

Fished Up or Thrown Down: The Geography of Pacific Island Origin Myths

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Myths recalling how islands were “fished up” or “thrown down” by (demi)gods are widespread in the Pacific Islands. Fishing-up myths are more numerous and are concentrated in a heartland comprising parts of Samoa, Tonga, the southern Cook Islands, and the Society Islands of French Polynesia. Geological details in many fishing-up myths suggest these recall the activities of shallow submarine (jack-in-the-box) volcanoes, notably in Tonga, and that these myths diffused to places where such volcanoes do not exist. Other fishing-up myths—particularly those recalling rapid emergence and/or successive uplift events and tectonic instability during the process of fishing-up—are suggested as recalling coseismic-uplift events (uplift coincident with large earthquakes), which are comparatively common in islands along the convergent plate boundaries of the southwest Pacific (including parts of Tonga and New Zealand). Throwing-down myths are less common in the Pacific, being effectively confined to places (near) where volcanoes erupted within the period of human occupation. Throwing-down myths are interpreted as recalling volcanic eruptions. *Key Words:* earthquakes, myth, Pacific Islands, tectonics, volcanism.

The myths of Pacific Island peoples provide the main way by which details of the pre-European past have been uncovered in this vast oceanic region. In this article, myths are considered to be “traditional oral tales,” part of the broader group of oral traditions which includes formal histories and genealogies.

Many oral traditions from the Pacific Islands recorded by early missionaries and others were subsequently employed uncritically in historical reconstructions, particularly by historical diffusionists concerned with global cultural development. This misuse produced a barrage of criticism against the use of oral traditions in any form of historical reconstruction (Lowie 1915; Malinowski 1922, 1954; Barrère 1967). In recent decades, this criticism has been countered by numerous works demonstrating the value of oral traditions (Denig 1966; Maude 1971) and—particularly germane to this article—of myths in providing insights into cultural development (Buck 1954, 1962; Latukefu 1968; Gunson 1993) and environmental change (Nunn 2001).

Pacific Island cultures are replete with myths about the “fishing-up” and “throwing-down” of islands, stories that have been interpreted as recalling initial human discovery of those islands (Westervelt 1910, xv; Luomala 1949, 14; Buck 1954, 59; Buck 1962, 5). Although the subject of many compilations, the possible significance of fishing-up and throwing-down myth-motifs in the study of environmental change has been largely overlooked in the Pacific Islands.

Ever since the earliest compilations and analyses of myth-motifs, it has been suggested that myths involving

the fishing-up (or throwing-down) of islands represent a myth-motif found in most parts of the world, implying that these particular myths are peculiar to neither the oceanic realm nor the Pacific Islands (Westervelt 1910; Fraser 1918; Jordan 1995). This global myth-motif has been characterized as the “land-raiser” and also includes cosmogonic myths referring to land being created through ploughing or shoving up of the sea floor, a diver bringing earth up from the sea floor, and the ocean receding, all of which Oppenheimer (1998, 237) interprets as recalling the recovery of land following a great flood. The fishing-up variant of the land-raiser myth is effectively confined to the Pacific Islands—including the Hawaii group and New Zealand—and the eastern part of the southeast Asian archipelago.

This article looks more closely at the variations in fishing-up and throwing-down myths within the Pacific Islands and argues that some of these variations arose largely because of the geotectonic character of the islands and island groups on which these myths became established and/or embellished. This approach is not known to have been applied before to a study of myths within a region of oceanic islands. From conducting such a study, it is clear that location has driven the development of particular myths and that diffusion pathways can be reconstructed by comparing the forms that particular myths take in different places. Much work has been done on the diffusion of myths in the Pacific Islands (Grey 1855; Williamson 1933; Beckwith 1940; Luomala 1949; Buck 1954, 1962), the results of which concur with the general pattern of human migratory pathways inferred from

archaeology (Terrell 1988; Irwin 1992; Kirch 1997). Where the present study differs is in arguing that island-origin myths in the Pacific could have developed only in particular island groups and reached others only by diffusion. All the myths cited in this account have been carefully scrutinized to ensure, as far as is possible, that they were recorded by persons and in ways that suggest that they are authentic indigenous traditions.

