deep, the outer edge of the reef forms a lithothamnium ridge. The ridge is most noticeable on the south shore between Ngatangia and Arorangi but at low tide is visible from any vantage point along the coast.

Interior from the ridge is the reef flat, an area composed entirely of low-lying coral formations. Within the flat are passages, three of which have associated harbors. Over the years silt accumulation from nearby streams has remained a problem and in the 1880s only two of the three harbors, Avarua and Avatiu, were used by ocean-going vessels.

Lagoon development within the reef area is in its infant stage. At Ngatangia and Muri where development has proceeded furthest, the lagoon is only a few feet deep. Elsewhere around the island depths range from a few inches to several feet, enough to support various species of shellfish and rori (beche de mer).

At Muri and at Nikao small motu (islets) rise in the lagoon. During high tide they are completely divorced from the island while at low tide only a few inches separate them from dry land. The four larger motu are at Muri on the southeastern side of the island while the smallest, Motu Toa, is located to the north off Nikao. None is larger than a few hundred feet in diameter.

One motu at Muri, Taakoka, is composed of volcanic rock. The others, however, are simply raised piles of coral rubble and sand probably formed from deposition by surf and lagoon currents. A suggestion that these islets are remnants of an older coastline destroyed by hurricane action and general weathering has also been made. (Marshall, 1930; 20)

The motu support some varieties of flora and fauna. Coconut palms in association with smaller brush and scrubs somehow eke out an existence in the highly coral calcimorphic soil. Creeping vines extend along the shoreline stretching out onto the thin areas covered with beach sand. Also, non-descript weeds and grasses are found inland on the motu intertwined with the aforementioned vegetation.

Amongst this green mantle crawl numerous insects and crabs of various size and shape. Inland on most of the motu are also a few kiore (rats) who live on the nourishment supplied by coconut palms. The rodents probably found their way to these motu on drifting logs or perhaps in fishermen's canoes. Little else lives on the motu except sea birds which come to nest in the relatively secluded and quiet surroundings.

### The Beach and Coral Strand Area

The beach surrounds the island and is more or less a continuous feature of the coastline. It is composed of sand and larger coral and shell fragments and in a few instances traces of volcanic black sand more common to Tahiti, Hawaii, and Samoa are noticeable. Basaltic rock extend to the shore only in two localities on the island; one at Tuoro just west of Nikao and the other at Muri where volcanic material forms the small previously mentioned motu. The beach itself varies in width from four to forty yards and slopes upward towards the raised strand area known as the makatea

It takes a hardy plant to survive the rigors of the shoreline. One which can withstand salt spray, an occasional ocean wash, gusty and buffeting winds, slight rainfall, and poor soil conditions. Creeping glabrous vines, grasses, and small shrubs make up the first line of vegetation.

On the north and west coasts of the island ngangau (beach naupaka) is very common and grows widely on the beach. On the south and east coasts, however, it is often superseded by aratai (pandanus) and au, the latter providing villagers with a ready supply of firewood.

Larger foliage forms a belt directly behind these smaller plants and shrubs. Around the island toa (ironwood), puka, and numerous nu (coconut palm) dot the coastline.

The makatea surrounding Rarotonga forms a uniformly flat elevated plateau about ten to fifteen feet above sea level which averages about one hundred yards across. Within the makatea are large clumps of dead coral often buried in place and mixed with sand deposits. Overlying this is a layer of topsoil varying from a few inches to a few yards in depth.

Trees and shrubs as well as cultigens dominate makatea vegetation. Such trees as the utu (Barringtonia), tamanu, aoa (banyan), i'i (chestnut),

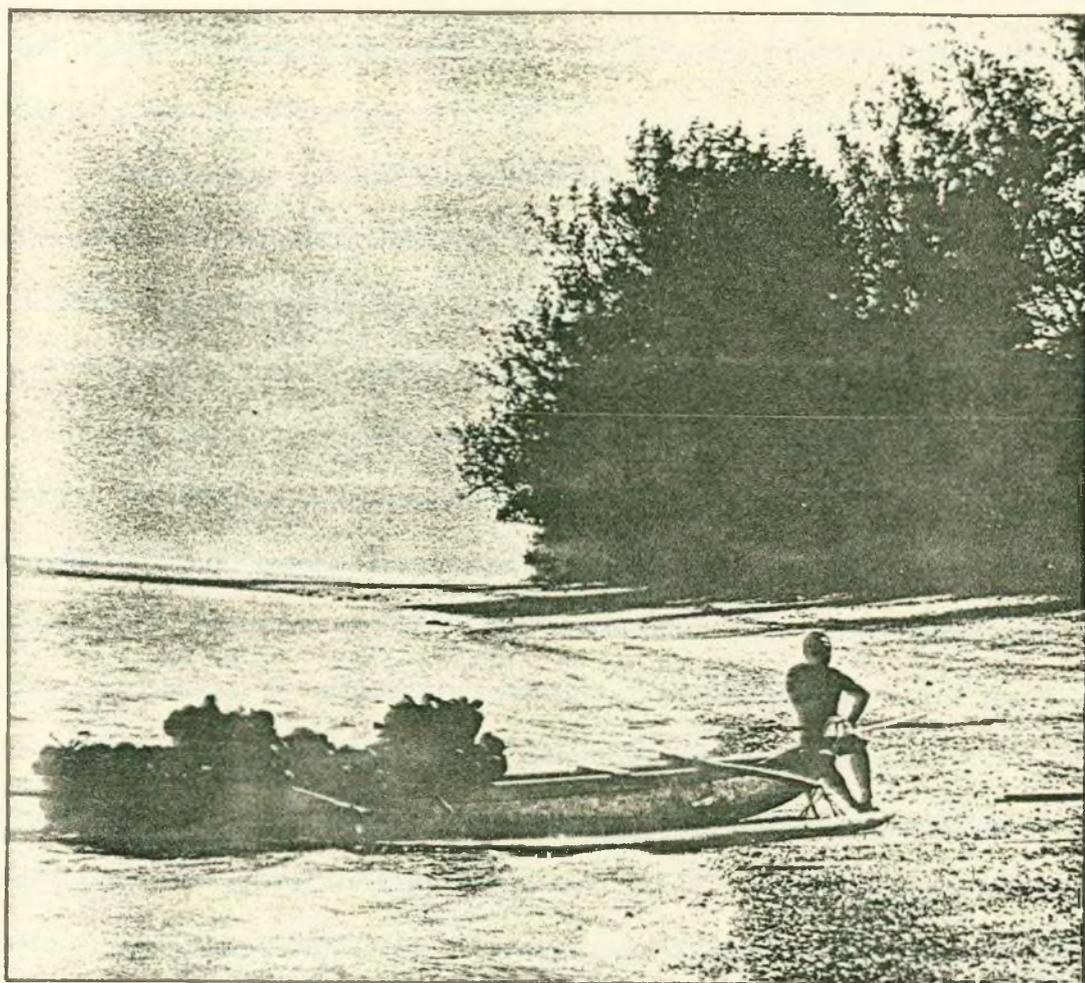


Figure 8  
The Beach

pua, nono (Indian mulberry), vi (mango), ninita (papaya), and kuru (bread-fruit) are common. Shrubs such as the aketa and the kaute (red hibiscus) as well as the fern kota'a frequently line the island's roads and paths as well as decorate numerous homesteads.

While the missionaries succeeded in persuading most of the island's inhabitants to relocate in small settlements near the coast, the formation of such communities encouraged the growth of many insect pests. Also, as communications through shipping continued to improve so too did the threat of new insect and plant introductions from the outside world.

By 1887 island households had long been invaded by the kararu (cockroach) and rango (house fly). Another pest was the u'u (mason bee) which built its nest in sheltered dry areas behind furniture or between the covers of books. It supposedly found its way to Rarotonga in the early 1840s on sailing vessels plying between Rarotonga and Auckland.

Rango-meri (bees) and rango-patia (hornets) also made their way to Rarotonga, the latter arriving about 1885 in the sails of a schooner from Tahiti. (Wragge, 1906; 146) Other common insect pests included tutua (fleas), namu (mosquitoes), and e (mantises).

Tutua were said to have been introduced during Captain Goodenough's infamous visit on the Cumberland in 1814. (Gill, W. W., 1885; 163) Whether or not this was the case is questionable for quite possibly an inventive mind may have seized the opportunity to tarnish further the already blemished reputation of Goodenough's island exploits. Whatever the case, tutua were very much a part of the animal population in 1887.

Namu were said to also have been a post 18th century introduction. The old people maintain that crew members off one of the visiting vessels were responsible for its appearance. A watering party was sent ashore to

fill the ship's water casks while the ship lay off Avarua. Some larvae had survived in the bottom of the casks, and when the casks were opened and cleaned in a nearby stream, the larvae escaped into the fresh water. It was only a matter of time before this new arrival made its presence felt.\*

By 1887 two or perhaps three species of namu were on the island. During the rainy season many of the islanders slept with netting or some similar covering to protect themselves. (Gill, W. W., 1885; 163) This would indicate the presence of at least one species of Culex, the night-biting namu. Also, it is a matter of record that Aedes polynesiensis had long been on the island. Though unknown to the island population of 1887, the female of this species is the vector of filariasis and bites almost exclusively during the daylight hours.

The e was one of the more destructive insects on the island. It feasted on the fronds of coconut palms and eventually destroyed the tree. Over the years it has caused the deaths of many nut-bearing trees which are rendered leafless by its ravenous appetite. Even though the mynah bird was introduced in 1905 to control this pest, most of today's palms continue to show some degree of damage from this insect.

The formation of villages along the coast and the introduction of various animals, namely rats, cats, and birds, did much to disturb native bird life. By 1887, most of the native birds once found on the makatea such as the rupe (dove) and the kukupu (pigeon) had retreated inland to the valleys and the lower mountain slopes.

Wild mammals except for the odd assortment of pigs, dogs, and cats that had escaped the village confines were limited to four species of kiore

\* Some authorities believe that the mosquito is an indigenous insect to the South Pacific islands. If in fact this is the case, then it would have arrived on Rarotonga long before the 19th century.

and the common field mouse. The early Polynesians brought one species of kiore with them in their canoes (Rattus exulans). The other three species were all subsequently introduced during 19th century visits of whaling and trading vessels. Besides being harmful to the native bird population, they have damaged and destroyed many of the island's coconut palms. (Thomson, 1969; 133)

#### Swamplands, Terraces, and Fans

Between the makatea and the volcanic highlands is a fairly continuous depression of swampland interlaced with terraces and fans formed by alluvium eroded from the interior highlands.

This depression was once thought to have been a former lagoon which lost its access to the sea and gradually silted up. (Marshall, 1930; 20) Another theory, however, recently has been put forth that these swamps are the result of the removal by solution of soluble sands dissolved in the fresh water runoff from the interior highlands. (Wood and Hay, 1970; 26)

Whatever the cause, this area has served as one of the island's major cultivated regions. The hydromorphic soils of the swamplands are excellent for wet-land taro cultivation.

Years of erosion have produced terraces and fans which stretch out to the makatea. Some cultivation has been undertaken on the gentler slopes where the soils are generally colluvium clay loams. Along the rivers and streams meandering down from the valleys taro and meika (bananas) are raised as well. Also found on the terraces are anani (orange trees) said to have been originally introduced by the mutineers of the Bounty in 1789.

In the streams which stretch across the fans and terraces is a variety of life. Small fish and shrimp as well as arthropod and insect life abound. One of the strangest fish to be found in the streams is the karaea which has

been likened to a lizard in physical appearance.

Tuna (fresh-water eels) are also found in the streams and are considered a delicacy by the islanders. Three major species are known to exist and one has not lost its affinities with the sea where it returns periodically to spawn.

Tukitukiraonui (spiders) and veri (centipedes) are also present and found in the bush as they are on most Pacific islands.

### The Interior Highlands

At the base and lower slopes of the interior highlands is dense tropical vegetation. Large climbing plants encircle themselves around the larger trees in the forest. Many small streams and creeks meander through the underbrush offering a steady supply of water to the tropical forest vegetation.

Intermingled with the trees and vines are communities of utu (plantains) which differ from other species in that their flower and fruit extend upward. Trails from the valley floor lead to these communities but few extend further as the gradient becomes too great.

