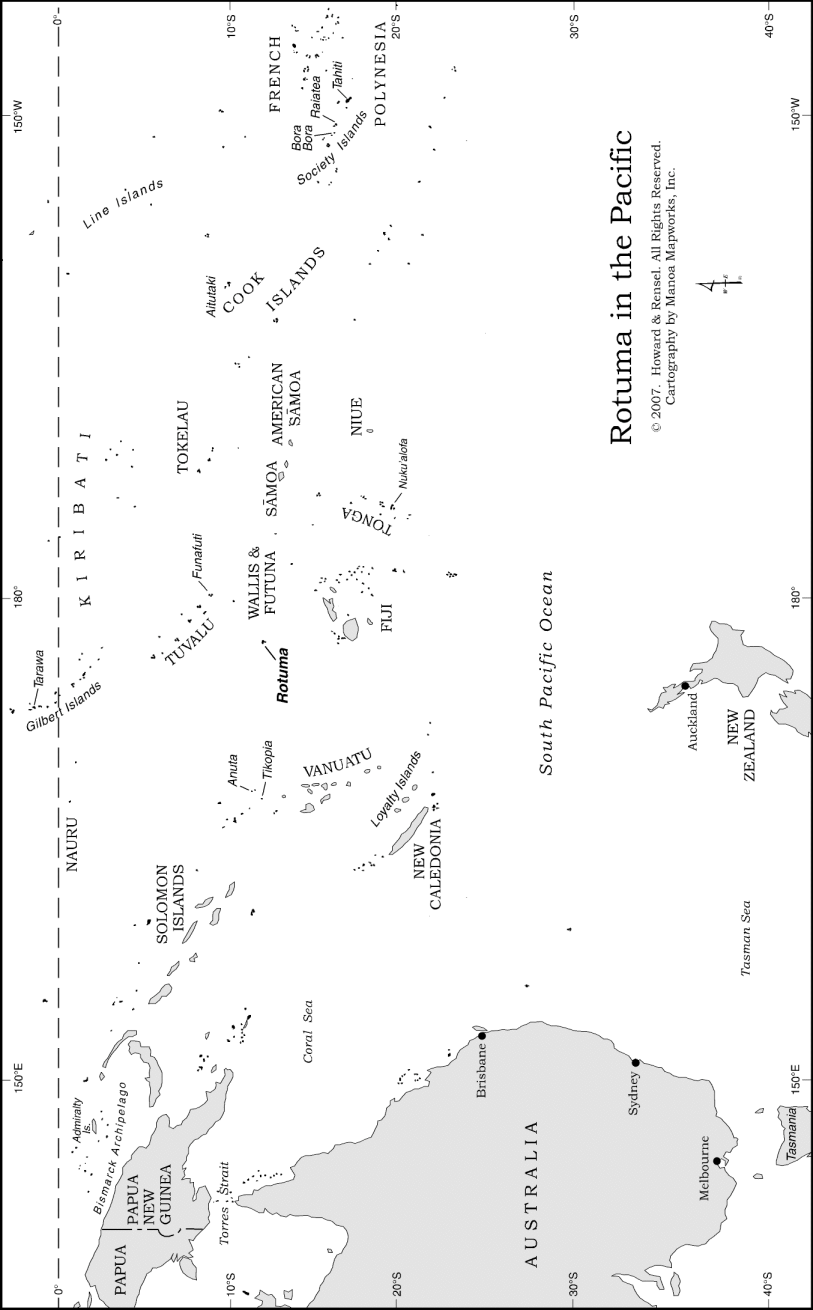




Photo 0.3 Man sitting atop an ancestral tomb in Rotuma, where the ancestors are ever present. © *Fiji Museum*.



Rotuma in the Pacific

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Cartography by Maroon Mapworks, Inc.



1 Ecology and Early History

There sits fair Rotuma in gorgeous beauty, unknown outside the tropics as an emerald isle on a sapphire sea. The shallow water enclosed by the coral reef presents a great variety of green tints; beyond is the deep ocean blue, while the perennial verdure of the island and the glowing azure of the oft-times cloudless sky present to the eye of the beholder such a blending of colour as the earth can scarcely duplicate.

The Reverend William Allen, "Rotuma," 1895

Geography and Geology

The island of Rotuma is located at 12° 30' south latitude and 177° east longitude, approximately 500 kilometers north of the Fiji archipelago. It is a similar distance south of Tuvalu, while Futuna and Wallis ('Uvea), its nearest neighbors to the east, lie 550 and 740 kilometers away. The main islands of Sāmoa and Tonga are approximately 1,200 kilometers to the east and southeast respectively, while the Tongan island of Niuafo'ou, which figures heavily in Rotuman oral history, is 910 kilometers distant. The nearest archipelago to the west is Vanuatu, at 1,100 kilometers. Rotuma is therefore a geographical isolate, but an isolate within sailing range for traditional Polynesian voyagers. On the one hand, this semi-isolation helps to account for some of the unique characteristics of the Rotuman population; on the other hand, it has contributed to the preservation of Rotuman culture despite nearly two centuries of contact with Europeans. Rotuma's geographical location is an important part of the story told in this volume.

The main island is divided into two parts, joined by an isthmus of sand (see photo 1.1; see also map, page 62). Tradition holds that the two parts were once separate, and

this contention is supported by geological evidence according to J. S. Gardiner, who wrote about the geology of Rotuma in addition to his ethnographic account.¹ Overall the island is 14.5 kilometers long and, at its widest, 4.5 kilometers across, with its lengthwise axis running almost due east and west. Total land area is approximately 43 square kilometers.

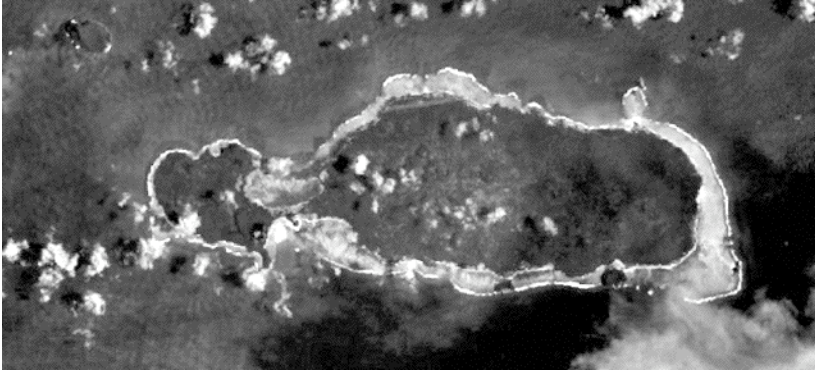


Photo 1.1 Rotuma from space by NASA satellite.