The Pacific Islands and Their Earliest Human Colonization

The Pacific Islands are concentrated in the southwest quadrant of the ocean basin. The islands tend to be larger, higher, and more diverse in character and native biotas here than elsewhere. Truly continental islands are confined to Papua New Guinea, New Caledonia, and New Zealand, but large, high islands of oceanic origin—including many of those in Solomon Islands, Vanuatu, and Fiji—are similar in landscape and environmental history and offered comparable opportunities to potential human colonizers. Beyond this region, Pacific Islands are generally

smaller and farther away from their nearest neighbors. Most islands in the south Pacific to the east of Fiji are of volcanic origin, although there are groups of high limestone islands in Tonga and the southern Cook Islands. Most mid-ocean atolls are located in the northwest quadrant of the Pacific, although isolated groups of high limestone and volcanic islands are also found here. The Hawaii group of largely high volcanic islands is the only main group in the northeast quadrant of the Pacific (Nunn 1994, 1998).

Most low-latitude Pacific Island groups were colonized by humans a thousand years or more before Europeans first discovered the Pacific Ocean (Figure 1). The earliest colonizers came from the west, most probably from the southern China and Taiwan region via the archipelagos of southeast Asia and the outer islands of Papua New Guinea. From there, about 3,500 years ago, they began a comparatively rapid and largely purposeful colonization of islands in the southwest quadrant of the Pacific. The descendants of these early colonizers later settled most of the other main Pacific Island groups and probably parts of Central and South America. The progress and routes of initial human colonization through the Pacific Islands