The steepness of the mountain slopes increases with altitude. Smaller plants and shrubs as well as larger trees such as the tutui (candlenut tree) cling precariously in small gullies and cracks in the rock. Ferns also become more abundant with increased altitude. Tuanui (staghorn fern) does especially well on the dryer mountain slopes. Often found growing in association with this fern is a small endemic tree named the pua neinei. (Wilder, 1931, 46)

Camouflaged perfectly on the leaves of some of the mountainous vegetation are terrestrial molluscs. Partula, Melampi, and Stenogyra are found on the mountain foliage. One of the missionaries noted thirty-nine species of Partula and Melampi alone. (Gill, W. W., 1885; 145)

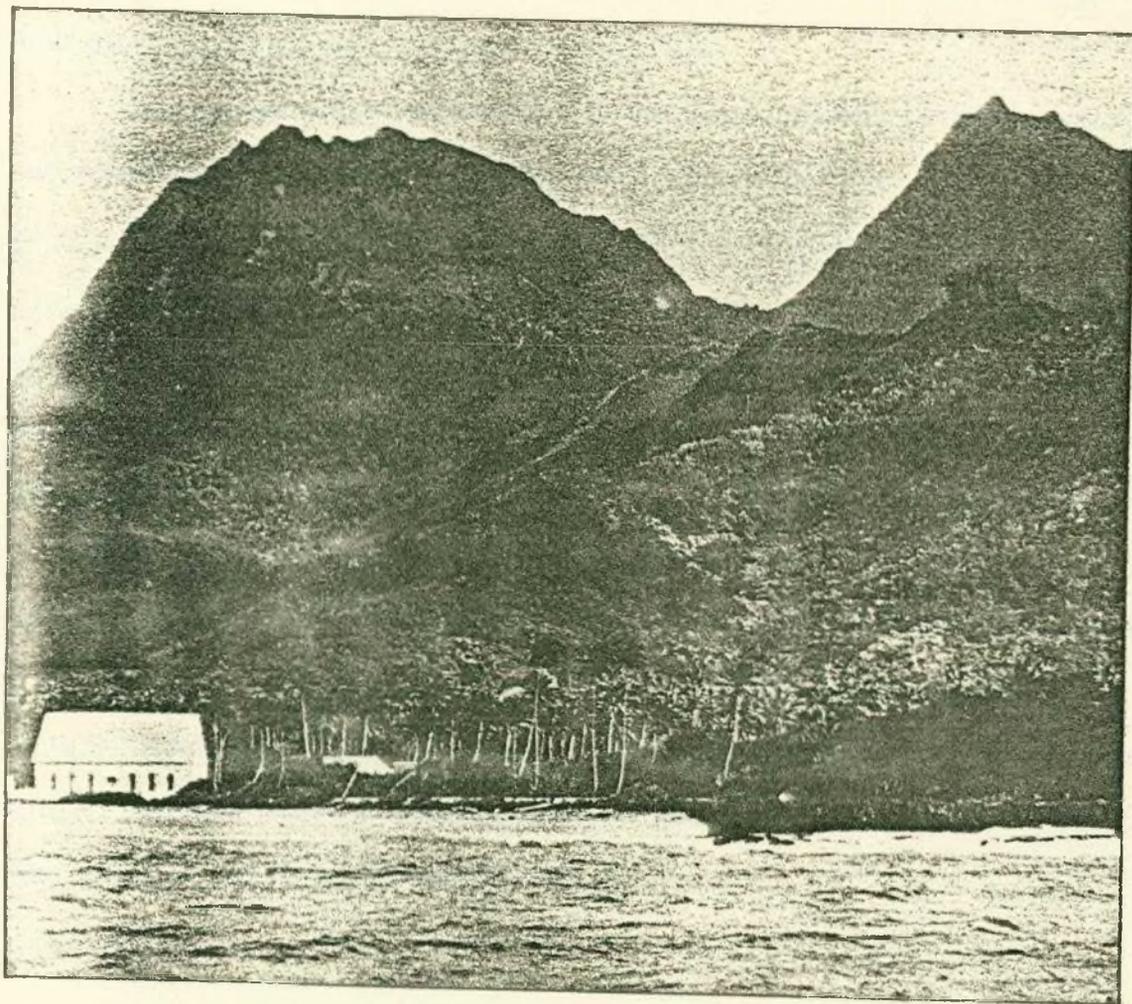


Figure 9

The Interior Highlands

The remnants of Rarotonga's once diverse bird life continue to survive in the mountains. Such birds as the kakaia (tern), and the i'oi as well as the rupe can occasionally be seen. The mountains remain a last refuge for bird life and do not yield their sanctuary easily.

At the summits of Rarotonga's peaks ferns, grasses, mosses, and a few small shrubs dominate the vegetation. Te Kou, however, has a lush growth on its summit due to its large flat top which retains most of its rainfall.

The island's rugged profile is due to sub-aerial erosion and most of the peaks are simply scoria beds. Two of the more spectacular formations, however, Ikurangi and Te Rua Manga, are exposed dikes. The axis of the central mountain range follows roughly a northwest to southeast direction and includes the highest mountains on the island; Te Manga (2,140 feet), Te Atukura (2,095 feet), and Te Kou (1,930 feet). Branching off from this axis at the northwest corner and running northward is a secondary range which includes Maungaroa (1,670 feet), Te Reinga o Pora (1,450 feet), and Te Kaki Mitu (1,130 feet). In the southeast another secondary axis runs to the northeast and includes Te Vaakauta (1,475 feet).

## CHAPTER 4

## THE HUMAN ENVIRONMENT: SOCIAL SECTORS IN 1887

1. Health and Diet

Before the 19th century and sustained European contact the general health of Rarotongan people was good. There were no records of any large-scale epidemics or plagues so common during the 1800s. Pneumonia and other respiratory ailments as well as skin infections were undoubtedly present, and the only serious indigenous disease was tona, commonly known as yaws.

The ta'unga or medical practitioner was fully familiar with these diseases and was usually able to control if not cure them altogether.

With foreign contact, new and strange diseases were introduced into the island population; diseases about which the ta'unga knew nothing. His medicines generally proved ineffectual and the islanders grew perplexed.

The pre-European diet of the Rarotongan tended to be high in carbohydrates though basically nourishing. Taro, nu (coconuts), fruits, kumara (sweet potatoes), and an occasional moa (chicken), puaka (pig), or puaka-aoa (dog) were the basic edible items utilized by the population. Cannibalism was practiced sparingly and usually only in times of war.

The Europeans brought with them their epicurean tastes as well as their diseases. New foods were introduced into the local diet by the missionaries in the belief that these foods would provide a higher degree of nutriment than had previously existed. By 1887 the transition in tastes was well underway.

Health

The general health of Rarotonga's people in the 1880s was only fair. While natural immunization factors within the people had developed sufficiently to resist most introduced diseases, still there was no trained doctor on the

island and no hospital facilities to care for the ill. Many local people still relied on the advice and medical prescriptions of the ta'unga. His treatments were surprisingly good in connection with nervous system and muscle and bone ailments, but proved ineffectual against the ravagings of whooping cough and smallpox. The Resident Missionary related an incident involving one of his students who did not respond to his treatment after stepping on the spine of a poisonous no'u (stone fish). The lad was given a local remedy and was "almost instantly cured." (Gill, W. W., 1885; 136) The ta'unga knew the medicinal properties of various plants and much credit must be given him for his achievements. However, European diseases proved a bit baffling, and having no experience with them, he was often at a loss in diagnosis and prescribing possible remedies.

By 1887 venereal disease, tuberculosis, and possibly leprosy as well as other European associated diseases such as smallpox, measles, mumps, and whooping cough had all been introduced.

Gonorrhoea and yaws were very much prevalent on the island in the 1880s. It is uncertain and doubtful whether syphilis was also present for, while it was reported to have existed, the presence of yaws would seem to contradict this. Hardly ever do these diseases occur concurrently in a society, and as both have similar initial symptoms, one could have been mistaken for the other.

Tuberculosis was the island's major health problem. A visiting doctor commented about the tubercular bacillus:

It has found a most favorable nidus in a people . . . who are clean in their persons, though dirty in many of their habits (such as expectorating on the floor or walls of their houses), who have been given clothes but not taught how to use them. Tobacco smoking is commenced at too early an age, and the practice of inhaling a large number of cigarettes every day by the women and even young girls cannot but be detrimental to their health. (Andrews, 1894; 20)

For the patient the only prescription was rest, something which the Rarotongan could not long endure. His labors were needed to plant and support his family.

It is questionable whether leprosy had reached Rarotonga by the late 1880s. It originally was introduced into Penrhyn Island by a returning Penrhyn islander from Hawaii about 1860. From there it gradually spread southward throughout the Cook group. While the disease had not been diagnosed on Rarotonga by 1887, its reputation was known and feared by foreign and local residents alike.

The diseases traditionally associated with European re-discovery of the Pacific reached Rarotonga in the early 19th century. Smallpox was an early arrival coming from Tahiti on a ship "which happily brought also some vaccine lymph." (Buzacott, 1866; 108) This was followed by whooping cough in 1848, mumps in 1850, and measles in 1854. All these diseases caused widespread epidemics which further depleted the island populace.

The Resident Missionary served as the island's doctor. This put added burdens and pressures on him to perform. Generally having only limited medical training he sometimes found it extremely difficult. Nevertheless, it is a credit to the London Missionary Society that most were able to cope.

Professional dental care was also non-existent. Generally the condition of teeth was poor as such delicacies as tinned meat and chocolate were readily sought by a population which knew nothing of dental hygiene or tooth care. Bad teeth were left to rot and drop out, but if the pain was intense, an offending tooth could be extracted by means of a well-placed jolt from a pointed rock or metal instrument. Most of these extractions were done at home by the family. It was not a big operation and recovery was quick. Usually only if

complications arose was the ta'unga or Resident Missionary consulted.

By 1887 the people's health had improved since the 1840s and 1850s. The days of the devastating plagues and epidemics had passed but the future was not bright. Venereal disease still flourished and the annual mortality rate was about 200 per 1000 with the majority of deaths resulting from advanced cases of tuberculosis. Thus, an island population originally relatively disease-free had become burdened with introduced diseases from which there had been no escape.

#### Diet

The Rarotongans still grew most of their own food requirements in 1887. Taro was the main food staple and was supplemented with nu, meika, utu, kuru, kumara, and maniota (manioc).

Moa, puaka, and beef were occasionally consumed but were considered delicacies. The main source of protein came from the sea while a full assortment of fruits such as ninita, vi, meika, and anani provided a ready source of vitamin C.

European foods, too, were found in most island households. Biscuits (cookies), flour, and sugar were popular items as were coffee and bully beef, the latter being imported into the island in large wooden kegs and smaller tins.

Special events throughout the year called for feasting. As in other parts of Polynesia there was a reciprocal nature attached to an invitation. If an invitation were accepted, it was expected that there be some returned token by the acceptee either in material form, perhaps a gift, or something more abstract such as a song, prayer, or blessing.

The food for an umukai (feast) was well prepared and included meat, vegetables, sea food, and fruit. While much of the food was eaten raw that which was cooked was done so in a large earth oven or umu. Its use and

appearance was similar throughout Polynesia.

Most European families enjoyed similar diets to those that they had experienced in their own countries. However, it was certainly not uncommon to find turnips, rice, beans, taro, and poke (banana pudding) all on the same table. New foods were adopted by foreigner and islander alike. In their first sixty years on the island, the missionaries were directly responsible for the introduction of beef cattle, a new breed of pig, turkeys, Muscovy ducks, beans, turnips, tomatoes, Indian corn, carrots, cabbages, rice, coffee, custard apples, and pineapples.

Thus, by 1887, islanders and foreigners alike were fully familiar with each others food items and dietary preferences of all the island's people encompassed the full scope of available foods on the island.

## 2. Education

Education in the 1880s was provided free of charge by the London Missionary Society. The Society had taken upon itself the burden of educating the island's people since its arrival in 1823. It used education as a means for conveying Christian principles and ideals to the heathen on the island. It took fortitude and discipline to achieve success in one's studies; the same characteristics needed to refute temptation, Christendom's "root of all evil."

The Resident Missionary was in charge of two educational programs; that of the village primary schools and that of Takamoa, the missionary school for the training of young men in church work.

Each of the five main villages, Avarua, Matavera, Ngatangia, Titikaveka, and Arorangi, had its own primary school under the direction of the village orometua. Hutchin found the supervision of this aspect of the island's education system frustrating. Parent apathy, lack of adequate supplies, and student laziness were his biggest problems. (Hutchin, 1888; 14)

The basic curriculum was standardized in all the schools and consisted of reading, spelling, scripture, arithmetic and arithmetic tables, writing, and geography. The students usually achieved better results in the first three subjects as the latter required slates and pencils, items which many children simply did not have.

At the end of each academic year, a competition was held in which all the schools competed and prizes were awarded to deserving students. In 1887 the competition was held on the last day of December at Matavera. More than 200 pigs and six bullocks had been prepared for the feast. As usual Hutchin examined representatives from each of the schools in reading, spelling, geography, pointing out countries, cities, and rivers on a map of the world, and mental arithmetic. Avarua won as it had the previous year.

After the distribution of prizes we quietly separated and am thankful to say, there was no drunkenness, or trouble of any sort throughout the day. (Hutchin, 1888; 15)

Most of Hutchin's time was spent directing the work of the Institution at Takamoa. It had trained young men in theological studies for missionary work since 1839 when Buzacott had purchased the land from Makea Davida and had begun the program.

The achievements of the Institution during its first fifty-four years were remarkable. 490 men and women were trained and took the Gospel to Samoa, the Loyalty Islands, the New Hebrides, and to the southeastern part of New Guinea. From 1872 to 1893, fifty-two couples were sent to New Guinea and of that number, seventeen men and twenty-three women died of fever, three men and three women returned home, and four men and three women were killed. The rest continued with their missionary work.

During 1887 Hutchin admitted three new students to the Institution but received no applications for admission from Manihiki, Mangaia, or Aitutaki.