Geologically Rotuma is of volcanic origin, with a number of craters rising to heights of 200–250 meters above sea level. The island is surrounded by a coral reef, which for the most part is fringing, but in places approaches the barrier class. In spots, the edge of the reef extends about 1.5 kilometers from shore, providing a substantial expanse of shallow fishing grounds; in other places, it extends less than 100 meters.² Nowhere is there a deepwater lagoon to provide a sheltered anchorage for oceangoing vessels. Until the wharf was built at Oinafa in the 1970s, visiting ships had to anchor outside the reef, with people and goods transported from ship to shore and back by launch, punt, or canoe. Because it was leeward for the greater part of the year, the main anchorage was at Maka Bay, off Motusa, on the north side of the isthmus. It had the disadvantage of lacking a passage in the outer reef; at low tide even a canoe could not cross, so loading and unloading of ships had to be timed with the tides. An alternative anchorage was on the south side of the isthmus, at Hapmafau Bay. A passage in the reef there allowed it to be worked around the clock, but only when the weather was calm; when the sea became choppy it was too dangerous to continue.

On the reef are several islets, including Haua Ti'u and Haua Mea'me'a off Oinafa; Husia Ti'u, Husia Mea'me'a, 'Afgaha, and Solkope off Noa'tau; and Solnohu off Juju.

Solkope and Solnohu are easily accessible from the mainland and have been cultivated with coconut groves and root-crop gardens.

To the west of Rotuma, at distances ranging between 3 and 6 kilometers, lie the offshore islands of Uea, Hatana, and Hāf Liua. The largest of them, Uea, has a conical summit 260 meters high. It is surrounded by cliffs, which to the north and west are high and very steep. There is no fringing reef, and the main landing spot, to the eastward, is hazardous even under the best of conditions. Two freshwater streams flow on the island, which has a land area of 73 hectares. Uea was inhabited until the 1930s, when the Resident Commissioner ordered families off because of difficulties in providing them with medical care. Descendents of these families still maintain gardens on the island and periodically harvest its coconuts for copra.

Hatana is a rocky islet surrounded by a fringing reef. It is a sacred island, considered the burial place of Raho, the legendary founder of Rotuma. People from the village of Losa have proprietary rights to the island and visit it on occasion to hunt seabirds and their eggs. Access is hazardous even by canoe, and landing parties have been stranded for days during periods of rough seas.



Photo 1.2 Sacred stones on the islet of Hatana, 1959. *Alan Howard.*

Haf Liua, sometimes referred to as "Split Island," is a bare, crescent-shaped islet with cliffs all around. It is 57 meters high and has a vertical cleft through which there is a sea passage.

The eastern end of the main island of Rotuma contains two ranges of hills, roughly forming a U-shape, with the open end facing the Motusa isthmus. On the outer slopes of these hills, toward the shore, are extensive beaches and soil deposits. The hills themselves are of two types. One type has a flat summit with a central depression, containing forest timber and coconut trees on the summit and slopes, and the other runs into a ridge on which gardens are planted, in some instances right across the ridge itself. On both types of hills the slope for the last 50 to 100 meters is fairly steep, with inclines ranging from 30 to 55 degrees. The western end of the island also contains several hills, most of which correspond to the foregoing description, although some are distinguished by precipitous cliffs, from 50 to 100 meters high dropping to the sea. At several places along the coast the sand flats extend inward for a few hundred meters and in some areas run to a depth of four meters. At some points these coastal sand flats drop below sea level, resulting in saline pools and swampland.



Photo 1.3 View of eastern part of the main island across Maka Bay from Maftoa, 1989. *Alan Howard.*

Rotuma lies within the humid tropics, with a mean annual temperature of approximately 27°C and only a slight variation between summer and winter months. From April through November the prevailing winds are east to south; from December through March they blow north to west and bring with them more rain and a higher humidity. There is some justification for calling the former season "dry" and the latter season "wet" although rainfall is generally plentiful all year round, ranging from an average of 219 millimeters in July to 353 millimeters in December and January. The average annual rainfall is 3,568 millimeters.³

Tropical cyclones affect Rotuma sporadically and on occasion have caused severe damage to trees and crops. Gardiner stated that they occur about once every three

years,⁴ but once or twice a decade seems to have been the norm for the twentieth century.

Most of the main island is extremely fertile and produces crops of exceptional size and quality. Rotuman coconuts are famous in that part of the Pacific. According to R. L. Hartley, an agricultural officer with the Department of Agriculture in Fiji, "Some idea of the size of the coconuts may be gained from the fact that, normally, eighty nuts are sufficient to produce about ninety pounds of green copra, which in turn means that only a little over 3,600 nuts are required to produce one ton of dried copra."⁵

In his Geographic Information System (GIS) survey of Rotuma in 1991, Thegn Ladefoged classified the soils on the island into four types: well-developed soils (54 percent), rocky soils (37.4 percent), beach soils (7.5 percent), and swampland (1.1 percent).⁶ However, the distribution of well-developed and rocky soils is uneven. On the eastern end of the island (the districts of Oinafa and Noa'tau), he classified only 13.5 percent of the soil as well developed and 76.5 percent as rocky; for the rest of the island the percentages of well-developed soil range from 72.1 percent to 85.1 percent. Ladefoged estimated the productivity potential of each soil type and determined that the eastern districts are significantly less productive.⁷ This differential in the productivity of different parts of the island is central to Ladefoged's theory concerning the development of the ancient political structure, which we consider in chapter 2.

Because no perennial streams flow on Rotuma, residents had to rely almost entirely on rain for their freshwater supply until the underground freshwater lens was tapped in 1981. A number of wells, many of them ancient, have been constructed on the coastal sand flats, but their water is saline and they have been used mostly during periods of drought.

The luxuriance of the vegetation inspired early European visitors to describe Rotuma's scenic splendor in superlatives. Captain Edward Edwards of the *Pandora* was the first European to record his impressions in 1791:

There are cocoanut trees all along the shore behind the beach, and an uncommon number of boughs amongst them. The island is rather high, diversified with hills of different forms, some of which might obtain the name of mountain, but they are cultivated up to their very summits with cocoanut trees and other articles, and the island is in general as well or better cultivated and

its inhabitants more numerous for its size than any of the islands we have hitherto seen.⁸

George Bennett provided a more elaborate picture, having viewed it in 1831 from ashore as well as from the sea:

It is of a moderate height, densely wooded, and abounding in cocoa-nut trees....Its general appearance is beautifully picturesque, verdant hills gradually rising from the sandy beach, giving it a highly fertile appearance....On landing, the beautiful appearance of the island was rather increased than diminished; vegetation appeared most luxuriant, and the trees and shrubs blooming with various tints, spread a gaiety around; the clean and neat native houses were intermingled with the waving plumes of the coco-nut, the broad spreading plantain, and other trees peculiar to tropical climes. That magnificent tree the callphyllum inophyllum, or fifau [*hefau*] of the natives, was not less abundant, displaying its shining dark green foliage, contrasted by beautiful clusters of white flowers teeming with fragrance. This tree seemed a favourite with the natives, on account of its shade, fragrance and ornamental appearance of the flowers.... When I extended my rambles more inland, through narrow and sometimes rugged pathways, the luxuriance of vegetation did not decrease, but the lofty trees, overshadowing the road, defended the pedestrian from the effects of a fervent sun, rendering the walk under their umbrageous covering cool and pleasant. The gay flowers of the hibiscus tiliaceus, as well as the splendid huth [*hufu*] or *Barringtonia speciosa*, covered with its beautiful flowers, the petals of which are white, and the edges of the stamina delicately tinged with pink, give to the trees when in full bloom a magnificent appearance; the hibiscus rosa-chinensis, or kowa [*kava*] of the natives also grows in luxuriance and beauty. The elegant flowers of these trees, with others of more humble and less beautiful tints, everywhere meet the eye near the paths, occasionally varied by plantations of the ahan [*'a'ana*] or taro, *arum esculentum*, which, from a deficiency of irrigation, is generally of mountain variety. Of the sugar-cane they possess several varieties, and it is eaten in the raw state; a small variety of yam, more commonly known by the name of the Rótuma potato, the ulé [*'uhlei*] of the

natives, is very abundant. The ulu or bread-fruit, pori [*p̄ari*] or plantain, and the vi (*spondias dulcis*, Parkinson) or Brazilian plum, with numerous other kinds, sufficiently testify to the fertility of the island. Occasionally the mournful toa or *casuarina equisetifolia*, planted in small clumps near the villages or surrounding the burial-places, added beauty to the landscape.⁹



Photo 1.4 Typical vegetation in the uncultivated interior bush, 2001.
F. Deschamps.

Edward Lucatt, describing the island in 1841, also marveled at the lush tropical vegetation and found Rotuma a feast for the senses:

The soil does not seem deep, though it teems luxuriantly, and produces a variety of tropical fruits and vegetables. Magnificent groves of cocoa-nut trees fringe the glowing white beach, and they appear to be the most valuable production on the island....In my walks I was delighted with the great variety of trees, shrubs, and beautiful flowers. At every step, some new floral beauty would burst upon me, glowing with the most brilliant colours; and unlike the flowers and

shrubs of New South Wales, most of them possess a graceful perfume. Fruit, too, and vegetables grow in great abundance, and there are several descriptions of both, which I never saw or heard of before. The Timanu [*hefau*] is a tree deserving of particular notice; it is a widespreading umbrageous tree, with a deep green foliage, its shade furnishing a cool retreat from the noontide sun. There is a fine grove of them on the beach opposite the anchorage, which the natives are very proud of. Like all the plants and shrubs on the island, it is evergreen, and at certain seasons it throws out bunches of white blossoms delightfully fragrant.¹⁰

Rotuma has been described as one of the most beautiful islands in the South Seas. Its reputation on this account is clearly well deserved.

Early Cultural Affiliations

Rotuma's geographical location places it very near to the conventional intersection of Polynesia, Micronesia, and Melanesia, and multiple strands of evidence suggest contact with peoples from all three culture areas. Placing Rotuma in the historical context of Pacific migration requires attention to how the people, the language, and the culture of Rotuma are similar to, or differ from, other Pacific islands, as well as the oral histories passed down from generation to generation. Thus physical characteristics such as skin color, hair type, and body structure provide clues to interisland affiliations, as do the degrees to which vocabularies and grammatical patterns are shared.

PHYSICAL CHARACTERISTICS

The contemporary Rotuman population shows a good deal of physical variation, although first impressions suggest a primarily Polynesian affinity. Most have light skin, with black, wavy hair and Polynesian facial features. On closer examination one finds a number of individuals with features characteristic of the Melanesian peoples to the west: darker skin, more tightly curled hair, and narrower, more aquiline noses. Still others have more Asian features similar to Micronesians. Some of this variability is the result of populations mixing after European contact, but early descriptions are nearly unanimous in relating Rotumans physically to other Polynesians:

In the shape and size of their persons we could distinguish no difference between them and the Friendly Islanders [Tongans], except that we thought them of a lighter colour.¹¹

The natives of Rotouma belong to the Oceanic race in all its purity. They bear a striking resemblance to the Tahitians, but in general they are of better build, more developed, and the fullness of their contours better drawn.¹²

The people seem to belong to the same race as the Friendly Islanders...¹³

The natives are a fine-looking and well-formed people, resembling much those of Tongatabu in their appearance.¹⁴

But even a small sample of nine crania collected by Gardiner in 1896 reflected heterogeneity. They were analyzed by W. Laurence Duckworth and A. E. Taylor, physical anthropologists at Cambridge University, who concluded:

the island is inhabited by people of the tall brown-skinned Polynesian type, and also by individuals of the shorter and much darker-skinned Melanesian type, as well as by individuals possessing physical characteristics (such as stature, skin-colour, hair-colour, form of the hair, and the like) intermediate between those of the two foregoing stocks.¹⁵

Whether or not their conclusions about different "types" of people were justified, the range of physical characteristics they found is testimony to the fact that, in the nineteenth century, the Rotuman people were a diverse lot, suggesting multiple origins.

LINGUISTIC EVIDENCE

The Rotuman language has presented linguists with a provocative puzzle, and although a definitive analysis of the place of Rotuman in Oceanic linguistic history remains to be done, continuing work and new evidence are helping to clarify the picture (see appendix A for an account of research into the history of the Rotuman language). The puzzle is the result of two features of the language: (1) although Rotuman shares a substantial portion of its vocabulary with the Polynesian languages of Sāmoa and Tonga, it contains a large number of unique words, and (2) Rotuman is one of

very few languages in the world that productively employs metathesis, a systematic reversal of vowels and consonants. For example, "Rotuma" becomes "Rotuam" when it is used as a modifier, as in "fäeag Rotuam" (Rotuman language). Metathesis plays an important role in grammatical constructions; it also gives spoken Rotuman a distinctly un-Polynesian sound because it generates complicated vowel sounds (e.g., ä, ö, ü); two consonants can occur together; and words frequently end in consonants.

Hans Schmidt, a German linguist who became fluent in the Rotuman language after two extended visits to the island, published his doctoral thesis on the history of the Rotuman language in 2000. After a careful examination of all the evidence, he concluded that the development of Rotuman took place in several phases:

1. Rotuma was first settled by people who spoke one of the Central-Pacific dialects at a time when its closest related varieties were still spoken in northwest Vanua Levu.
2. Many peculiarities or idiosyncrasies of the language developed during a period of relative isolation caused by its geographical remoteness and negligence in sustaining outside contacts.
3. A first wave of Polynesian borrowings was caused by immigration or multiple visits of speakers of Polynesian languages, who presumably also settled the Polynesian outliers in Melanesia and Micronesia (from around the thirteenth or fourteenth century onward).
4. A second wave of Polynesian borrowings was caused by the conquest and temporary occupation of the island by Tongans (from around the sixteenth or seventeenth century onward).¹⁶

Regarding later Polynesian influence, Schmidt concluded:

The striking similarity of the Rotuman lexicon with Polynesian languages must be explained as the result of massive borrowing. After a long period of isolation, Rotumans were eager to learn new techniques and to adopt new ideas and fashions from Polynesians who started to visit the island about 750 years ago. My work has demonstrated the large extent of the Polynesian, especially Tongan, influence on the language and culture of the Rotumans.¹⁷

The problems of written Rotuman have been compounded by the fact that three separate orthographies were developed by Europeans, and all three are still in use. French priests and English ministers who missionized the island during the latter part of the nineteenth century developed the first two independently. Each orthography reflects the phonetics of the writer's mother tongue. The third orthography, introduced by C. M. Churchward, uses diacritics; although more complicated, it is more accurate than either of the others and will be used in this work to designate Rotuman words, except when they appear in quotations (see appendix B).