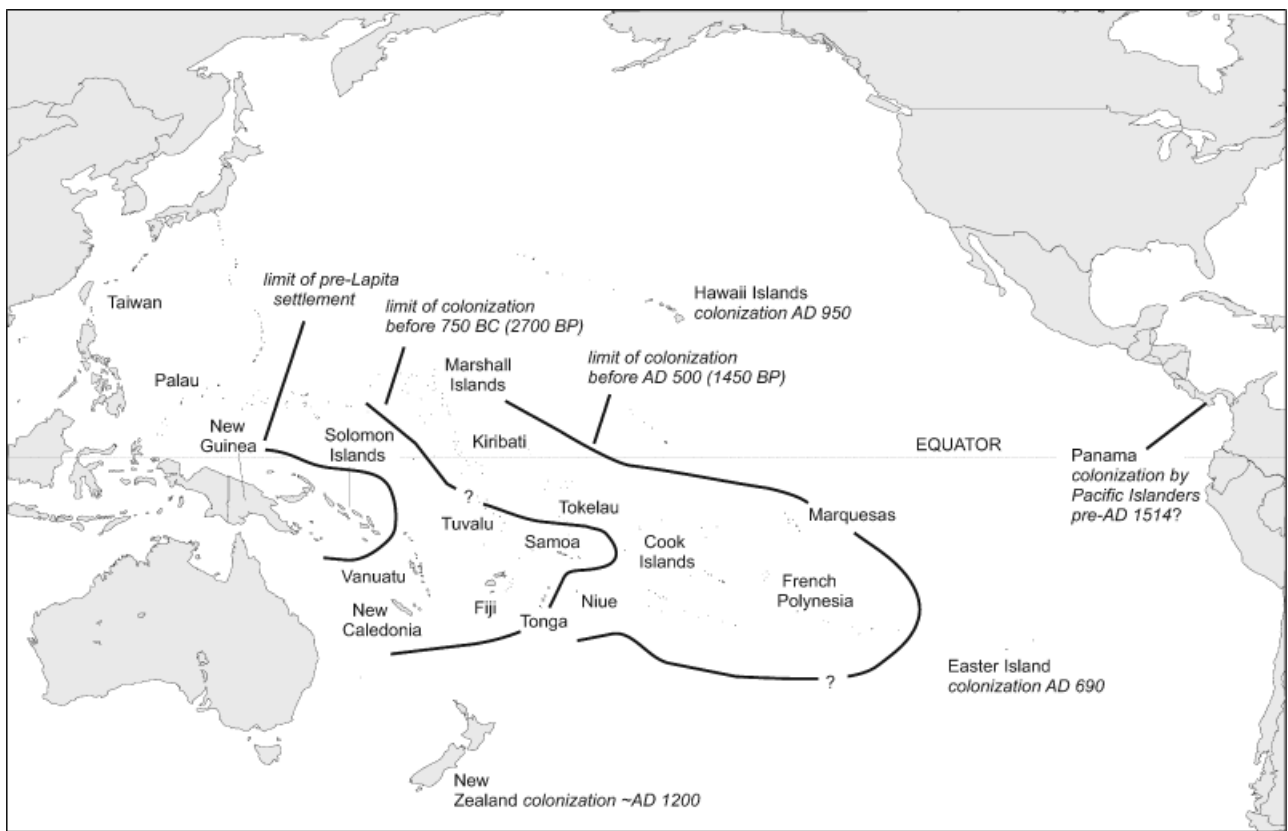


Figure 1. Map of the Pacific Islands, showing the main islands and island groups named in the text. Isolines indicating the earliest-known time of initial human settlement in various places are also shown. Source: after Nunn and Britton 2001.

have been traced by linguistics, by material culture, and by genetics (Irwin 1992; Terrell 1988; Kirch 1997).

It seems probable that the earliest people to settle the Pacific Islands beyond Solomon Islands were Austronesian (language-group) speakers who reached New Caledonia, Vanuatu, Fiji, Samoa, and Tonga around 2,900 years ago and either brought versions of fishing-up and throwing-down myths with them or developed them in place. Like Solomon Islands, the former three island groups may already have had small populations of Papuan speakers, or these may have arrived around the same time or later. This scenario sees these Papuan speakers as having come to dominate these island groups, but sees Austronesian speakers as having remained dominant in Samoa and Tonga. This point is relevant when it comes to considering where fishing-up and throwing-down myths in the Pacific Islands might have been recorded in forms closest to those of the earliest myth-makers within the region (see below).

The Dataset

Myths involving the fishing-up of islands by an ancestor (demi)god occur in most low-latitude Pacific Island groups (see Table 1); throwing-down myths are less widespread (see Table 2).

Tangaloa (or Tagaloa or Tangaroa), the father of the gods in the pantheon of most Pacific Islanders, is said to have fished up some islands, but the most common fisher was Maui (or Mauitikitiki or Moeatikitiki), his trickster son or stepson (Smith 1899; Buck 1954). Most myths citing Tangaloa as the island fisher (or thrower) come from Samoa, and it is worth noting that the island Savaii in Samoa has sometimes been regarded as Hawaiki (Hawaiki), the ancestral homeland of many Pacific Islanders (Buck 1954, 43). Other myths naming Tangaloa as the island fisher come from Tonga, the Cook Islands, and the Society Islands of French Polynesia, suggesting that, because of his paramouncy in the pantheon, fishing-up myths in the Pacific originated or received their earliest elaboration in this region and then dispersed outwards from it (Figure 2). This may therefore be regarded as the heartland of this particular myth-motif in the Pacific, an idea that accords with Buck's conclusion (1954, 71–72) that an influential school for the systematization and teaching of oral traditions was established more than 1,000 years ago at Opoa on Raiatea Island in the Society group.

The common theme of Pacific Island fishing-up myths is of the (demi)god dropping a hook and line into the ocean and having it catch on a submerged land and then

hauling it to the surface, where it remains. Commonly, this feat is done from a boat at a deliberately selected place in the ocean, occasionally from the sky or a rock. Sometimes the fishhook is consciously selected, sometimes it is named, and sometimes it is imbued with (additional) magic powers through chanting while being cast. Sometimes the submerged land is named, sometimes it is one which was formerly at the surface, and sometimes it is visible beneath the ocean surface before being hooked and fished up. Often the sunken island is characterized as a fish, brought to the surface squirming and thrashing before being transformed into an island. Sometimes the island emerges from the ocean bare, sometimes fully vegetated and peopled. Sometimes the land is hauled up and remains in place, sometimes the hook slips and part of it sinks again; sometimes the fisher is angered and allows the entire island to disappear once more. Sometimes a particular myth recalls stages in the fishing-up of islands; sometimes several islands or island groups are fished up in succession. Selected examples illustrating these variations are given below; fishing-up myths are discussed separately from throwing-down myths.