He remarked:

I think the young men are growing fearful on account of the numerous deaths of late years in New Guinea. (Hutchin, 1888; 15)

Four students left in the course of the year. Three were ordained by the Reverend A. Pearce when he arrived with his family in June on his way to New Guinea. After being ordained, all three later accompanied Pearce to New Guinea to work in the field. The fourth left the Institution and was appointed to the Pastorate at the Titikaveka Church.

To meet the hardships of missionary work, training at the Institution was strenuous and intellectually demanding. Hutchin prepared most of the lessons but occasionally let his students present the lecture. Weekly classes were held in scripture exposition, religious thought, church history, homiletics, writing, arithmetic, geography, and grammar. One of Hutchin's main concerns was to improve his students' English language ability. (Hutchin, 1888; 15)

Mrs. Hutchin was also involved with the Institution. She instructed the students' wives in scripture and history as well as the necessary skills of sewing and cooking. Many of these women in later years faced death with their husbands in New Guinea.

Generally, the role of the Institution was two-fold. Locally it offered an avenue for intellectually inclined students desiring further education to apply themselves, and regionally it was one of the major institutions in the Pacific responsible for the furthering of Christianity in the area. Today, largely due to administrative and financial difficulties, Takamoa has ceased to function as a religious school and instead lies vacant and but a memory of bygone days. (See Crocombe, 1970)

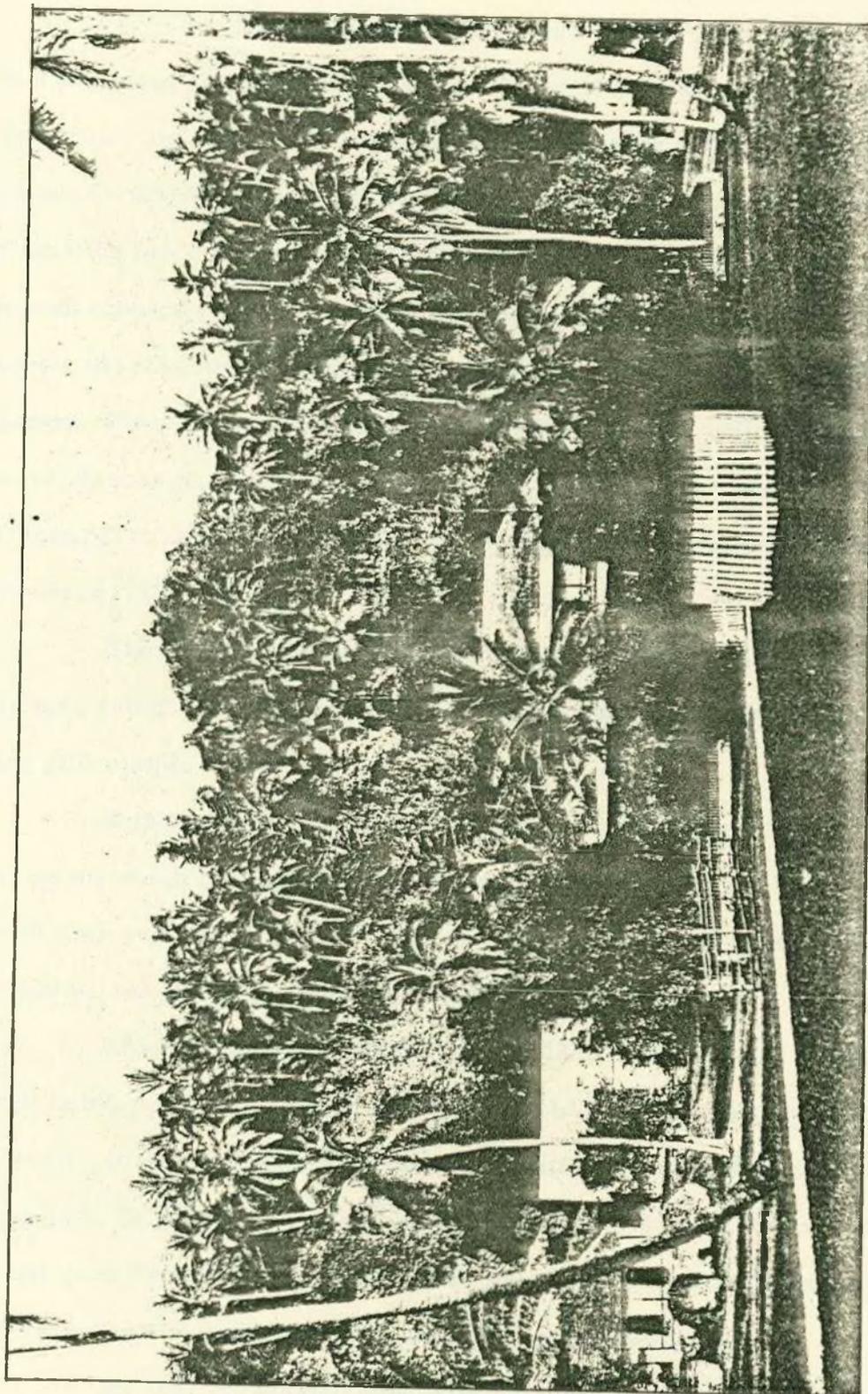


Figure 10

Takamoa

### 3. Religion

Pre-Christian religion on Rarotonga was polytheistic and similar to that practiced throughout Polynesia. There were four major deities, Tangaroa, Tu, Tane, and Rongo, and a whole series of lesser gods and demi-gods. The place of worship and center of activities within the tapere was called the koutu. It was the place where all great meetings with the ariki occurred; where all human offerings were first brought; where all questions of war were discussed; where the investiture of an ariki took place; where the ariki family held sacred games; where all matters pertaining to the safety and well-being of the tribe were discussed; where the allocation of land was made; and where any of the rights pertaining to the nobility and ta'unga were discussed, decided and declared. (Savage, 1962; 278)

The three major koutu on Rarotonga, Pu-Kura-Va'a-Nui, Arai-te-Tonga, and Taputapuatea, were built by Tangiia soon after his arrival and are still visible today.

Within a koutu there could be one or more marae, the sacred platforms on which the actual religious ceremonies took place. Only certain people with high rank were allowed to go near marae; others if found trespassing could be sentenced to immediate death.

When the missionaries arrived in 1823 the traditional religion was still being practiced. There had been no challenge to the tapu as there had in Hawaii. Instead, the missionaries had to attempt outright conversion and not simply to fill a void in a "religionless" country. Much of the credit for success must go to Papeiha who dared stay on Rarotonga and attempt conversion despite the warnings of Williams that it might prove too dangerous.

By 1887 the London Missionary Society had openly "Christianized" the island. Few vestiges of the traditional religion remained. The sacred koutu

Table 6

## L.M.S. Missionaries on Rarotonga

1823 - 1887

<u>NAME</u>	<u>LENGTH OF SERVICE ON RAROTONGA</u>
Papeiha	1823 - 1861*
John Williams	Periodic visits between 1823 and 1839
Charles Pitman	1827 - 1854
Aaron Buzacott	1828 - 1857
Elizah Armitage (artisan)	1833 - 1835
Alexander Macdonald	1836 - 1837
William Gill	1839 - 1852
George Gill <sup>1</sup>	1857 - 1860
Ernest Rudolph William Krause <sup>2</sup>	1859 - 1867
William Howe	1863 - 1863
James Chalmers	1867 - 1877
William Wyatt Gill <sup>3</sup>	1877 - 1883
John Joseph Knight Hutchin	1882 -

\* Died on Rarotonga

<sup>1</sup> Served on Mangaia 1845 - 1857

<sup>2</sup> Served on Atiu 1842 - 1843

<sup>3</sup> Served on Mangaia 1852 - 1872

Served on Mangaia 1884 - 1885

Served on Aitutaki 1885 - 1891

and marae had been divested of their mana and had been destroyed or left unattended to be swallowed by dense vegetation. The new religion permeated all aspects of island life. Births, baptisms, marriages, and deaths were all observed with utmost care and concern. Not a house was completed nor a crop harvested nor a meeting opened nor closed without a blessing being uttered. Family prayer sessions were held religiously every morning and evening by many of the island's residents. And the Resident Missionary had become a major force within the island's social and political structures. He was responsible for the island's health care and educational training and enjoyed the confidence of the ariki.

During the decades leading up to 1887 the religious role of the Resident Missionary changed from that of a proselytizer to that of an administrator. Papeiha, Williams, Pitman, and Buzacott did their work well, leaving little for their successors to do but to administer that which they had created. Hutchin was an able administrator and in 1887 was deeply saddened by the actions of the Titikaveka orometua and his wife. "The sum of temptation arose and the good resolutions were scorched, and because they had no root they withered away." (Hutchin, 1888; 9) Finally, he was forced to replace the fellow for he and his wife had become "almost completely rejected" by the community.

Institutional Christianity focused around the village church. Churches were located in all five of the island's major villages, and each had its own orometua who was directly responsible to the Resident Missionary. All the orometua received some training at Takamoa and occasionally returned to take part in the educational program as lecturers.

During the week each church had its own worship schedule, but on Sunday all generally offered three services; one in the morning, one in the afternoon, and one at night. Attendance was not mandatory but all people of

"good moral character" were expected to attend. Seating inside the church was done by strict protocol with certain areas being reserved for ariki and matai-apo. In the early days, the congregation was further segregated with the men sitting on one side and the women on the other though by the 1880s this practice was no longer enforced.

The intervals between church services were devoted to Bible study and prayers. Sunday was a day of worship and rest, more so for the women and children than the men, but pity the poor soul whose physical activity was made known to the general public. (See Appendix 4 - Laws of Rarotonga, Article 23)

Religion continued to be a very strong element in island society throughout the 1880s. Hutchin continued the work of the church and encouraged the ariki in religious matters as well as political affairs. The "threat" of Catholicism was always present but the internal strength of the London Missionary Society was never more thoroughly entrenched in Rarotongan society.

#### 4. Legal System

Rarotonga was officially governed by law codes ratified in 1879. Other codes reflecting a strong religious influence had been in force periodically between 1827 and 1879.

The 1879 codes were written by the island's major ariki, Makea Nui, Makea Karika, Tinomana, Pa, and Kainuku, and attempted to equalize island society by officially curtailing discrimination between local and foreign residents. Beginning with a Biblical quotation, "Kare au i aere mai e akakore i te ture, e akatupu ra" (I have come not to destroy the law, but to fulfill it", and concluding forty-six articles later with an ordinance against card playing, the codes resembled New England's infamous "Blue Laws" which were also associated with Christian religious fervor.

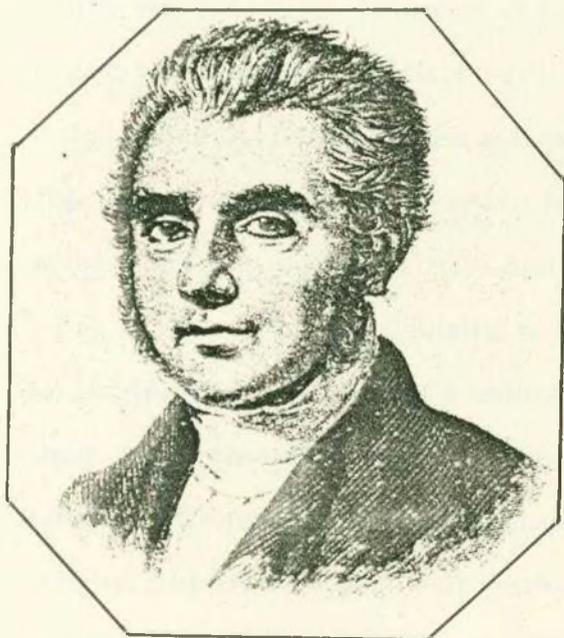


Figure 12  
Aaron Buzacott



Figure 11  
Papeiha



Figure 13  
John J. K. Hutchin

The enforcement of the law was left to appointed policemen and judges selected from ariki, mataiapo, rangatira, and komono families. Each district had its own court. The shortcoming of the system was the tremendous power which was placed in the hands of the acknowledged leading families on the island while at the same time leaving little or no avenue for appeal against unfavorable decisions for the accused. (Crocombe, 1964; 79) There was no right of appeal and only a pardon from the Council of Ariki, a body of island ariki which met periodically to discuss common problems, could alter a decision. It was rare for a decision to be altered, however, for this was considered an infringement on a judge's authority. The ariki appointed the judges for their respective districts and more often than not they were from their own family. The judges in turn appointed the police who had to be authorized members of the church. Both positions were non-salaried and pay depended entirely upon fines levied by the judge. Generally there was a three-way division of fine revenue between ariki, judge, and policeman.

With few exceptions the majority of Rarotonga's population was law-abiding and non-violent. Most of the laws were adhered to by local and foreign residents alike. The most common offenses were petty thefts or those involving the manufacture of "bush beer."