LEGENDS

Rotuman legends support the likelihood of Samoan, Tongan, and Fijian influence on the language and culture. One legendary sequence of Rotuman oral history begins with a story about a chief from Sāmoa named Raho. Several versions of the Raho legend have appeared in print, with variations in detail. Basically the plot involves an insult to Raho's daughter or granddaughter; in anger he leaves Sāmoa (Savai'i or Savaiki in some versions) under the guidance of female supernatural beings. Raho is led to either discover or create Rotuma (by pouring out baskets of sand brought with him on his voyage), depending on the version.

Tokaniua (or Tokainiua), whose identity is variously described as Samoan, Tongan, or Fijian, immediately follows Raho to Rotuma.¹⁸ Gardiner's version specifies that he comes from Niuafu'ou, an island to the north of the Tongan group, and makes several return trips between there and Rotuma.¹⁹ Tokaniua disputes Raho's sovereignty over the main island of Rotuma and wins out; as a result Raho exiles himself to the offshore island of Hatana where he lives to the end of his days. Churchward dates Raho's landfall to the sixteenth century.²⁰

Another legend links Rotuma's settlement to Fiji. According to this narrative, the founding fathers of the Fijian race, the chiefs Degei and Lutunasobosobo, "offloaded" their only sister, Bulou-ni-Wasa, in Rotuma during the first Fijian migration from the west to east. Bulou-ni-Wasa was allegedly impregnated by one of her brothers during the long migratory journey, and to safeguard the integrity and reverence of the chiefly clan, she was conveniently left behind in Rotuma when the rest of the party left for Fiji. Known on Rotuma as Hānitema'us (the wild woman of the bush), she figures

heavily in Rotuman stories as a heroic spirit-woman who occupies Rotuma prior to Raho. According to one narrative, she stops the enraged Raho from destroying the island after he is bested by Tokaniua.²¹

Whereas the legends of Raho and Tokaniua contain numerous legendary characters and miraculous events, oral histories recorded by Father Trouillet in 1873 and J. S. Gardiner in 1896 appear to be relatively straightforward accounts of significant visitations by canoes from other islands. Trouillet did not attempt to date events prior to Captain Edwards's visit to the island in 1791, but rather placed them in the reigns of various great chiefs (*vakai*) and associated them with occupants of the ritual office of *sau* (see pp. 63-66). Gardiner used genealogical means to date the voyages reported to him, allowing twenty years for each generation, then adding the age of the descendent who provided the information.²²

According to Trouillet's account, the first visitation by outsiders after those of Raho and Tokaniua occurred during the reign of the great chief Lefuge (Le Foume), who succeeded Tokaniua. Canoes arrived from Tonga and threatened to make war, but they were put to flight. Then, in the time of the sixth great chief, Savoiat (derived from Savaita [Savai'i?]), and while the ritual office of *sau* was held by its sixth occupant, Kaurfose, the paramount chief of Tonga (Tuitonga) sent a gift of a great number of pigs in order to obtain in marriage the hand of a Noa'tau woman named Uonu. Presumably the *sau* took the pigs but refused to send the chosen woman, sending in her place another by the name of Ruepteledi. Taken at face value, this interaction implies a rather intimate knowledge about Rotuma on the part of the Tongans, and suggests that two-way voyaging between Tonga and Rotuma was commonplace. Sometime later in the reign of Savoiat, while the ninth *sau*, Varomua, held office, a Tongan chief by the name of Ma'afu invaded Rotuma and conquered the island. There is no indication of any relationship between the earlier event and the invasion, but it would certainly appear a possibility. If indeed the Tuitonga had sent a grand gift in quest of one specific woman and had instead been sent another, one can imagine he might have been angry enough to send a punitive expedition, and from all accounts Ma'afu's expedition was planned for conquest.

According to Gardiner's account, Ma'afu came from Niuafo'ou around 1650. His party came in several big canoes

and numbered about three hundred men, with no women or children.

They landed at Noatau, where they made friends with the people and learned their language. Physically, they are described as a tall and powerful race. First they assisted the Noatau people to conquer the rest of the island, and then themselves turned round and conquered Noatau. Their chief married the daughter of Urakmata, the chief of Noatau. Henceforth we find the possessor of their chief's name, Marafu, drinking kava second on the island and generally looked up to. Finally, after holding the whole island for a generation, they were conquered by Olili, of Maftau, and confined to Noatau.²³

(Mesulama Titifanua related a more elaborate version of this story, focusing on the Rotuman revolt against the Tongan oppressors.²⁴ We consider that version in the next chapter when discussing the evolution of Rotuma's traditional political system.)

Gardiner continued the sequence as follows:

Next came one "immense" double canoe from Tarawa, in the Gilbert Islands, in an absolutely exhausted condition, with both women and children. Fonmon, a Noatau man, brought their canoe to the shore, and then took them before the *sou*, or king, who made a big feast and divided them out among all the districts, where they married and settled down. They stated that they had lost their way owing to a change of wind, and that they had tried to get home again, but were too exhausted to do so; then a fresh wind came up and blew them to Rotuma.²⁵

Calculating on the basis of genealogies, Gardiner placed the time of their landfall between 160 and 200 years prior to his visit (between 1696 and 1736). His account continues:

Next came one large canoe from Ruaniua, or according to another account from Tipokia [*sic*], shortly before the advent of the white man, or about 1780....Several families at the present day trace their descent from them. The name of the place, from whence they came, is given indifferently as Ruaniua or Tipokia. If pressed as to which place, they say Ruaniua, and will give you as the direction from which they came due west; the

people are not described as being in any way different from themselves. I have no doubt that Ruaniua is the same as Leuanewa (Lord Howe's Island, or Ontong Java), and that the canoe came by way of Tucopia, or Cheres Island.