Examples of Fishing-Up Myths

One of the earliest written accounts of a fishing-up myth from Tonga was recorded by William Mariner (Martin [1817] 1981, 1:164–65), who was there from 1806 to 1810. Mariner records that Tangaloa went out fishing with a line and hook, the hook becoming fixed in a rock at the bottom of the sea. The god then drew up all the Tonga Islands, which would have been one great land had the line not accidentally broken, leaving the situation as it is now (see Figure 2). Comparable situations in which a fishing line breaks leaving a line of islands rather than a single land come from Hawaii (Beckwith 1940, 230) and the northern Cook Islands of Manihiki and Rakahanga (Smith 1899, 72).

A story found in both Tonga and Samoa refers to the child of Tangaloa, the Tuli, a species of plover, who complained to his father about the lack of a resting place in the vast ocean. So

Tangaloa fished up a large stone from the bottom of the sea with a fishhook. Having raised the stone to the surface, he gave it to his son for a dwelling place. On going thither to take possession of his new home, however, Tuli found that every wave or swell of the ocean partially overflowed it, which compelled him to hop from one part to another of the stone to prevent his feet being wetted by each succeeding wave. Annoyed at this, he returned to the skies to complain to his father, who, by a second application of the mighty fishhook, raised the land to the desired height. (Stair 1896, 35)

Table 1. Islands and Island Groups in the Pacific to which Fishing-Up Myths Pertain

Islands Fished Up	By	Primary Source(s) of Information
Cook Islands		
Mangaia	Rangi	Gill 1876, 16
Mangaia	Tangaroa	Westervelt 1910, 26
Manihiki	Maui	Gill 1876, 73
Manihiki, Rakahanga, Tu-kao ^a	Maui	Te Ariki-tare-are 1899, 72
Pukapuka	Maui	Beaglehole and Beaglehole 1938, 375
Tongareva	Vatea	Gill 1876, 48
Tongareva	Maui	Langridge and Terrell 1988, 124–25
Federated States of Micronesia		
Fais	Maui	Luomala 1949, 222
Fiji		
Rotuma	Moeatikitiki	Russell 1942, 244
French Polynesia – Mangareva group		
All	Maui	Cuzent 1860, 44
Mangareva	Maui	Dumont d'Urville 1841–1846, 3:166, 387
French Polynesia – Marquesas		
All	Maui	Cuzent 1860, 44
All	unspecified	Mathias 1843, 44
reef near Eiao	Maui	Christian 1895, 188–89
Nuku Hiva	Maui	Handy 1930, 103
Tahuata	Maui	Luomala 1949, 185
French Polynesia – Society Islands		
All	Maui	Hale 1846, 25
All	Tangaroa	Fornander 1878, 1:63
All	Tino-ta'ata	Bovis 1863, 274
Tahiti	Maui	Young 1898, 109
Tahiti	Maui	Smith 1898, 239
French Polynesia – Tuamotus		
All	Tekurai-te-atua	Cuzent 1872, 24
Anaa	Maui	<i>Tuamotuan legends</i> 1937, 11–60.
Vaiari	Maui	Emory and Stimson n.d., quoted in Luomala 1949, 194
Hawaii		
All	Kapuhe'euanui	Fornander 1878, 2:18–19
All	Kapuhe'euanui	Beckwith 1940, 373
All	Maui	Beckwith 1940, 230
unspecified	Maui	Beckwith 1940, 216
New Caledonia – Loyalty Islands		
Ouvéa, Maré, New Caledonia	unnamed	Hadfield 1920, 106
New Zealand		
All	Maui	Grey 1855
North Island	Maui	Smith 1917, 129; Buck 1962, 4–5
Niue		
Niue	Maui	Reiter 1907, 445–48
Palau		
All	Tmelogod	Krämer 1917–1927, 38
Samoa ^b		
All	Tangaroa	Hale 1846, 24; Reiter 1907, 445–48
some	Tangaloa	Stair 1896, 35
Manua	Tangaroa	Stair 1897, 212ff
Savaii	Matuarang	Newell 1895, 233
Savaii, Upolu	Tangaroa	Turner 1861, 7