The manufacture of "bush beer," more commonly known as "home brew," had been a thorn in the missionaries' side since the early 1850s when some youths returning from Tahiti had brought with them the art of fermenting oranges, pineapples, and bananas. (Beaglehole, 1957; 76) Attempts to stop the practice failed for despite the work of the church and the courts, little or no alternative was left for local islanders. Foreigners could purchase spirits when they wished but it was unlawful for local islanders to do so. And though a bill was passed in 1887 restricting the importation and manufacture of all

spirits, the law was not enforced universally. Besides being legally restricted, few local islanders could afford imported spirits anyway. Thus, the making of "home brew" continued. It was so easy. All that was needed was a large tub, a few pounds of malt or hops, and a quantity of fruit, be they oranges, pineapples, or bananas. The practice was never successfully controlled by the authorities and still continues despite the presence of a large public bonded liquor store on the island.

Table 7

Rarotonga's Crime Returns  
(January, 1891)

Name.	Crime.	Fine.	Remarks.
2. Teakava. v.	Libel.	5 00.	Paid in full.
" Motiwa	"	5 00.	"
9. Silvester (Portugese)	Drunkenness.	5 00.	"
16. Meiariki	fornication	20	Not Paid
" Ngama	"	20.	5 00 "
" Pui pui anaava	Destruction of Property	20.	4 50 "
" Teao.	Theft.	5	Not "
23. Uritapu.	fornication	20	5 00 "
" Anatepo	"	20.	5 00 "
" Moae	"	20	Not "
" Vavia	"	20	" "
30. Osea & Sasia	Public Trespassing	4	Paid
" Tapua	fornication	30.	5 00 Paid
" Pua	"	20	Not "
" Gua	Striking his wife	100.	Paid
" Ngama & Pi.	Libel.	10.	Not Paid

## CHAPTER 5

## THE HUMAN ENVIRONMENT: ECONOMIC SECTORS IN 1887

1. Agriculture

Lack of size and nutrient-deficient soils put constraints on Rarotonga's agricultural development. The island is only twenty square miles in area and the vast majority of that is mountainous. Barrau has identified five major soil types on the island and of the five only two are considered to have a high degree of fertility. (Barrau, 1961; 6) It has been estimated that only 5,230 acres of Rarotonga's 16,500 acres is suitable for agriculture.

In pre-European times, the emphasis of agriculture was strictly subsistence. Families raised enough produce for themselves and perhaps their mataiapo or ariki but there was no "marketable" surplus from which any profit was derived. Only two agricultural implements were used, a digging stick and a planting stick; both of which were known as ko. Their primary use was for digging and preparing the land for planting taro, kumara, and meika; the three major crops of old Rarotonga.

By the 1880s agriculture had undergone tremendous changes. New crops and tools for working the land had been introduced, and a completely new philosophy permeated the island's agricultural community. As previously mentioned, the missionaries brought many new food items to the island, most of which were soon propagated locally.

Just prior to 1880 a different species of taro, taro tarua, was introduced from Hawaii and it soon promised to become popular in local diets. Also, by the 1880s, the planter had a full assortment of implements from which to choose. Large bush knives, hoes, shovels, plows, and a modified version of the whaler's blubber spade were all being utilized. The biggest change

Table 8  
Origin and Classification of Rarotonga's Soils

<u>PARENT ROCK</u>	<u>SOILS (GRANGE-FOX)<sup>1</sup></u>	<u>SOILS (BARRAU)<sup>2</sup></u>	<u>FERTILITY</u>
Basalt and recent alluvium on flats	Avana Stony Loam Matavera Clay Loam	Colluvium Clay Loams	Fertile alluvial soil
Coral and sand on flats	Muri Sand	Coral Calcimorphic Soils	Infertile coral sand
Swampland Soil	Tamarua Clay Loam	Hydromorphic Soils	Fertile wet soil
Basalt-alluvium and rock on slight slopes (weathered)	Pouara Clay Loam Tikioki Clay Loam Nikao Clay Loam	Colluvium Clay Loams	Moderate to low fertility on terraces and fans
Basalt-rock on moderate to steep slopes (weathered)	Pokoinu Clay Loam Te Manga Clay Loam	Lateritic Soils	Moderate to low fertility due to leaching

<sup>1</sup> Grange and Fox, 1953; 26

<sup>2</sup> Barrau, 1961; 6-7

from traditional agriculture, however, lay not in physical implements or produce but in the mental attitudes of many of the planters. Subsistence was gradually being replaced by commercial agriculture.

Buzacott introduced the concept of commercial agriculture in the 1840s to cater to the needs of visiting whaling ships. The island's economy, as well as the Society's, profited from the experience. About 1870, however, the Church de-emphasized its trading practices as its Directors in London were not entirely pleased by the arrangements. However, the need continued and by 1887 agriculture had a limited commercial capacity in the production of citrus, copra, kaope (coffee), and vavai (cotton).

The major citrus fruits, anani and tiporo (limes), grew along the coastal areas and on the lower mountain slopes. When harvested, the anani were picked, tied together three at a time, and packed in wooden crates or barrels. Each crate contained one hundred such bundles (300 anani) and were sold for export at about C\$ 1.00 per crate. The tiporo were also exported in crates but the majority were carted to a juicing plant in Avarua for processing.

Copra production was one of the more extensive agricultural activities on the island. Plantations had been established at Arorangi and Titikaveka and were run by foreign overseers. Many outer islanders worked as laborers on the plantations and received about C\$ 10.00 a month plus food and board for their work. Day laborers received about one dollar a day with a daily ration of bread and tinned meat. There were also many smaller private producers living around the island. The preparation of copra was simple though the work involved was strenuous. The ripe nuts were gathered and split, after which the meat was removed and left to dry in the sun. When thoroughly dried, the shriveled, oil-rich meat was bagged and exported overseas to



Figure 14  
Children at Play in the Garden



Figure 15  
Gathering Taro

foreign markets.

The fastest growing commercial crop in 1887 was kaope. It was not cultivated but left to grow wild unattended. The fertile colluvium clay loams produced good beans which yielded a strong drink when brewed. Donald and Edenborough built a small husking plant behind their shop which prepared the beans for export. In 1884 the island produced more than 35,800 pounds of beans. Within two years production had increased 200+%. (Kelley, 1885; 52)

Vavai was the island's most valued commercial crop. Originally introduced by the missionaries, a new species was brought from Fiji just prior to the American Civil War. When the war started, England was forced to abandon much of her cotton trade with the southern United States and look for new supply areas for her factories. Rarotonga became a "garden of cotton plants" with plantings stretching "all along the flats between the foreshore and the foot of the hills." (Ward, 1933) Donald and Edenborough and Mr. Henry Nicholas established a cotton gin in Avarua and it was here that the vavai was ginned, pressed, and packed into bales for export. A note of interest was the fact that the machinery used cotton seed for fuel and not coal. (Kelley, 1885; 52) Cotton seed oil, cotton seed, and seed cotton were also exported though in much more limited quantities.

Livestock and other animals were generally left to forage on their own. Some cattle and goats were raised on the island but good pasturage was at a minimum. The island's major work animal was the horse. Most families had at least one for transportation and hauling purposes. They came to the island in the 1850s and were small but of sturdy Chilian stock.

Generally, agriculture on Rarotonga in the 1880s was in a transitional period. From total subsistence farming, agriculture had developed a limited commercial capability to supply local and limited foreign demands.

## 2. Fishing

The sea and the island's surrounding reef played an important role in the average Rarotongan's life. For many, fishing was a daily occupation. While the head of the household busied himself spearing or netting fish, his wife and other members of his family collected shellfish and other edible life on the reef. A large part of the local diet was based on food items gathered from the sea.

Fishing techniques changed little with the coming of foreigners. Most were landlubbers and while technological advances were made, spears were spears and nets were nets. Most fishing was confined to spearing, trapping, netting or snaring, poisoning, or combinations thereof.

By the 1880s, iron spears had replaced the old wooden ones of toa. Larger three-pronged spears were also utilized and proved most effective against the larger reef fish such as u'u and urua.

At Avarua, Muri, and Arorangi the stone walls of fish traps protruded at various angles across the water's surface. The traps were constructed across the deeper channels in the reef or lagoon and used in conjunction with long nets. During a communal fish drive, men, women, and children entered and began pounding the water with sticks to scare the fish and concentrate their movements along a specific path which eventually led to the walled trap. Moving through the water the participants drove the fish to the wall at which point nets were drawn across the front area completely encircling the fish and preventing their escape. Once confined, it was an easy task to spear and scoop-net the fish from the water.

Most Rarotongan families had a fish net. Simple gill nets were most often used and were simply strung across known fish paths in the reef. Throw nets were also utilized but the technique involved in "throwing" was a skill

which took considerable time to master. Delicate fish weirs were also used, but it was a time-consuming task to keep them mended and operable.

Fish poisoning was a very common practice in the 19th century. The grated fruit or pod of the utu were generally used. This material when spread over the surface of the water stupified the fish which in turn were easily collected. The poison did not kill, and young or undersized fish were usually left to mature. It was only a matter of minutes before fresh sea water cleared their gills and they were able to resume normality.

Dynamite was one item which might have changed fishing techniques if given a chance. Fortunately, the ariki banned its use for fishing, for not only was it dangerous to the user but it completely destroyed all surrounding sea life. Nevertheless, despite its illegality, occasional blasts were heard around the island.

Deep sea fishing was also practiced by fishermen on the island. Trawling after au'opu and pa'ara was done day and night. At night the small boats were equipped with kerosene lanterns or with rama (torches) made of kikau (coconut fiber) and lashed together with sennet or kiriau (fiber made from the inner bark of the au). The light from the rama not only guided the boats but also attracted maroro (flying fish) which were used as bait for larger fish as well as for eating.

The men from Takitumu were noted for their adventures with to'oro (whales). While the large herds had been depleted during the whaling days, occasionally some still passed Rarotonga and if spotted were hunted for their meat and oil. Once sighted, the men quickly took to their long boats modeled after whale boats from past decades and paddled out to the herd. Using spears and home-fashioned harpoons, the men singled out an animal and attacked. If lucky, the men soon killed it; if not, there was a real possibility

that their boats would be swamped and perhaps even some of the men killed in the animal's struggle to get free. Even so, there were profits to be made.

In 1884, 1,200 gallons of whale oil were exported from Rarotonga. By the turn of the century, however, the market for oil had virtually disappeared and hunting for to'oro was a thing of the past.

### 3. Trade, Commerce, and Shipping

#### Trade

Trade was becoming an important aspect of Rarotonga's economy by 1887. The days of barter were passing and the island was moving towards an economy based upon a monetary system. The standard currency was the Chilian dollar and half dollar which had been introduced into the Cooks, Samoa, and the Society Islands by the German firms of Goddefroy and Sons and Brander and Sons in the early 1860s and 1870s. The coins were large and heavy but contained only slight amounts of silver. Goddefroy and Brander traders procured them in South America at a discount and passed them in the Pacific at face value. Despite bitter protests from missionaries who lost money from the discounted coins when redeemed outside the Pacific, the currency continued to be very popular among the islanders. In Rarotonga, sterling, too, had become more and more familiar and by 1887 the exchange rate for a Chilian dollar was about four shillings.

Overseas trade continued to grow throughout the 1880s. The demand for imports was increasing and agricultural exports likewise increased. Material goods as well as food items were in great demand. Cloth for clothing was a necessity as island men and women had completely adopted European styles. The missionaries equated clothing with civilization and as early as 1833 had brought Mr. Elijah Armitage to Rarotonga to teach the people the art of weaving. Major imports of the period included cotton material and woolen