The next visitor was from Tonga, apparently just before the advent of the white man. He is supposed to have come in a big double canoe from Fortuna [Futuna], and to have left three women of that island in Rotuma, and to have taken three Rotuma women instead. He is also supposed to have told the people about the white men, and to have left the Marafu of that day, among other things, an iron axe.²⁶

Gardiner presumed that this Tongan was "Cow Mooala" (Kau Muala), whose adventures were reported by William Mariner, a European residing in Tonga during the early nineteenth century. After an absence of fourteen years Kau Muala returned to Tonga in 1807 with the following tale:

He had...on board thirty-five of his own people, including fourteen or fifteen Tonga women, besides whom he had four male natives of Fotoona, who begged to go with him that they might visit distant countries. In his way he touched at the island of Lotooma [Rotuma], (about a day's sail from Fotoona), a place noted for the peaceable disposition of the inhabitants, and where he was received with an uncommon degree of respect. As they were little accustomed to the appearance of strangers, they were greatly surprised at the sight of so large a canoe, and considered this chief and his men as hotooas [*'atua*] (gods) or superior beings, and would not suffer them to land, till they had spread on the ground a large roll of gnattoo [Tongan *ngatu*, or tapa cloth], which extended about fifty yards, reaching from the shore to the house prepared for them. At this island Cow Mooala remained but a short time: during his stay, however, the natives treated him with very great respect, and took him to see some bones which were supposed to have belonged once to an immense giant; about whom they relate a marvelous account, which is current at Tonga as well as Lotooma....Cow Mooala shortly took his departure from Lotooma, with three of the native women on board, in addition to his other followers, and sailed for the Fiji Islands.²⁷

That Rotumans knew of Tonga prior to European intrusion was reported by Captain Edwards, the first European to report visiting Rotuma, in 1791. He wrote that Rotumans said they were acquainted with the Friendly Islands and had learned from them the use of iron.²⁸ Since Kau Muala's visit presumably took place after that of Edwards, this suggests iron tools had been brought to the island by Tongans who had come earlier. Such a supposition is supported by Trouillet's report that during the reign of Tua, the twelfth great chief, and while Irava, the twenty-seventh *sau* was in office, two canoes arrived from Tonga with two chiefs who had been beaten in a war where firearms had been used for the first time.²⁹ Since the thirty-second *sau* held office from 1797 to 1801 (according to Trouillet's calculations), this event probably took place in the late 1780s or early 1790s.³⁰

The legend of the giant's bones, related to William Mariner by Kau Muala, may well encode metaphorically a relationship between Tonga and Rotuma. The legend, presumably known in Tonga as well as Rotuma, was recorded by Mariner as follows:

At a period before men of common stature lived at Tonga, two enormous giants resided there, who happening on some occasion to offend their god, he punished them by causing a scarcity on all the Tonga islands, which obliged them to go and seek food elsewhere. As they were vastly above the ordinary size of the sons of men now-a-days, they were able, with the greatest imaginable ease, to stride from one island to another, provided the distance was not more than about a couple of miles; at all events their stature enabled them to wade through the sea without danger, the water in general not coming higher than their knees, and in the deepest places not higher than their hips. Thus situated, no alternative was left them but to splash through the water in search of a more plentiful soil. At length they came in sight of the island of Lotooma, and viewing it at a distance with hungry eyes, one of them bethought himself that if this small island was ever so fruitful it could not supply more food than would be sufficient for himself at one meal; he resolved therefore wisely, out of pure consideration for his own stomach, to make an end of his companion: this he accordingly did, but by what means, whether by drowning him, strangling him, or giving him a blow on the head, tradition does not say. When he arrived at

Lotooma he was no doubt very hungry, but at the same time he felt himself so sleepy that he was resolved to lie down and take a nap, particularly as night was fast approaching, and to satisfy his hunger the next morning; and very lucky it was for the poor natives that he did so, (for it appears this island was inhabited at that time). He accordingly made a pillow of the island of Lotooma, and not choosing to lie in the water, he stretched his legs (for so the story goes) over to the island of Fotoona, making a sort of bridge from one place to the other. By and by he snored to such a degree that both islands, particularly Lotooma, were shaken as if by an earthquake, so as to disturb the peaceable inhabitants. The people of the latter island being roused from their slumbers were greatly alarmed, as well they might be, at this unseasonable and extraordinary noise. Having repaired to the place where his head lay, and discovering that it was an immense gigantic being fast asleep, they held a consultation [about] what was best to be done; and came at length to a resolution of killing him, if possible, before he awoke, lest he might eat them all up. With this intention every man armed himself with an axe, and at a signal given they all struck his head at the same moment; up started the giant with a tremendous roar, and recovering his feet he stood aloft on the island of Lotooma, but being stunned with the blows, he staggered and fell again, with his head and body in the sea, and being unable to recover himself, he was drowned, his feet remaining upon dry land; and thus the great enemy was destroyed.³¹

Kau Muala told Mariner that as proof of these facts the Rotumans showed him two enormous bones that presumably belonged to this giant. He also said that while the people of Tonga were aware of the story, they were not so credulous and told it in a jocular way. When asked by Mariner to describe the bones, Kau Muala replied that he was sure they were bones, but not human, and he supposed they must have belonged to some fish.³²

The metaphoric content of this story seems straightforward. In the analysis below we have slightly rearranged the text and present our own interpretation.

Text	Interpretation
1. At a period before men of common stature lived at Tonga, two enormous giants resided there...	1. At sometime past, two chiefs of great power (mana) resided in Tonga.
2. As they were vastly above ordinary size they were able, with the greatest imaginable ease, to stride from one island to another, provided the distance was not more than a couple of miles...	2. They, and the warriors they commanded, were so big and so potent they were able to conquer neighboring islands with ease.
3. [On some occasion the giants happened] to offend their god... causing a scarcity on all the Tonga islands...	3. A period of scarcity afflicted Tonga...
4. One of [the giants]...out of pure consideration for his own stomach [resolved] to make an end of his companion...	4. ...resulting in a conflict over resources between the two chiefs. They fought and one conquered the other.
5. Thus situated, no alternative was left them but to splash through the water in search of a more plentiful soil...	5. The defeated group had no option but to leave Tonga in search of a more hospitable land.
6. At all events their stature enabled them to wade through the sea without danger...	6. They were still sufficiently powerful to defeat peoples from other islands they encountered.
7. When he arrived at Lotooma he was no doubt very hungry...	7. They arrived at Rotuma intending to conquer the island and appropriate its resources.
8. He...made a pillow of the island of Lotooma...stretched his legs...over to the island of Fotoona, making a sort of bridge from one place to the other. By and by he snored to such a degree that both islands, particularly Lotooma, were shaken as if by an earthquake, so as greatly to disturb the peaceable inhabitants. The people of the latter island being roused from their slumbers were greatly alarmed...at this unseasonable and extraordinary noise.	8. The Tongans conquered Rotuma and Futuna as well, and became oppressive rulers. They were supported (perhaps reinforced) in their domination of Rotuma by expeditions of their compatriots from Futuna, over which they ruled somewhat less severely. Eventually the indigenous populations of these islands, though basically not rebellious, were aroused to anger by the severe, unreasonable demands of their conquerors.