(Continued)

Table 1. (Continued)

Islands Fished Up	By	Primary Source(s) of Information
Solomon Islands		
Anuta	Mokitikitiki	Feinberg 1998, 28
Santa Cruz	Mosigsig	Coombe 1911, 192–94, in Luomala 1949, 204–5
Tikopia	Tikopia	Rivers 1914, 1:315
Tokelau		
All	Maui	Reiter 1907, 445–48
All	Maui (3)	Burrows 1923, 153
All	Tikitiki, Taranga	Smith 1922, 92
Tonga		
All	Tangaroa	Martin [1817] 1981, 1:164–65; Wilkes 1845, 3:23
most	Maui	Ma'afu, quoted in Fison 1907, 144–45
All low islands	Maui	Farmer 1855, 153
Niuatoputapu	Maui	Gifford 1924, 15
Tongatapu	Maui	Young 1854, 265
Tongatapu	Maui	Ma'afu, quoted in Fison 1907, 145
Tongatapu	Maui	Martin 1911, 166
Tongatapu, Vava'u, Ha'apai	Maui	Reiter 1907, 445–48
Tongatapu, Vava'u, Ha'apai	Maui	Gifford 1924, 15
Tonga-ake (Tongatapu?)	Maui	Smith 1899, 73
Vanuatu		
Aneityum	Nungerain	Murray 1885, 115
Aniwa, Futuna ^c	Matshikitshiki	Paton 1891, 157
Efate	Maui	Luomala 1949, 122
Wallis and Futuna		
Futuna	Maui-Alonga	Bourdin 1867, 435, in Luomala 1949, 107
Wallis (Uvéa)	Tangaroa	Mangeret 1884, 1:155
Wallis	Maui	Burrows 1937, 26

^a Unidentified by Smith (1899).

^b Incorporating (Western) Samoa and American Samoa.

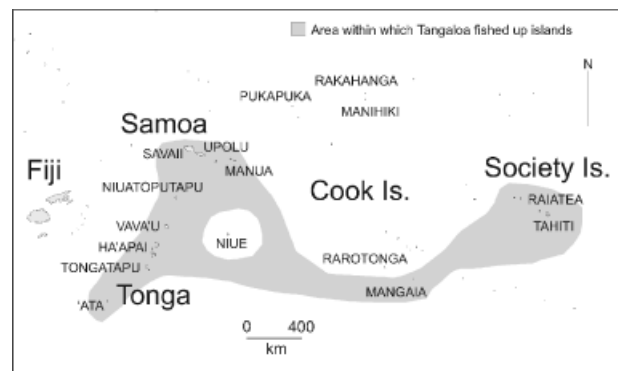
^c Note that this Futuna is a different island from that in the Wallis and Futuna group.

Ma'afu, the Tongan prince who ruled the Lau Islands in what is now eastern Fiji, gave a more detailed account to a missionary, Lorimer Fison, which first involved the fishing-up by Maui of 'Ata Island. The event is described as

follows: “And from the midst of the waters rose a land, mountain after mountain, till there were seven mountains in all, with valleys between, and flat lands lying at their feet” (Fison 1907, 144). Maui's companions complained

Table 2. Islands and Island Groups in the Pacific to which Throwing-Down Myths Pertain