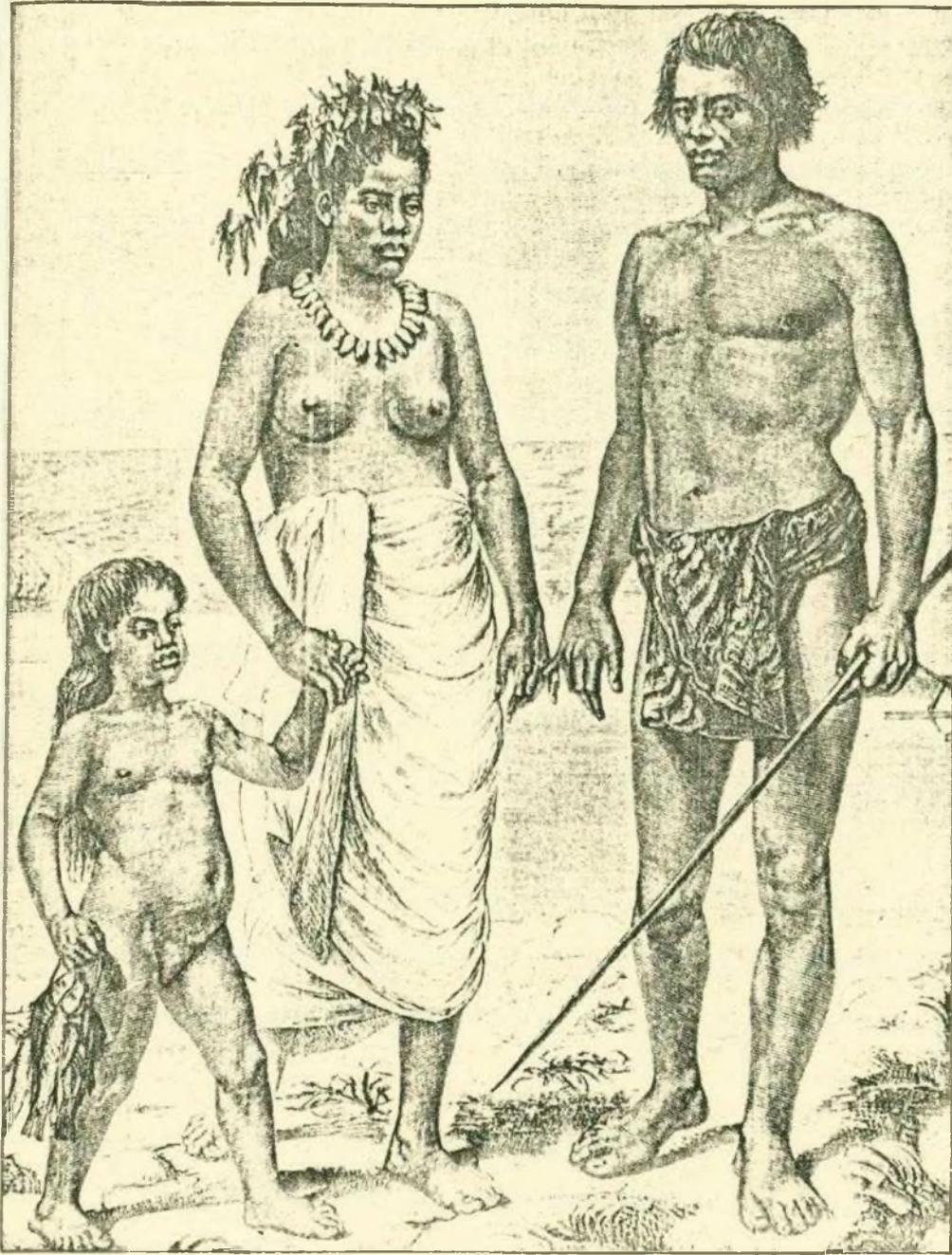


Figure 17

Traditional Pre-European Dress

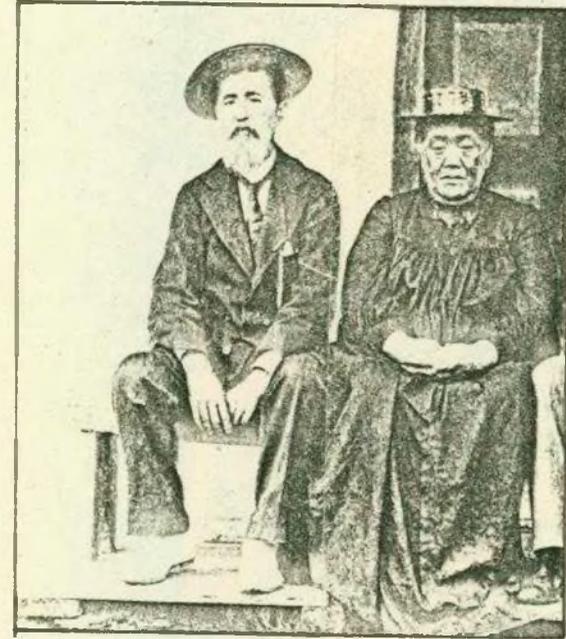


Figure 17

Dress of the late 19th Century

goods from New Zealand, silk, ostrich feathers, and artificial flowers from Tahiti, and buggies, lumber, and canvas shoes from California. Food items, too, were sought from England, New Zealand, and the United States. Meats and sausage from Chicago and tins of "Pork and Beans" and American salmon were all items found in Donald and Edenborough's store at Avatiu. Flour and sugar from California commanded the local market though New Zealand's biscuits (cookies) had an excellent reputation. (Moss, 1891c; 39)

Rarotonga's exports in 1887 were almost entirely agricultural products. Copra was an export of great value with most going to New Zealand, Tahiti, and California. Fresh coconut meat was also exported to the United States where it was regarded as a delicacy when finely shredded and eaten with oranges. (Moss, 1891c; 34)

Cotton and cotton by-products accounted for the largest quantity of island exports. Ginned cotton, seed cotton, and cotton seed were all exported to New Zealand and Tahiti, the majority of which was then trans-shipped to European markets.

Other exports in 1887 included crates of citrus fruit and casks of lime juice, both of which were sent to markets in New Zealand. Coffee, too, was becoming a specialty of the island and was in demand among New Zealand retailers.

#### Commerce

The bulk of local and overseas commerce was conducted by two firms, Donald and Edenborough of Auckland and Le Societe Commerciale de l'Oceanie, a subsidiary of a German firm located in Tahiti. Individuals, too, were commercially active. Mr. Henry Nicholas and an American named E. Piltz had many invested interests on the island.

Table 9

## Exports From The Cook Islands (Rarotonga)

<u>ITEM</u>	<u>1884</u> <sup>1</sup>	<u>1885</u> <sup>2</sup>	<u>1889</u> <sup>3</sup>
Copra	1,103,133 lbs.	1,674,000 lbs.	489,021 lbs.
Cotton	350,420 lbs.	1,690,000 lbs.	120,810 lbs.
Seed Cotton	23,667 lbs.	?	?
Cotton Seed	109 tons	?	?
Coffee	35,800 lbs.	163,820 lbs.	279,730 lbs.
Oranges	6,410 brls.	?	10,058 brls.
Coconuts	7,626 cs.	?	20,400 nuts
Pineapples	760 cs.	?	6,543 cs.
Dried Bananas	3,841 lbs.	?	?
Lime Juice	28,012 bals.	?	12,265 gals.
Whale Oil	1,200 gals.	?	320 gals.
Fungus	1,040 lbs.	?	683 lbs.
Pearl Shells*	1,950 lbs.	?	73,788 lbs.
Kapok	872 lbs.	?	?
Maize	?	?	44,883 lbs.
Arrowroot	?	?	14 tons
<b>TOTAL VALUE</b> (\$ Chilean)	<b>\$ 136,360</b>	<b>\$ 189,619</b>	<b>\$ 140,153</b>

\* From the Northern Group of Cook Islands

<sup>1</sup> Kelley, 1885; 50 - From 1 January to 30 September 1884

<sup>2</sup> Moss, 17 December 1891; 34

<sup>3</sup> New Zealand Government, 1891; 38 - "Exports and Imports from the Cook Islands"

The majority of the island's overseas commerce was conducted with New Zealand. From 1881 onwards, a British Consul was resident on Rarotonga and basically lobbied for New Zealand and British commercial interests. For his troubles he was paid a modest fee by the New Zealand government. The position in 1887 was held by Mr. Richard Exham, a long-time trader and opportunist on the island.

The two afore-mentioned firms brought in most of the island's imports and wholesaled them to smaller shops around the island. Within the village, barter for goods was still an accepted practice and quite common. A shop keeper might trade an item in his store for taro, kumara, or fish depending upon his needs and desires. Families also traded with one another to satisfy their own personal needs. Commerce was thus carried on at all levels of society, and while money was the medium of exchange, barter and trade for goods in kind was accepted by the community.

### Shipping

Shipping was Rarotonga's only contact with the outside. On an average, forty-five to fifty ships would call during the year. Most of these were British, however, French, German, and American vessels also frequented the island. The Buffon, Flora, and La Gironde were all well-known names in Rarotongan waters. Larger vessels would also stop off in Rarotonga on their way to New Zealand or perhaps Tahiti and California. The S.S. Janet Nicoll and S.S. Taviuni generally ran between Auckland and Rarotonga with additional stops at Tonga, Samoa, Raiatea, and Tahiti while the S.S. Richmond continued on to San Francisco. Occasionally, too, the London Missionary Society's sailing ship John Williams arrived bringing with it church personnel and cargo. On November 17th, 1887, the sloop H.M.S. Cormorant entered Avarua Harbor but only after careful soundings and measurements had been

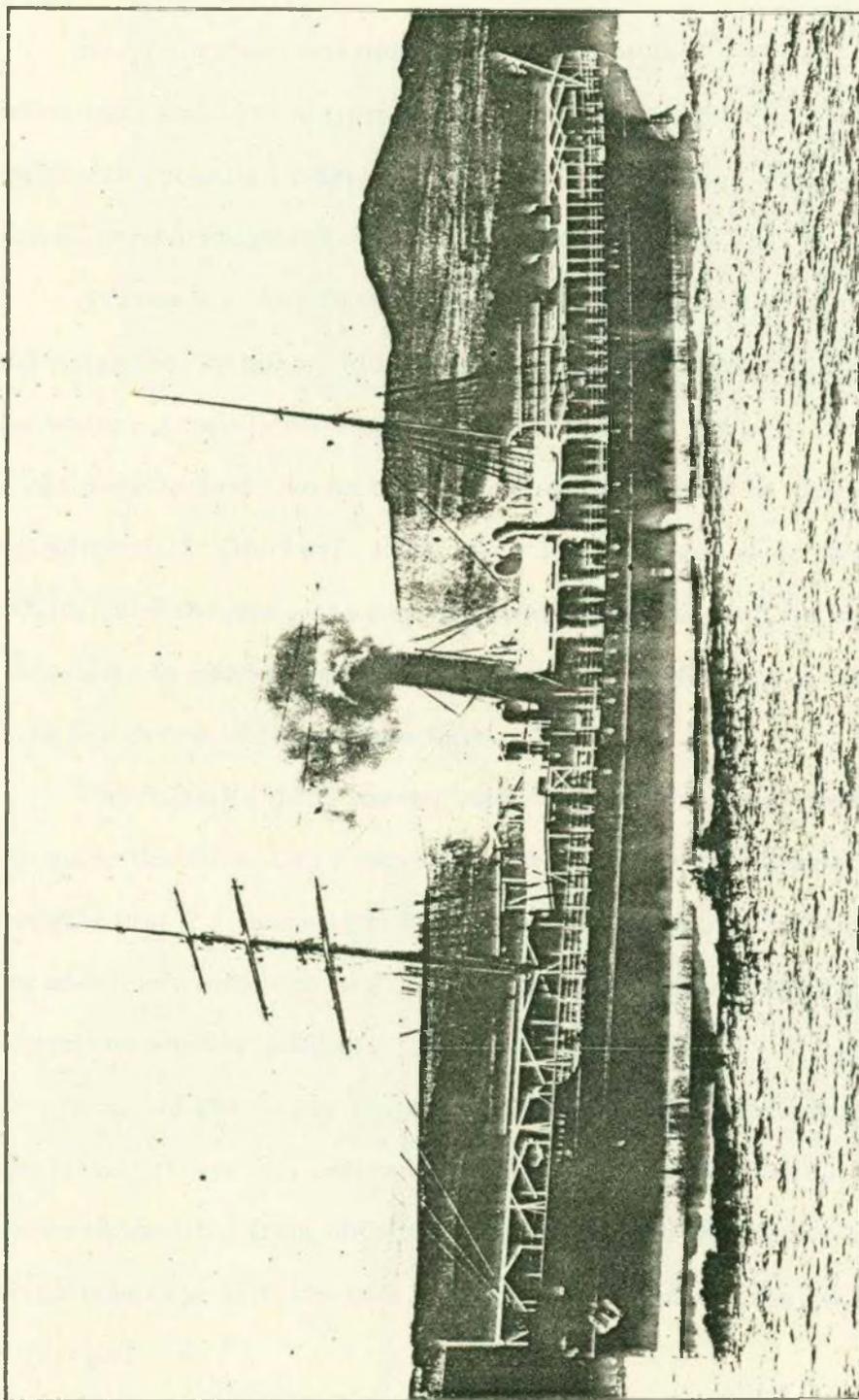


Figure 18  
The Taviani

made. This was the first warship of any country to enter any of Rarotonga's harbors.

Rarotonga was not noted for its harbor facilities. In the period between 1823 and 1887 sixteen ships met their fate on the island's reef. Some of the wrecks resulted from poor weather but most were caused by simple errors of human judgment. Nine of the sixteen were wrecked at Avarua alone.

Avarua and Avatiu were the main harbors on the island. Sailing craft would enter the harbors and moor to submerged anchors placed strategically in the water. One visitor remarked after viewing his ship from shore: "The poor old dear looked like an astonished spider placed in the center of someone else's web." (Herbert, 1872; 142) Pilotage fees were charged by the pilot who used the money to pay his divers who secured the ship and kept the moorings in good repair. For vessels up to fifty tons it cost C\$ 6.00 and C\$ 1.00 for every additional ten tons.

The island's third harbor, Ngatangia, was only used if unfavorable winds made the other two dangerous. It is famous in legends for it was from Ngatangia that the canoes left for New Zealand during the "Great Migration" in the mid-fourteenth century. Unfortunately by the 1880s silt had almost rendered the harbor useless.

Some of the larger ships found all three harbors unsafe and so laid off the island at one of a series of anchorages outside Avarua. People and cargo were shuttled from ship to shore in lighters manned by white-shirted oarsmen complete with top hats. Slight fees for use of the anchorages were also charged.

Despite the fact that nature had not been kind to Rarotonga and that harbor facilities similar to those found in Hawaii, Tahiti, and Samoa did not exist, the tonnage handled by the island continued to increase annually.