9. If this small island was ever so fruitful it could not supply more food than would be sufficient for himself at one meal...	9. The Tongans were insatiable in their desire to extract from Rotuma its resources.
10. He felt himself so sleepy that he resolved to lie down and take a nap...and to satisfy his hunger the next morning...	10. Despite their intentions to push their demands to the limit the Tongans were vulnerable because they had become complacent and unvigilant.
11. Having repaired to the place where his head lay, and discovering that it was an immense gigantic being fast asleep, they held a consultation about what was best to be done; and came at length to a resolution of killing him, if possible, before he awoke, lest he might eat them all up.	11. Detecting that the leaders of the Tongans had let down their guard, the Rotuman people conspired to revolt against them before they became so oppressive as to threaten the people's very existence.
12. With this intention every man armed himself with an axe, and at a signal given they all struck his head at the same moment;	12. The Rotumans armed themselves and at a given signal struck at the Tongan leaders.
13. up started the giant with a tremendous roar, and recovering his feet he stood aloft on the island of Lotooma,	13. Jolted by this attack the Tongan chiefs tried desperately to organize a defensive effort,
14. but being stunned with the blows, he staggered and fell again,	14. but the Rotumans pressed their attack and defeated the Tongans.
15. with his head and body in the sea, and being unable to recover himself, he was drowned,	15. With the offending chiefs and their warrior supporters subdued, the oppressive Tongan dominance of Rotuma was broken.
16. his feet remaining upon dry land;	16. Those members of the Tongan party who were of lesser rank, and who did not participate in the oppression, were allowed to remain on Rotuma and live in peace;
17. and thus the great enemy was destroyed.	17. and thus the Rotumans liberated themselves from Tongan oppression.

When interpreted in this fashion, the legend bears a remarkable resemblance to the accounts of Gardiner (above) and Churchward (see chapter 2) concerning Ma'afu's invasion and subsequent overthrow. Such legends notwithstanding, it is apparent that Rotumans continued to recognize Tonga's ceremonial authority over the island into historical times. One indication of Tongan dominance is the high degree of respect shown Kau Muala on his arrival, but more telling is Peter Dillon's account about Rotumans paying tribute to Tonga. Dillon reported having on board two Tongan men and a woman, who had been sent to Rotuma by a chief named "Fuckafinnow" (Fakafinau?) to collect tribute. They were disconcerted to learn that it had already been sent to Tonga some five months previously, by way of Fiji.³³

CONTACT WITH OTHER ISLANDS

Landfalls at Rotuma by occupied canoes have been reported as coming from Niuafu'ou,³⁴ Tonga,³⁵ Futuna,³⁶ the Ellice Islands [Tuvalu],³⁷ Tarawa,³⁸ and Polynesian outliers.³⁹ In turn, early Rotuman voyagers have been reported as ranging as far as Tikopia⁴⁰ and Anuta in the west,⁴¹ and Bora Bora in the east.⁴²

Lesson reported that Rotumans not only had occasional contact with Fiji and Tonga, but that they also had a vague idea of an island three or four days' sail to the northeast by the name of Noué.⁴³ He wrote that his Rotuman consultants described it as quite large and high, and that the inhabitants were cannibals.

Dillon also reported that return sailing between Rotuma and Tuvalu was commonplace:

The Rothumans give an account of several islands being in their neighbourhood, one of which they name Vythuboo [Vaitupu]. As this island abounds with a kind of white shells much in demand at Rothuma, the natives of that island make frequent voyages to Vythuboo for the purpose of procuring them; and it is in these voyages that these people get lost at sea, and are drifted to the Feejees, Tucopia, and the Navigators' Islands [Sāmoa]. They describe the inhabitants of one of the islands in their neighbourhood as cannibals, marked or tattooed on the face like the New Zealanders on board. Those islands I suppose to be what are laid down and named on the charts as Ellis's [Tuvalu] and Depestre's Groups, discovered by Captain Depestre in

1819, on his return from South America to Calcutta. There are at present residing at Rothuma, some natives of Vythuboo and of the Newy Islands [Nui atoll?], who expect to sail homeward in a few weeks.⁴⁴

Father Trouillet provided further documentation of intercourse with Nui atoll. He estimated that between 1802 and 1806 a canoe arrived from Nui, and that some of its survivors were still on Rotuma at the time he wrote.⁴⁵

Perhaps this is the same landfall mentioned by Gardiner as occurring about 1830. He was told of a large double canoe from Nui sighted off Noa'tau, crowded with people in an exhausted condition. They were reportedly brought on shore and allowed to take Rotuman spouses and settle on the island. Gardiner additionally mentioned a canoe arriving in about 1815 from Funafuti in Tuvalu, with both men and women who arrived in an exhausted and starved condition. He reported that he knew of about thirty people who claimed descent from them and that traces of their legacy could be found in special songs, words, and modes of singing. Since then, Gardiner's informants told him they remembered many single canoes as having come from Tuvalu, and two from Fortuna (Futuna). Only the latter were reported as having an idea of where they were headed, however.⁴⁶

ROTUMAN SEAFARING

The whole question of interisland sailing has been a matter of some debate in the anthropological literature on the Pacific islands. It essentially involves two components, the capability of Polynesian canoes for long-distance voyaging, particularly into prevailing winds, and the sophistication of native navigational skills. While some have suggested that Polynesians were incapable of purposeful two-way voyages of more than 500–600 kilometers,⁴⁷ others have argued that they were capable of much longer return trips.⁴⁸ Unfortunately there is only fragmentary data from Rotuma about interisland voyaging, and it is inconclusive. The first report on this topic was the observation by John Eagleston, who visited the island in 1831. He wrote:

Their canoes are small fifteen to twenty feet long by fifteen to twenty inches wide and about the same in depth, with outriggers, and usually made out of one log, without much show of fine finish, and moved with paddles only, though they have two large double ones, sixty to seventy feet long with a depth to correspond,

and put together with rivets made from cocoanut husk, and this is the only article by which timbers and planking are secured. They are not in use but kept in houses to preserve [them from] the weather, and as the natives say were built for making voyages in pursuit of other lands. One of these some years ago they attempted, laying in a full sea stock for the occasion, and in other ways fitted for their bold undertaking, they left their lovely little paradise and aided by the stars and sun steered to the west on which course they intended to run until their object was accomplished, which they thought would be in a few days. After a three or four days pleasant run all their hopes were blasted by a sudden change of wind from the northwest quarter, against which they worked for a short time, but becoming discouraged they bore up for home, where guided by the great solar lamp, and heavenly lights, they fortunately arrived after an absence of sixteen days nearly exhausted and starved, having consumed the last of their supplies a day or two before reaching home, and since that joyful day restored them to sweet home and their families, they have had no wish to try another lark of discovery.⁴⁹

Robert Jarman, who visited Rotuma the following year, mentioned seeing many huts containing double canoes, from sixty to ninety feet in length. He estimated that they were capable of carrying from one hundred fifty to two hundred men. He described them as each formed from a single tree of immense size, and partly decked over from the stem aft. His inquiries concerning their purpose elicited a curious tale:

Soon after the island was discovered, the natives were puzzled to ascertain how a ship could come there. Consultations were held by the chiefs, and it occurred to them, that there must be some opening in the horizon, through which the ship entered; therefore it was resolved to fit out canoes, and send them in search, as the only method of discovering it. Many were accordingly sent to sea upon this strange expedition, and so soon as they lost sight of their native land, were driven by the wind to the neighbouring islands; many undoubtedly perished, some reached the Fejee Islands, and others were driven as far to the westward as Santa Cruz, where their Descendents are still living with the inhabitants.⁵⁰

It is not to such motives, however, that Jarman attributed the continued inclination of Rotumans to take to the sea:

But it is not to be supposed that their former singular ideas of the horizon still prevail. These latter expeditions seem to have been undertaken more from a restless desire of seeing and visiting other lands, than from any other motive. Inquisitiveness is a very prominent trait in the character of these people. The island being very productive, they have not to labor much for their subsistence; which gives them leisure to gratify their curiosity, upon whatever subject may incite it.⁵¹

Jarman quoted an Englishman, Mr. Emery, who lived on the offshore island of Uea, as observing that since he had taken up residence there, many canoes had put out to sea without any trace of their ultimate destiny.⁵²

Edward Lucatt visited Rotuma nine years later, in 1841, and reported seeing several large double canoes, but he indicated that they were falling into disuse and becoming decayed. He was apparently told that in former times expeditions were undertaken at the instigation of oracles when the population of the island exceeded its means of support, or it was feared that it would do so. The voyagers would start off in search of new lands, sometimes finding their way back again after failing, but more often their fate was not known. The canoes seen by Lucatt ranged in length from 50 or 60 feet to 80 or 90, and fitted the following description:

each canoe has from four to five feet beam, but they have no floor; and, looked at separately, without their stem and stern pieces, they would be taken for troughs. They are kept about six feet asunder by cross beams lashed and otherwise made fast to the gunwales of both canoes; the beams are planked over, which furnishes a deck of from fourteen to sixteen feet in breadth. Both canoes are entirely covered in, and there are small hatchways with sliding covers. When a party has determined upon an exploring expedition, they build a house upon the main deck and stow their provisions, &c. in the holds of the canoes. Their sails are made of a species of rush marled together: in form they resemble the New Zealanders, being when set like an inverted triangle.⁵³

Contradicting Jarman, Lucatt stated that there were no trees on the island of the proper wood that were tall enough to form the main body of a canoe, and so instead the vessels were built out of several pieces sewn together with coconut-fiber sennit.⁵⁴

Well before the end of the nineteenth century double canoes had disappeared from the Rotuman cultural inventory, as reported by both J. S. Gardiner and Rev. William Allen.⁵⁵ Gardiner indicated that when he was there, in 1896, only one double canoe was specifically remembered, referred to in legend as the ahoie [*'ahai*] or *te bau rua*. He stated that canoe sailing was by that time a forgotten art, but that the language still possessed all the necessary terms for it. His inquiries concerning interisland voyaging were futile:

Marafu's reply, as to the effect that formerly they had big canoes of their own and used to voyage in every direction, but that that was before the Niuafouu people conquered the island. The names of the stars are as a rule fanciful now, but Marafu pointed me out some named according to the different islands. On my inquiry as to where Tikopia was one evening, he took me outside and pointed to a star which he said was just over it.⁵⁶

One does not get the sense from these early accounts of a people who were routinely making long-range round-trip voyages. Tongans were apparently making planned expeditions in the region and included Rotuma in their itinerary from time to time, but there is no evidence to suggest that Rotumans were making such journeys. At most, trips to some of the islands of Tuvalu, and perhaps to Fiji, seem to have been within the range of Rotuman navigators, although they undoubtedly were aware of more distant archipelagoes and had some sense of where they were located. However, there is little evidence to support the contention of an anonymous reporter for the *Pacific Islands Monthly*, who wrote in 1938 about a pan-Polynesian confederation, in which Rotuma was a place of great importance, with its chiefs holding high rank in its councils. A Rotuman chief who sailed to Bora Bora and married a princess supposedly forged the confederation. "Together, they voyaged from island group to island group, negotiating alliances which they consolidated into the confederation of Te-Ao-Uri and Te-Ao-Tea, centered in Opoa, in Ra'iatea," the

writer contended.⁵⁷ Presumably great convocations of the alliance were held on Ra'iatea until early in the fourteenth century when a quarrel broke up the confederation. The source of this account was apparently a ninety-four-year-old Ra'iatea person who had committed it to memory in the form of poetry.

Yet it is clear that Rotumans did set sail periodically in substantial double canoes, and that they reached other islands at considerable distances from their own, perhaps even Bora Bora.⁵⁸ What is less probable is that they sailed back from such far lands; at least there are no recorded instances of Rotumans returning on their own from distant islands. Some emigrants were absorbed into the populations of the islands they reached and left traces in legend if nothing else; some were probably killed by hostile inhabitants; but many more must have been lost at sea, never to be heard from again.

SUBSURFACE ARCHAEOLOGY

The answers to many of the most important questions concerning Rotuma's early history no doubt lie beneath the earth, but to date very little subsurface archaeology has been undertaken. The work that has been done supports evidence from linguistics and oral history—that before Europeans arrived, Rotuma was in contact with and was profoundly influenced by Tonga, Fiji, and Sāmoa. Richard Shutler and Jamie Evrard, for example, have interpreted their finding of human bones from a site in Oinafa, dated one thousand years ago, as supporting Rotuman oral tradition that the site was the landing place of the first Tongan arrivals on Rotuma.⁵⁹ A more extensive excavation at Maka Bay, conducted by Jonathan Wall, dates back some 1,400 years.⁶⁰ The site yielded a range of artifacts including ceramics, shell adzes, shell and bone tools, fishing gear, shell and bone ornaments, as well as later historic material. The ceramic material suggested both that an indigenous pottery industry existed on Rotuma during the first millennium AD and that pottery was imported from Fiji sometime around the turn of that millennium. In general, Wall reported that the Maka Bay artifact assemblage is similar to those found in Western Polynesia, lending additional support to linguistic evidence and oral traditions of influence from Tonga and Sāmoa.⁶¹

Rotuma's Place in the Early History of Oceania

As one examines the full range of available data bearing on Rotuma's early history, the most striking impression is one of complexity. It is clear that immigrants from many different island groups have contributed to the population, language, and culture of Rotuma. Here was an island in semi-isolation, within reach of the sailing capacities of canoes from every direction, but far enough away to make purposeful sailing dangerous and problematic. Rotuma is a relatively small island, of only modest height, easily missed in the vast expanse of ocean in which it sits. As a result, intercourse with other islands was probably sporadic rather than regular. Nevertheless, Rotuma is an extremely fertile island and its people have long been noted as relatively peaceful and accommodating, making it an attractive place to stay. Consequently, Rotuma absorbed people from a number of other places, with each incoming group contributing to the development of its unique language and culture. While the island was not remote enough to escape invasion, it was sufficiently isolated to evolve into a unique entity, defying simple classification as Polynesian, Melanesian, or Micronesian.