Islands Thrown Down	By	Primary Source(s) of Information
Hawaii		
All	Kapuhe'euanui	Fornander 1878, 2:18–19
Fiji		
Kadavu group (parts)	Tanovo	Nunn 1999, 46
Samoa		
Some	Tangaloa	Stair 1896, 35; Stair 1897, 212–13
Tonga		
All high islands	Hikuleo	Farmer 1855, 153
Kao, Tofua	Hikuleo	Buck 1954, 299
Tafahi	(imps)	Mahony 1915, 117

**Figure 2.** The heartland of fishing-up myths as defined by islands and island groups, where Tangaloa is said to have fished up islands.

about the mountainous topography, so Maui,

leaping ashore, . . . sprang to the top of the highest mountain, and stamped on it with his feet. And as he stamped, the earth shook, and the mountain crumbled away beneath his feet, and rolled down into the valleys below, till they were filled up to the level on which he stood. This he did to four of the seven hills, leaving the other three untrodden, for he grew weary of the work. (Fison 1907, 144–45)

Then the company sailed away, but before long Maui took out his hook again

and raised this land of Tonga [Tongatapu Island] above the waves. Here he trod all the hills down into rich and fertile plains; on which, even as he trod, there sprang up grass and flowers and trees, while the earth swelled into hillocks round his feet, bursting with yams and sweet potatoes, and all manner of food, so that the gods shouted aloud for joy. Next he fished up Haabai [the Ha'apai Islands] and Vavau [Vava'u Island] and Niua [Niuatoputapu Island] and the other islands near them. (Fison 1907, 145)

Other myths that recall successions of islands being fished up come from Tokelau and from Lifou Island in New Caledonia. The Tokelau myth recalls three brothers who each fished up one of the three atolls. “First Mauimua’s hook caught in the roots of a coconut tree on the sea floor and he hauled up Fakafo [Atoll]. Then Mauiloto hauled up Nukunonu [Atoll]. Then Mauimuli hauled up Atafu [Atoll]” (Burrows 1923, 153). For Lifou, a man

was fishing in the ordinary way from the rocks, and threw out his line towards the west. Feeling something on his hook, he began to haul in. He thought he had caught an unusually big fish, but found he had pulled up an island—the island of Uvea [Ouvéa], which is about thirty miles away . . . Again the fisherman threw out his line—this time in an easterly direction, and pulled up the island of Maré; a third time he brought up the large island of New Caledonia. (Hadfield 1920, 106)

The detail in which a large fish is hooked and then becomes land is also quite common, particularly in areas beyond the heartland, such as New Zealand (Smith 1917, 129) and Hawaii (Beckwith 1940, 230).

The detail that involves fished-up islands subsequently disappearing is most common in the central Pacific. Typically, when Maui drew up islands from the ocean, “his companions tried to claim them so he spitefully let the lands go. Only Mangareva [Island] remained and he kept it for himself” (Dumont d’Urville 1841–1846, 3:166). From Tahuata Island in the Marquesas comes the myth involving Maui fishing up a land called Tonaeva (perhaps near or part of Tongareva Island in the northern Cook

Islands) that lay beneath the waves and then letting it go (Luomala 1949, 222).

The idea of a known—even visible—land beneath the waves recurs. Examples come from the Samoa area (Newell 1895, 233) and Tongareva in the Cook Islands (Langridge and Terrell 1988, 124–25). In other myths, the place where a sunken island lies is known and the fishing-up at that spot is deliberate. Explicit examples come from the Fiji-Tonga area (Fison 1907, 143) and Tokelau (Burrows 1923, 153), but this detail is implicit in many more accounts.

The Geography of Fishing-Up Myths

The Samoa/Tonga/Cook/Society-islands region is considered the heartland of fishing-up myths (see Figure 2). Within this heartland, there are similarities in the details of these myths while beyond, there is greater diversity. It should be noted that some islands or island groups that adjoin or are geographically within the heartland are not part of it. For example, fishing-up myths in the low islands of the Tokelau group, 180 km north of Upolu Island in Samoa, are clearly derived, rather than being autochthonous (Burrows 1923). Those from Niue Island, the prehistory of which was “characterized by isolation, rather than by interaction with other islands or archipelagoes” (Walter and Anderson 1995, 478), are likely to have been introduced by a comparatively recent group of immigrants, possibly from Samoa.