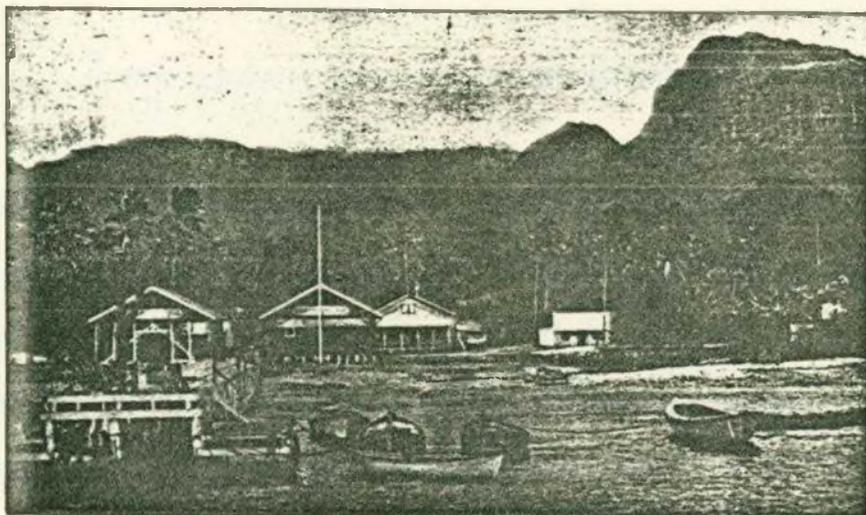


Figure 19

Avarua-From Moorings Inside Avarua Harbor

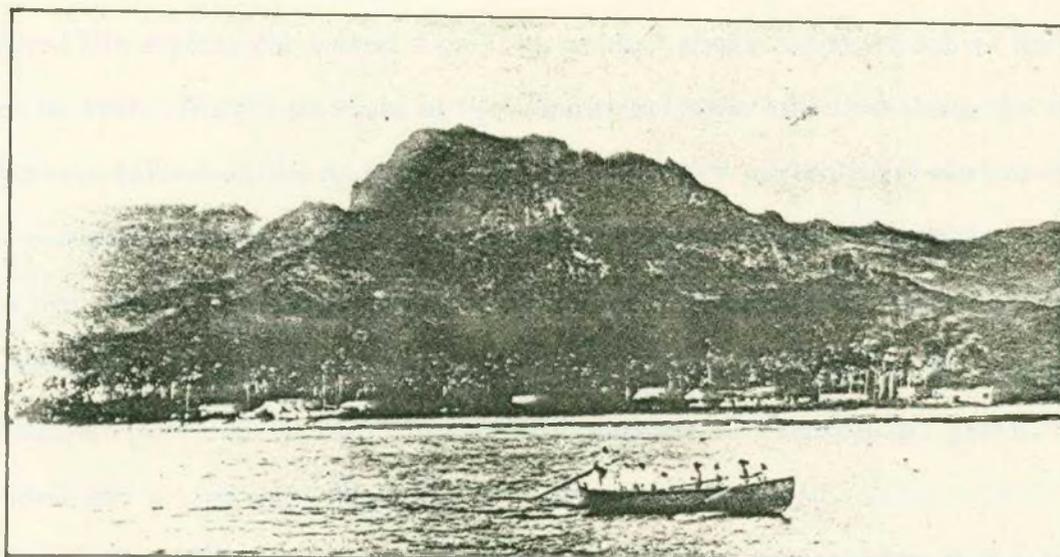


Figure 20

"People and cargo were shuttled to shore  
in lighters manned by white-shirted  
oarsmen complete with top hats."

## CHAPTER VI

## YESTERDAY, TODAY, AND TOMORROW

Eighty-four years after the establishment of the British Protectorate-ship, Rarotonga still reflects 1887 patterns and attitudes as they relate to the natural and human environments.

The natural environment continued its pattern of change after 1887. New introductions of insects and plant pathogens continue to be just as destructive to local produce and human life as they were in 1887. Just as rats and mantes plagued the coconut plantations in the 1880s, moths and scale insects harass the island's citrus growers today. Recently discovered Sigatoka disease threatens to destroy much of the banana crop while an unnamed virus has destroyed most of the island's taro.

Despite these changes as well as increased population and newly adopted life styles, the island's various natural zones remain much as they were in 1887. Ninety per cent of the island residents still live along the coast or further inland on the makatea. The best land for agricultural purposes still remains in the swampland or on the terraces and fans. One major swamp area near Avatiu, however, has been filled and covered with concrete as Rarotonga prepares to enter the jet age with the construction of an international airport. As in 1887, the interior highlands remain lush, green, and isolated and a sanctuary for wildlife escaping man's world.

Many 19th century human attitudes and patterns are also still recognizable. Rarotonga continues to have five major village centers with the Avarua-Avatiu complex being the most populous. Focal points within each village continue to include the traditional; the church, the school, and the houses of the ariki and orometua; as well as the modern; the cinema theater

and the village packing shed. Each village still retains some autonomy with a voice in island affairs and a community spirit personified each year during the rugby season.

Human attitudes still reflect many of the beliefs which were prevalent in the 1880s. One of the complaints of the missionaries in the 19th century was that many of the local people refused to accept their medical attention and service. Today Rarotonga has a modern hospital and health service which offers adequate medical care. Nevertheless, some people will not take advantage of the government's health service, preferring instead to visit the local practitioner or traditional healer who has had no training in Western medical practices. Some diseases and ailments are clearly recognized as being the prerogative of the traditional healer while others can only be cured with Western medical techniques and medicines. The distinction at times becomes confused. In these cases advice and treatment from both quarters is usually sought.

Religion pervaded through all levels of life in the 19th century. Today religion continues to be a strong force in the society. Though there are now more denominations (Catholic, Latter-Day Saints, Seventh-Day Adventists, Jehovah Witnesses, and Ba'hai), all are Christian. Just as the London Missionary Society was very isolationist in terms of the possible introduction of other Christian religions in 1887, the present Christian religions would probably be just as isolationist in terms of the possible introduction of other non-Christian religions. The old London Missionary Society has "localized" into the Cook Islands Christian Church and today enjoys a membership of 73 per cent of the Cook Islands total population. (Cook Islands Census, 1966)

The economy in the 1880s was largely based on a monetary system. To the islander, however, money was not always useful. Within the local

population barter continued as a means of exchange. This pattern has not disappeared. Growers and planters will still barter with fishermen for an exchange in kind; growers exchanging taro and other vegetables for fish; and vice versa.

The growing desire for imported goods witnessed in the 1880s has continued to a stage whereby that desire has changed to dependence. It is unfortunate but now Rarotonga depends almost entirely on imported goods to support its growing population. This also reflects contemporary attitudes among the young about the decreasing importance of agriculture as opposed to the social desirability of obtaining white and blue collar jobs away from the land. It is not clear how this attitude can be changed without upsetting the island's economic situation.

Politically, Rarotonga has always been the hub of activity and development. The traditional ariki system modified by Christian tutorage was still strong in 1887. The people adhered to the wishes of their leaders who felt threatened not from within but from the outside. Because of this fear, the ariki petitioned for British protection. It is interesting to note that after the Protectorateship was established in 1888 and a Resident Agent was appointed in October 1890, the authority and sovereignty of the ariki began to decline. Through their own efforts and desires, Rarotonga's ariki initiated their own "bloodless" divestiture of political power.

On June 11, 1901, the British Government officially transferred the Cook Islands to New Zealand. Politically, New Zealand exercised control until 1965 when by national plebiscite the Cook Islanders opted for their current "self-government" status. This status is not to be confused with complete independence or sovereignty for the Cook Islands still recognize New Zealand's prerogatives in foreign affairs and defense. However, since 1965 the Cook

Islands Government has never stated that its eventual goal is complete independence or sovereignty. It would seem logical in an era when "colonialized" countries are demanding and receiving their independence, that the Cook Islands would do likewise, but they have expressed no such desire. Is this really so strange? The desire of the ariki in 1887 to be tied to a larger power is still reflected today. Just as it was doubtful whether Rarotonga would have survived much longer as an independent island in 1887, it is questionable whether the Cook Islands today could survive on their own without aid and assistance from some larger quarter. All that has occurred is that the emphasis has shifted from the political to the economic.

Human interchange and exchange are part of living in the real world. But care must be exercised because with close involvement with other cultures, an abandonment of traditional attitudes and mores in favor of new ones may occur, and this often leads to discontentment and despair. This is compounded when there is no realization of the importance of past patterns of development and an appreciation of how they relate to one's present surroundings. Some inclination of this is necessary for successfully coping with the future. It remains to be seen whether the relationship between the Cook Islands and New Zealand can long endure if this lesson is not mutually learned to the satisfaction of both parties.

There can be no present without a past, no future without both. That which is is only comprehensible in terms of what was. That which was may explain that which is, but can not predict that which will be.

-Ian McHarg

APPENDIX 1

First Government Census / Rarotonga 1 June 1895

NATIONALITY	VILLAGE					TOTALS
	Avarua- Avatiu	Arorangi	Ngatangiaia	Matavera	Titikaveka	
Rarotonga	641	359	305	176	142	1,624
Mangaia	159	61	29	8	25	282
Aitutaki	33	18	6	5	15	77
Atiu						
Mitiaro	78	37	11	8	5	139
Mauke						
Other Pacific Islands	63	58	51	8	6	186
Great Britain	53	-	4	2	-	59
United States	19	2	2	1	-	24
Germany	4	-	-	-	-	4
France	1	-	-	-	-	1
Norway	2	-	-	-	-	2
Portugal	4	2	-	-	-	6
Chinese	7	3	-	-	-	11
Half-Castes	38	-	-	-	-	38
TOTALS	1,102	540	408	208	196	2,454

## APPENDIX 2

Common Flora of Rarotonga

<u>RAROTONGAN NAME</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
Ake	<u>Dodonaca viscosa</u>	Soapberry
Akeake	<u>Xylosma gracile</u>	-
Aketa	<u>Jasminum didymum</u>	-
Angi	<u>Coprosma laevigata</u>	-
Ano	<u>Guettarda speciosa</u>	Tafano
Aoa	<u>Ficus prolixa</u>	Banyan
Ara	<u>Ananas*</u>	Pineapple
Arani	<u>Citrus sinensis</u>	Orange
Aratai	<u>Pandanus ordoratissimus</u>	Pandanus
Au	<u>Hibiscus tiliaceus</u>	-
Auere	<u>Grewia Malococca</u>	-
Eki	<u>Cyathea de currena</u>	-
Enua	<u>Macaranga harveyana</u>	-
I'i	<u>Inocarpus edulis</u>	Chestnut
Itoa	<u>Ixora bracteata</u>	-
Kaiatea	<u>Weinmannia rarotongensis</u>	-
Kaika	<u>Eugenia jambos</u>	Rose apple
Kaka	<u>Entanda scadens</u>	-
Kaka ratua	<u>Meryta pauciflora</u>	-
Kaka vai	<u>Entanda phaseoloides</u>	-
Kakatea	<u>Mucuna gigantea</u>	Sea bean

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\* Species not given

Kaope	<u>Coffea arabica</u>	Coffee
Kapiti	<u>Brassica oleracea</u>	English cabbage
Kapukapu	<u>Geophila reinformis</u>	-
Karaka	<u>Elacocarpus rarotongensis</u>	-
Kauarika	<u>Terminalia catappa</u>	Tropical almond
Kaute	<u>Hibiscus rosa sinensis</u>	Red hibiscus
Kavakava	<u>Pittosporum rarotongensis</u>	-
Kie kie	<u>Freyrciretia wilderi</u>	-
Koka	<u>Bischofia javanica</u>	-
Koki	<u>Oxalis corniculata</u>	Yellow wood sorrel
Kota'a	<u>Asplenium nidus</u>	-
Kotuku	<u>Mussaenda frondosa</u>	-
Kumara	<u>Ipomoea babatas</u>	Sweet potato
Kupili	<u>Triumfetta procumbens</u>	Burr weed
Kuru	<u>Artocarpus altilis</u>	Breadfruit
Maire	<u>Oldenlandia foetida</u>	-
Maire rakau	<u>Alyxia elliptica</u>	-
Maniota	<u>Maniot utilissima</u>	Manioc
Matie	<u>Thuarea involuta</u>	-
Matira	<u>Plectronia barbata</u>	-
Mautini	<u>Cucurbita sp.</u>	Pumpkin
Meika	<u>Musa*</u>	Banana
Miro	<u>Thespesia populnea</u>	-
Moto	<u>Homalium acuminatum</u>	-
Moto oi	<u>Cananga odorata</u>	-
Ngaio	<u>Myoporum*</u>	Sandalwood
Ngangau	<u>Scaevola frutescens</u>	Beach naupaka