The linguistic evidence suggests that a population related to that of western Fiji originally settled Rotuma. The time of first settlement remains unknown, but about 3,000 years ago is a reasonable assumption—around or shortly after the time Fiji, Tonga, and Sāmoa were settled. After what may have been several hundred years of insignificant contact with other peoples—insignificant from the standpoint of linguistic and cultural impact—the backward flow of Polynesians, from east to west, affected Rotuma. At first Samoan influence appears to have been dominant, and later Tongan. At some point a Samoan expedition may have landed at Rotuma and established a chiefdom (under Raho?), but it does not seem that contact was routine or that Sāmoa ever formalized its relationship to the island. Some time later, Tongans, led by Ma'afu, invaded, perhaps with the intent of bringing Rotuma into the orbit of the Tongan political empire. Although only partially successful (insofar as Rotumans apparently revolted against the Tongans' secular rule but continued to acknowledge ceremonial dominance), the intrusion had a profound effect on the Rotuman language in the form of borrowed vocabulary and possibly certain grammatical changes (see appendix A). At the time Rotuma was sighted

by Captain Edwards in 1791, Polynesian influence was so extensive that the island's past was almost totally obscured, at least to the casual observer. The Rotuman language has thus far provided the most important clues to this past, but the answers, to the extent that we can ever know them, still lie beneath the soil. It is to the archaeologists that we must leave the fascinating problem of Rotuma's earliest settlement, while we go on to attempt a reconstruction of what life was like there when Europeans first arrived and recorded their observations.

Notes to Chapter 1

The section concerning Rotuman seafaring is drawn from a chapter entitled "Rotuman Seafaring in Historical Perspective" (Howard 1995), which was published in *Seafaring in the Contemporary Pacific Islands*, edited by Richard Feinberg.

¹ Gardiner 1898b, 2; see also Woodhall 1987, 21.

² Woodhall 1987, 12.

³ Data from Meteorological Service Information Sheet No. 65, 1982, quoted in Laffan and Smith 1986, from records collected between 1912 and 1980.

⁴ Gardiner 1898a, 9.

⁵ Hartley 1963, 58.

⁶ Ladefoged 1993, 116.

⁷ Ladefoged constructed a Terrestrial Productivity Index (TPI) based on the relative productivity of the different soil types. The formula he used to calculate the TPI for different areas in Rotuma is as follows:

$$\text{TPI} = (\% \text{ of area that is well developed soil} \times 1.00) + (\% \text{ of area that is swamp} \times 0.3) + (\% \text{ of area that is beach} \times 0.2) + (\% \text{ of area that is rock} \times 0.1) / 100$$

Using this formula he arrived at a TPI for the eastern districts of the island (Oinafa, Noa'tau) of 0.23 compared to 0.87 for the northern district (Malhaha), 0.80 for the southern districts (Juju and Pepjei), and 0.76 for the western districts (Itu'ti'u and Itu'muta).

⁸ Thompson 1915, 64.

⁹ Bennett 1831, 198–201.

¹⁰ Lucatt 1851, 156, 176.

¹¹ Wilson 1797/1799, 293.

¹² Lesson 1838, 419–420; translated from the French by Ella Wiswell.

¹³ Dillon 1829, 95.

¹⁴ Bennett 1831, 201.

¹⁵ Duckworth and Taylor 1902, 435.

¹⁶ Schmidt 2000, 208; translated from the German by Hans Schmidt.

¹⁷ Schmidt 2000, 208; translated from the German by Hans Schmidt.

¹⁸ Neither "Sāmoa" nor "Tonga" should be interpreted as simply a reference to the corresponding geographical entities. A full examination of the usage of these and related terms suggests a more complex semantic structure. "Savai'i" or "Savaiki" are often substituted for "Sāmoa" in the oral histories, these being cognate forms of the word for the generic Polynesian "homeland." It may well be that only after European contact were they replaced by "Sāmoa"

(the island of Savai'i being identified by Europeans as part of the Samoan archipelago). The term "Tonga" is a generic term referring to a mythical, or quasi-mythical, source of supernatural potency. In some narratives "Tonga" is located beneath the earth or sea. The word is also used as an adjective in reference to the southeast trade wind. The last part of Tokaniua's name suggests he might have been from one of the Niuas.

¹⁹ Gardiner 1898a, 506–508.

²⁰ Churchward 1938.

²¹ See, for example, Parke 2001, 43.

²² Gardiner 1898a, 402.

²³ Gardiner 1898a, 403.

²⁴ Titifanua and Churchward 1995, 255–260.

²⁵ Gardiner 1898a, 403. In his 1913 field notes, Hocart mentions several cemeteries associated with Gilbertese immigrants.

²⁶ Gardiner 1898a, 403–404.

²⁷ Martin 1981, 185–187.

²⁸ Thompson 1915, 65.

²⁹ Trouillet 1868.

³⁰ The appointment period for a *sau* was six months (one Rotuman ritual cycle), although many served multiple terms. According to Trouillet, from 1797 to 1818 six *sau* served in office, averaging 3.5 years each.

³¹ Martin 1981, 185–187.

³² Martin 1981, 185–187.

³³ Dillon 1829, 97.

³⁴ Gardiner 1898a, 402–403.

³⁵ Gardiner 1898a, 404; Bennett 1831, 477; Martin 1981, 185–187.

³⁶ Gardiner 1898b, 406; Romilly 1882, 56.

³⁷ Gardiner 1898a, 406; Dillon 1829, 103.

³⁸ Gardiner 1898a, 403.

³⁹ Gardiner 1898a, 403–404.

⁴⁰ Bennett 1831, 477; Firth 1961, 86, 92, 132, 158, 160–161.

⁴¹ Feinberg 1981, 130–131; 1998, 173–200.

⁴² Henry 1912, 77.

⁴³ Lesson 1838, 439.

⁴⁴ Dillon 1829, 103.

⁴⁵ Trouillet 1868.

⁴⁶ Gardiner 1898b, 406.

⁴⁷ Sharp 1957.

⁴⁸ Finney 1977, 1979.

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- ⁴⁹ Eagleston 1832, 407–408.
- ⁵⁰ Jarman 1838, 183–184.
- ⁵¹ Jarman 1838, 184–185.
- ⁵² Jarman 1838, 184.
- ⁵³ Lucatt 1851, 178.
- ⁵⁴ Lucatt 1851, 177.
- ⁵⁵ Allen 1895.
- ⁵⁶ Gardiner 1898a, 407.
- ⁵⁷ Anonymous 1938, 30.
- ⁵⁸ Henry 1912, 77.
- ⁵⁹ Shutler and Evrard 1991.
- ⁶⁰ The earliest carbon date from Rotuma suggesting human occupation comes from a core sample taken by Thegn Ladefoged in Itu'muta; it yielded a carbon date of about 2,000 years ago.
- ⁶¹ Wall 1997.