Ngatae	<u>Erythrina indica</u>	Tiger's claw
Ninita	<u>Carica papaya</u>	Papaya/Pawpaw
Nono	<u>Morinda citrifolia</u>	Indian mulberry
Nu	<u>Cocos nucifera</u>	Coconut palm
Pauma	<u>Lorarthus insularum</u>	-
Pohuehue	<u>Ipomoea pescaprae</u>	Beach morning glory
Poue	<u>Vigna retusa marina</u>	-
Poru	<u>Solanum cleraceum</u>	Nightshade
Poroitī	<u>Solanum uporo</u>	Nightshade
Pua	<u>Fagraea berteriana</u>	-
Pua neinei	<u>Fitchia*</u>	-
Pui	<u>Dianella intermedia</u>	-
Puka	<u>Hernandia peltata</u>	-
Rara	<u>Vitex agnus castus</u>	-
Rata	<u>Metrosideros villosa</u>	-
Rauriki	<u>Leucosghe corymbulosa</u>	-
Remene	<u>Citrus lemonia</u>	Lemon
Reva	<u>Cerberu odollam</u>	-
Rirei	<u>Solanum repandum</u>	Nightshade
Tamanu	<u>Calophyllum inophyllum</u>	Alexandrian laurel
Tarairē	<u>Myrsine cheesemani</u>	-
Taro	<u>Colocasia esculenta</u>	Wet-land taro
Taro tarua	<u>Xanthosoma atrovireus</u>	Dry-land taro
Tataramoa	<u>Caesalpinia bonducella</u>	Grey nickers
Tauunu	<u>Tournefortia argentea</u>	-
Ti	<u>Cordyline terminalis</u>	Ti
Tiare	<u>Gardenia taitensis</u>	Gardenia

Tiporo	<u>Citrus aurantifolia</u>	Lime
Tira	<u>Melia azadarach</u>	Pride of India
Toa	<u>Casuarina equisetifolia</u>	Ironwood
Toatoa	<u>Cardimine sarmentosa</u>	
Toromiro	<u>Lencaena Forsteri</u>	-
Tou	<u>Cordia subcordata</u>	-
Tuava	<u>Psidium guajava</u>	Guava
Tuanui	<u>Gleichenia linearis</u>	Staghorn fern
Tutui	<u>Aleurites mollucana</u>	Candlenut tree
Ui	<u>Dioscorea utilissima</u>	Yam
Uto	<u>Cocos nucifera</u>	Sproating coconut
Utu	<u>Barringtonia butonica</u>	-
Vavai	<u>Bombax Malabaricum</u>	Cotton
Vavai mamau	<u>Ceiba pentandra</u>	Kapok tree
Vi	<u>Mangifera indica</u>	Mango

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## APPENDIX 3

Common Fauna of Rarotonga\*

<u>RAROTONGAN NAME</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
1. Anthropods		
Veri-enna	<u>Chilopoda*</u>	Centipede
Veri-tara	<u>Chilopoda*</u>	Centipede
Tukitukiaonui	<u>Araneae*</u>	Spider
2. Birds		
	Land	
A-O-Tangaroa Pa Tangaroa	<u>Chalcites lucidus</u>	Shining cuckoo
Ioi	<u>Alponis cinerascens</u>	-
Kakirori	<u>Chasiempis*</u>	-
Karavia	<u>Eudynamis taitensis</u>	Long-tailed cuckoo
Kukupu	<u>Hemiphaga*</u>	Pigeon
Kuri	<u>Coenocorypha*</u>	Snipe
Kuri-Vaa-Rorea	<u>Phegornis*</u>	Long-billed snipe
Mokora or Mokara	<u>Anas*</u>	Wild duck
Rupe	<u>Pitlopus*</u>	Dove
	Sea	
Kakaia-Tavake- Tea	<u>Sterna striata</u>	White tern
Kakaia-Tungi- e-Maui	<u>Gygis alba</u>	Tern
Koputu	<u>Circus*</u>	Fishing hawk
Kota'a	<u>Frigata*</u>	Frigate bird

\* Species not given

Kotuku	<u>Egretta alba</u>	White heron
Kotuku	<u>Egretta*</u>	Blue heron
Kuriri	<u>Tringa*</u>	Sandpiper
Ngoio	<u>Anous stolidus</u>	Noddy
Taiko	<u>Procellaria parkinsoni</u>	Black petrel
Tara	<u>Rhyncops</u>	Skimmer
Tavake or Tavake-Uruuru-Nгаа	<u>Phaethon rubricanda</u>	Strawtail
Teue or Teuea	<u>Ardea*</u>	-
Torea	<u>Himantopus leucocephalus</u>	Stilt
Toroa or Ua-Kao	<u>Sula*</u>	Gannet
3. Fish		
	Reef Fish	
Avake	<u>Mugil*</u>	Mullet
Aua or Konako or Kanae	<u>Mugil*</u>	Mullet
Ka'a	<u>Mugil*</u>	Mullet
Kikokino or Titiara or Urua	<u>Carangoides*</u>	Trevalli
Kokiri	<u>Balistidae*</u>	Triggerfish
Manini	<u>Acanthurus*</u>	Tang
No'u	<u>Scorpaena*</u>	Stone fish
Pau'u or U'u	<u>Oplegnathus*</u>	Parrot fish
Umeume or Ume	<u>Alutera*</u>	Leather jacket
U'roa	<u>Mugil*</u>	Mullet

## Deep-Sea Fish

A'ai	<u>Scombridae</u> *	Tuna
Au-opu	<u>Scombridae</u> *	Bonito
Maami or Pa'ara	<u>S. Acanthocybium solandri</u>	Wahoo
Mango	<u>Asterospondyli</u> *	Shark
Maroro	<u>Exocoetus</u> *	Flying fish
Ono	<u>Sphyraena</u> *	Barracuda

## Miscellaneous Reef Life

A'a pata	<u>Lycodontis</u> *	Moray eel
Etuke	<u>Echinometridae</u> *	Urchin
Koura	<u>Crustacea</u> *	Crayfish/shrimp/crabs
Kuku	<u>Mytilus edulis</u>	Mussel
Mapi'i	<u>Mytilidae</u> *	Mussel
Pa'ua	<u>Tridacna</u> *	Clam
Vauna	<u>Centrochinidae</u> *	Urchin
Rimu	<u>Thallophyta</u> *	Sea weed
Rori	<u>Holothuridae</u> *	Beche de mer

## 4. Insects

E	<u>Lopaphus coccophagus</u>	Mantis
Kararau	<u>Blatta</u> *	Cockroach
Namu	<u>Aedes polynesiensis</u> <u>Culex annulirostris</u> <u>Culex quinquefasciatua</u>	Mosquito
Rongo	<u>Musca domestica</u>	Fly (house fly)
Rongo-meri	<u>Apis</u> *	Bee
Rongo-patia	<u>Vespidae</u> *	Hornet
Tutua	<u>Ctenocephalides</u> *	Flea
U'u	<u>Eumenes</u> *	Mason bee

## 5. Mammals

Kiore	<u>Rattus exulans</u> <u>Rattus frugivorus</u> <u>Rattus alexandrinus</u> <u>Rattus norvegicus</u>	Rat
Kiorengiao	<u>Felis domesticus</u>	Cat
Maemae	<u>Coryphaena*</u>	Mahimahi
Mokirikiri	<u>Vesperlitionidae*</u>	Bat
Puaka	<u>Suidae*</u>	Pig
Puaka-aoa	<u>Canis domesticus</u>	Dog
Puaka-nio	<u>Capra hircus</u>	Goat
Puaka-oroenua	<u>Equus*</u>	Horse
Puaka-toro	<u>Bos taurus</u>	Cattle
Punapuna kiore	<u>Mus musculus</u>	Mouse
To'ora	<u>Cetacea*</u>	Whale

## 6. Reptiles

Mokoare	<u>Gekkonidae*</u>	Gecko
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## APPENDIX 4

## The Laws of Rarotonga, 1879

"I have not come to destroy the law, but to fulfill it"  
-Matt. V. 17

Our law is no respecter of persons. The penalty from the chief to the least, from the native to the foreigner, is the same. All people are alike before the law.

## I. SORCERY

No one is allowed to make evil use of any of God's works, such as asking a sorcerer to find out the cause of sickness, or as to the discovery of a thief. The penalty is, for the sorcerer 10 dollars fine, and for the person asking him, 5 dollars and forfeiture of any money that may have been paid to the sorcerer. See. Lev. XX 6, Deut. XVIII 11, Is. VIII 19.

## II. MURDER "Thou shalt not kill" -Ex. XX 13.

He who strikes a man, and that man dies, shall be judged. Here is his penalty. He also shall die (Ex. XXI 12). If any man wilfully and of intent cause the death of another he too shall die - Ex. XXI 14. If he fails in his intent he shall still be judged, and his penalty shall be one year in prison, with such labour as the chief may decide. He will sleep in the prison at night. If a man slay another in self-defence he shall not be judged.

## III. THE FALLING AXE

If an axe falls when a man is using it, and another is killed by the fall, and there shall be no intention to kill him, it will not be judged as murder. The penalty shall be a fine of 20 dollars to pacify the friends of the dead. If the injured person dies not, but be only severely hurt, then the fine shall be 10 dollars. If slightly injured the fine will then be 5 dollars. This also shall be the law when the death or injury be from a gun in bird shooting, from a harpoon when fishing at sea, etc.

If a man throws a stone at a pig and it strikes a person and death follows, without evil intention on the part of the thrower, he shall be fined 20 dollars, half of which shall be paid to the friends of the deceased.

#### IV. HOUSE-BURNING

If a man burns a house, and the people in it are killed thereby, he too shall die. If the burning be accidental he shall be fined 20 dollars to be given to the owner of the house.

If a man with evil intent burn a house, and the things in it, but not the people, are destroyed he shall be kept in irons for two years, and his land shall be given to the owner of the burnt house. If he has no land he shall be kept in irons for three years.

#### V. DISPUTES ABOUT LAND

If a chief enters the land of another chief and claims it the law shall decide between them. If the chief who is in the wrong persists in that wrong, then all the chiefs shall assemble and decide what his punishment shall be. If he then obeys the law he shall only be admonished, but if he refuses after three warnings the land shall be taken from him and given to its rightful owner; and for the offence he shall be fined 20 dollars.

#### VI. HUSBAND AND WIFE

If a man takes another's wife he shall be fined 20 dollars of which his chief shall have one half and the husband the other half. Such also will be the penalty of a wife leaving her husband in the same way.

The unmarried man who takes another's wife shall be fined also 20 dollars, and unmarried women taking other's husbands shall be dealt with in the same way. Unmarried men and unmarried women committing fornication shall be fined 8 dollars, i. e., 4 dollars each. If they have no money they shall pay in goods or property, and if they have nothing they shall be put to work

on the roads, or at burning lime, or cutting and bringing in firewood.

VII. STEALING AND SPEARING PIGS "Thou shall not steal" -Ex. XX. 15

Pig stealing - For this, the thief shall pay four pigs like the one stolen. Of these, one will go to the chief, one to the police, and two to the owner of the stolen pig. If the man who steals has no pigs, then he must pay in money to buy the four. If another assisted in stealing the pigs he too shall pay fourfold; and any who have eaten of the stolen pig shall each pay twofold. If they have neither pigs, goods, nor money they shall be put to work on the roads, burning lime, cutting firewood, or any other work that the owner of the stolen pig shall desire.

Should a person steal a plough or an ox he will be fined 40 dollars of which 30 dollars shall go to the owner of the plough or ox, 5 dollars to the chief and 5 dollars to the judge. For stealing a horse he will pay 45 dollars, of which 35 dollars shall go to the owner, 5 dollars to the chief, and 5 dollars to the judge. If it be a sheep or goat, he shall pay 10 dollars of which 5 dollars shall go to the owner and  $2\frac{1}{2}$  dollars each to the chief and the judge.

Spearing a pig and etc. - If this is done in the village he shall pay 10 dollars. If done inland on a plantation he will not be judged provided that he makes known what he has done. If it is not made known, he will be fined 10 dollars. If a horse be speared, or an ox, the same law shall apply; but the fine in each case shall be 30 dollars. If a person is obstinate in running horses and cattle inland month after month, and he does so for three months he will be fined 10 dollars. So also with pigs but the fine shall be 5 dollars.

Stealing turkeys and fowls - For stealing a turkey a person shall repay fourfold. And anyone eating the stolen turkey shall repay two turkeys for each of which he has partaken. So also will be the fine for stealing fowls, ducks, and eggs.

Stealing foods of all kinds - The following are the fines: stealing bananas, kumaras, taro, or pineapples - 4 dollars. And if two are engaged in stealing the pineapples they shall pay 4 dollars each. For stealing coconuts, sugarcane, oranges, or coffee plants, 4 dollars each; and the same for all other kinds of food.

If a person going to work eats any kind of growing fruit on his way he shall not be judged.

In stealing money and etc. - For every shilling stolen he shall repay 1 dollar, and so fourfold for any money stolen. If the thief has no money his property shall be sold to pay the fine. For stealing articles other than money, he shall also return fourfold, two to go to the owner, one to the chief, and one to the police.

#### VIII. BEARING FALSE EVIDENCE "Thou shalt not bear false witness"

-Ex. XX 16.

If anyone sees a theft being committed he must give the alarm so that the people may come and there will be proper and many witnesses. If one merely goes to the policeman himself, it will be of no avail, and if one bears false witness against another he shall be fined 5 dollars; of which  $1\frac{1}{2}$  dollars goes to the chief, two to the aggrieved person, and  $1\frac{1}{2}$  to the police.

#### IX. UNCONFESSED CRIMES

If an offence be not proved the accused party will be released, but if at a future time it can be proved he will be judged, and the penalty will be 4 dollars for the first inquiry and 4 dollars for the second.

#### X. THE WIDOW AND THE FATHERLESS

When the husband dies, if the widow be left with children, they shall remain upon the land; but if she does evil and be found guilty three times, she shall be removed because she has done evil to her guardian - the law.

If she marries again she shall also leave the land. Her children will remain and the land be with them. If there be no children the brother of the dead husband will take the land. If no relation be alive the land will go back to the chief or the Mataiapo and remain with him.

XI. THE MAN WHO EXALTS HIMSELF ABOVE HIS ARIKI, MATAIAPU, RANGATIRA, OR ELDER BROTHER

When trouble arises between Arikis, Mataiapos, or Rangatiras, and one goes to another Arika, Mataiapo, or Rangatira and takes his land, that is not right. For example; if one comes to Avarua from Arorangi and hands over the right to the land to anyone at Avarua, that is wrong. The same is true with Ngatangia. Never under any conditions is this right. Here is the penalty: His land shall all be taken from him; not a piece shall be left. Only when he returns and repents his wrongdoing and humbles himself therefore, will the land be given back to him. Should he not do this, the land will not on any account be returned to him.

XII. INCITING TO DO MISCHIEF

When anyone incites the Arikis, Mataiapos, or Rangatiras to do ill, he shall be judged. His penalty shall be to build a stone fence or wall 10 fathoms long, to clear ground, or to burn lime.

XIII. THE ARIKI WHO DISTURBS THE PEACE

When an Arika quarrels with another, or a Mataiapo with another Mataiapo, or a Rangatira with a Rangatira, or one man with another man, the Arika, Mataiapo, or Rangatira that is judged to be wrong shall be deprived of office, and the man so judged will be fined. Arikis, Mataiapos, Rangatiras, and other men will come all alike under the law. The fine imposed will be to build a stone wall, burn lime, etc. to the equivalent of 100 dollars in money.

## XIV. ABOUT WILLS

When a person is dying, let him make his will openly in the presence of the Ariki, Judges, and many witnesses. Then there will be abundant evidence, and the will be right for the wife, for the children, the friend, or the relation, as the case may be. But if a man will a plantation to his friend, and his Ariki or his Judge or the authorities did not know of that will, it will be useless. This is the law of wills, and it is for the Ariki, the Judge, and the authorities to watch over it.

## XV. IMPORTED LIQUOR

Importation of liquor is prohibited and if any is landed it shall be seized and fines levied. Of the fines, 1/3 goes to the Arikis, 1/3 to the police, and 1/3 to the informer. After a second offence, the offender will be deported.

## XVI. BUSH BEER (MADE FROM ORANGES, BANANAS, OR PINEAPPLES)

If anyone drinks bush beer the fine will be as follows; for the maker 10 dollars and for the drinker 5 dollars. If the beverage is drunk on the Sabbath, the fine shall be 15 dollars. If a man be drunk and cause disturbances at any time, the fine is 15 dollars. If he has no money let him pay in goods, and if he has nothing let him be put on the roads or burn lime, etc.

The meeting to drink bush beer is unlawful, and those who meet shall be punished as above. If the meeting be on the plantation of one then the fine will be six dollars each instead of 5 dollars.

## XVIII. FOR BEING DRUNK

If a man drinks till he is drunk he will be fined 6 dollars whatever kind of drink it may have been. If it be in the village and he causes damage to a house, the fine will be 10 dollars. If two drunken men fight the fine will be 10 dollars each. If they have no money they must work on the roads or

burn lime, etc.

#### XVIII. BUYING AND SELLING

If two men make a bargain, and one breaks it and returns the article bought, it shall be decided who is in the wrong and the article will be disposed of accordingly. Concerning unsound articles such as a shirt that is rotten, money that is bad, axes that are broken, etc. - let them be all returned and proper things be given instead.

#### XIX. HOUSEBREAKING

For breaking into a house and stealing, the fine will be 15 dollars. If the thief has no money, he shall work on the roads, etc.

#### XX. THE FOREIGNER WHO DESERTS HIS SHIP

He will be judged and fined 10 dollars - half to go to the Ariki and half to the informer. If the vessel has left he will still be judged and do work ashore for one month. He who helps a foreigner to desert will also be fined 10 dollars. If he has no pig nor property of any kind with which to pay the fine, he will be put on the road to construct such 40 fathoms in length by 2 fathoms in breadth. And if not that, he shall cut firewood to the extent of two boat loads.

#### XXI. FOREIGNERS RESIDING ASHORE

When a foreigner desires to reside ashore, he can not buy land. It is for the man with whom he lives to feed him and receive payments. Under no circumstances can land be sold to him. No captain is allowed to leave a sick man ashore secretly. Under no circumstances shall he be allowed to land men with infectious diseases, lest we all die. When the captain brings a sick man ashore, and the Ariki allows him to leave the sick man, he (the captain) shall give the person who is to feed his sick man 30 dollars.

When a foreigner wishes to live ashore and get a piece of land on

which to build a house, it is not right that he should have it. Let him pay rent by the month for a house and live in it. When the year is ended let him make a new agreement and so on.

Again, let no foreigner and Maori make a secret agreement. Let it be done before the Ariki and many people. Then if trouble comes there will be many witnesses, and we can know who is in the right. The man to whom the house belongs must not forget the owner of the land on which it is built.

Again, when a boat comes to the shore people must not rush into the water and take hold of the foreigner and crowd him. When he is on shore that is the time to receive him as a friend. He who breaks this law will be fined 5 dollars.

## XXII. THE MARKET HOUSE

When a captain comes ashore the authorities in charge of the market house are to inquire what produce he wishes to buy and to make it known to the people. No one is to interfere between the captain and the authorities of the Market House. All must be quiet "so that it may be seen we are an orderly people."

Chiefs are not to take the best pieces of cloth for their own use: "Let them have a share and the people a share also." But if money only be paid by the captain, it is right that it should go to the chief.

No one is to stand up and call out that he has anything to sell. The person in charge of the market is the proper one to take all the things and deal with them. The authorities must be very vigilant to prevent the interference of one with another in the Market House, and the police are to take into custody any who do not obey these authorities.

## XXIII. SABBATH OBSERVANCE

There shall be no trading on the Sabbath.

All avoidable work is prohibited.

The sacredness of the day is to be recognised and observed.

No one is to walk about from house to house while the people are in church except to visit a sick friend, to help to strengthen the house against a hurricane, or, if a pig dies, to get it in and cook it, or if a canoe is carried out to sea to recover it, or to cook food for those who come from the sea or from a journey, or to bring water if there is none in the house, etc. A policeman may also walk about, and if a vessel arrives on the Sabbath a boat may go off to see if they require food or drink which may be taken to them. Food for the family may be cooked in the morning or at any time for a sick person. Medicine may be fetched, but if people travel needlessly from one place to another they will be fined 5 dollars.

## XXIV. THE WOMAN WHO DOES NOT CLEAVE TO HER HUSBAND AND THE HUSBAND WHO DOES NOT CLEAVE TO HIS WIFE

Let them be fined 5 dollars each if they quarrel and separate. If they have no money the husband is to burn lime, cut firewood, etc. The wife in that case is to make 5 fathoms of matting in length and 2 fathoms in breadth. They must not be divorced when thus separating.

## XXV. TATTOOING

It is forbidden for men and women to tattoo each others names or marks upon themselves. The fine for this is 4 dollars.

## XXVI. THE HUSBAND THAT RUNS AWAY IN A SHIP

When a husband is five years absent from his wife, he may be divorced and she may marry again.

## XXVII. WRONGFULLY TAKING FOOD

When any feast, such as a marriage feast, is being held, and the food and things are brought in, things must not be rushed. Sit quietly and when you have received your share go in peace. If you have no share do not rush but rise up and go away quietly. If you do otherwise the fine will be 5 dollars or its equivalent in goods, labour, etc.

## XXVIII. CATTLE TRESPASSING

If it is for only one night or at a maximum of three nights one should not mind. If it is for more it is for the law to speak. The owner must pay four things for the damage; one of these must be a pig and the other three goods or trade. If the owner has not these, he must replant the land injured by his animal.

## XXIX. CHILDREN WHO LEAVE THEIR HOME

When a father has lectured his child for this wrongdoing and the child does not pay attention, let him be made to do 5 fathoms of stone wall a yard and a half broad.

## XXX. REBELLIOUS CHILDREN

Children who strike their father or mother will be made to do 10 fathoms of stone wall and be put for two months in the stocks. If they repent they may be released.

## XXXI. THE MAN WHO NEGLECTS TO PLANT FOOD

Let his name be published and his laziness denounced by the sound of the drum. If at the end of the year his plantation is still neglected let him be made to do 10 fathoms of road.

## XXXII. LOST GOODS

If found by another other than the owner, the finder must make it known. If hidden his fine shall be 5 dollars.

## XXXIII. GOING ABOUT AT NIGHT

Only fishermen and people for a proper cause shall do this. Anyone else doing so after 9 o'clock let him do 5 fathoms of road 2 fathoms broad.

## XXXIV. AGAINST TAKING PEOPLE AWAY

No captains of vessels shall do this secretly. Let the agreement be made openly before the Ariki, and what is right will then be done and made known. No agreement shall be made in the house of a foreigner, but only before the Ariki and the missionary.

## XXXV. UNLAWFULLY ON THE PREMISES

If adultery be committed in the house of the Ariki, of the missionary, or of any other person, the offender shall be judged guilty of housebreaking and his fine is 10 dollars.

## XXXVI. THROWING BALLAST INTO THE HARBOR

When vessels are here they must not do this. If they do the fine will be 10 dollars.

## XXXVII. STRONG DRINK ON BOARD VESSELS

When a ship arrives in the harbour, it will be visited by the harbour-master who will scale up all liquor on board the ship. On the ship's departure, he will again visit it and see that the marks or scales put on by him have not been disturbed. If they have, the captain will be put in irons and fined 100 dollars.

## XXXVIII. LAW OF DEBT

No debt is allowed between natives and foreigners. Do not get into debt or the law will speak. Give and take. That is well. To the foreigner the law says do not give credit to the native. If you do the law will not help you.

## XXXIX. VESSELS COMING TO RAROTONGA

When vessels lay off and on if any one coming ashore from them does wrong, he will be tried by the law. If she anchors within three miles, and the law is broken on board, the authorities on shore will take the matter up and the law will deal with it as if broken on shore.

## XL. BUYING OR SELLING

No one shall bring coffee and copra to the market undried. They must be dry and sould. The native who breaks the law shall be put in irons. To the foreigner we say do not bring rotten cloth or money that is not of full value. If you do it will be for the law to speak. Bring only good things and good money so that no wrong may be done.

## XLI. QUARRELLING AND DRAWING BLOOD

When one strikes another in a quarrel or throws a stone or takes an axe or a knife and blood is drawn by him, and the person injured does not die, he shall pay 10 dollars for blood spilling.

## XLII. FOREIGN LABOUR

Neither foreigners nor natives are allowed to bring labourers from another land. The penalty is a fine of 20 dollars.

## XLIII. EMPLOYING LABOUR ASHORE

If a person goes to get labour he must first get the authorities to agree to it, and if they do not agree it must not be done. If he breaks this law, his fine will be 50 dollars.

## XLIV. THE ROAD

All must work for one month of each year upon the roads. Those who fail will be fined  $2\frac{1}{2}$  dollars.

## XLV. RESISTING AUTHORITY

Resisting the police or any one in authority will be punished by a fine of 5 dollars.

XLVI. CARD PLAYING

Card playing is not allowed in this land. Any one who breaks this law shall be fined as follows: The owner of the cards - 10 dollars - and the payers - 5 dollars each.

These are our laws.

Makea Pa Karika Kainuku Tinomana

-The Arikis of Rarotonga

REFERENCE: Cook islands Government File 11/19

## APPENDIX 5

The Liquor Law of Rarotonga, 1887

Intoxicating liquor, whether made by natives or imported by whites, is not legalised on the Island of Rarotonga. No, not in any way is intoxicating liquor agreed to. Take heed to this, all ye who are persistent in the use of this article prohibited by law. Intoxicating liquor manufactured on the island, and also all imported intoxicating liquor, strong drink, whether made by natives or imported by foreigners - there is no exception made, every kind of intoxicating liquor is totally prohibited.

The law runs as follows:

Clause 1, the fine - If a native or a foreigner violate the first clause of the law he will be liable to a fine of \$100.

Clause 2, the fine - If a native or a foreigner violate the second clause of the law he will be liable to a fine of \$50.

Clause 3, the fine - If a native or a foreigner violate the third clause of the law he will be liable to a penalty of \$15.

Clause No. 1 - Every native that manufactures intoxicating drink; every merchant that imports intoxicating drink, be he a native or a foreigner, be he a subject of this kingdom or of some other country - he who manufactures intoxicating drink from products of the land, and he who imports intoxicating drink, violates the first clause of the law.

Clause No. 2 - Every person resident on the island that trades in drink, be he a native or a foreigner, a subject of this kingdom or some other country, violates the second clause of the law.

Clause No. 3 - The purchaser of intoxicating drink, and every one that partakes of that drink in company with the purchaser, be he native or white man, also he who partakes of native made drink, violates the third clause of the law. REFERENCE: Cook Islands Government File 11/19

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