The Heartland of Fishing-Up Myths

Of all the island groups in the heartland, those of Samoa and Tonga were settled earliest and are therefore likely to be those where the fishing-up myths of the Pacific Islands were articulated earliest. Tonga is a land of both high limestone islands and volcanic islands, while Samoa is exclusively volcanic (Nunn 1998). Most accounts of the fishing-up of Tongan islands make a clear distinction between those that were fished up and those that were not (often those that were thrown down—see below). For example, one account states that those islands that were fished up were Tongatapu, Vava'u, Ha'apai and Niua (probably Niuatoputapu) while Maui “did not fish up Kao, Tofua, Hunga Haapai [sic], Hunga Tonga, Late, or Fonualei” (Gifford 1924, 15). The first three islands named are all high limestone islands, the last six all exclusively volcanic. Niuatoputapu has a volcanic core, but this is fringed by a limestone terrace and surrounded by an extensive area of reef limestone, most of which have emerged since initial human occupation some 3,000 years ago (Kirch 1988). The southernmost Tongan island, 'Ata,

is volcanic, but all others mentioned in Ma'afu's account (in Fison 1907, quoted above) as having been fished up are (largely) limestone in composition.

In fact, within the heartland of these myths in the Pacific, there is excellent agreement between limestone islands and the locations of fishing-up myths. Of the myths from the heartland (southern Cook Islands, Samoa, Society Islands and Tonga) listed in Table 1 that refer to single islands rather than island groups, 76 percent of the fishing-up myths are from limestone islands; this rises to 88 percent if data from Samoa are excluded (see below). In the southern Cook Islands, the only island (Rarotonga) on which large masses of upraised *makatea* limestone are not found is also the only one of the islands likely to have been settled earliest that does not have a fishing-up myth specific to it (Smith 1899).

Agreement between limestone islands and fishing-up myths is absent in Samoa, where the islands are all volcanic in composition and yet are described as having been fished up. A clue to this anomaly may be that here—and nowhere else—Tangaloa is stated to be the fisherman. Since Tangaloa is the father of Maui, this may mean that, within the heartland of fishing-up myths, Samoa was the place where they were expressed first. Yet it is unclear why the modern fishing-up myth should be applied to the Samoan Islands. Perhaps the original myth traveled from Samoa to Tonga, where it acquired the form and associations by which it is generally found within the heartland, then returned to Samoa and was merged with existing myths concerning Tangaloa.

Beyond the Heartland

Beyond the heartland of fishing-up myths, the correspondence with island lithology (rock type) lessens, although in places like the Caroline Islands of Micronesia it is almost perfect; myths say that of all the Caroline Islands, most of the largest of which are volcanic, only the high limestone island Fais was fished up (Luomala 1949, 222). For single islands beyond the heartland, just 13 percent of the fishing-up myths in Table 1 are from limestone islands. This is considered a consequence of diffusion—the movement of people and their myths from the heartland to islands beyond those to which the myths had been applied. A clue supporting this explanation for Hawaii derives from a famous chant:

○ Lono, Lono, Lono-ka-eho!
Lono descended from the gods, chief of the fertile land
of Nana,
Here are canoes, come aboard,
Return and dwell on green-backed Hawaii,
A land discovered in the ocean,

Risen up out of the waves,
From the very depths of the sea,
A piece of white coral left dry in the ocean,
Caught by the hook of the fisherman,
The great fisherman of Kapaahu,
The great fisherman of Kapuhe'euanu'u;
When the canoes land, come aboard,
Sail away and possess Hawaii; a land,
A land is Hawaii,
A land is Hawaii for Lonokaeho to dwell in.
(quoted in Beckwith 1940, 373)

Buck (1954, 247) quotes the same chant, naming the fisherman as Kapu with the long name and the place from which he was fishing as Kapaahu. He was about to discard the piece of coral he had hauled up when a priest advised him to offer a pig to the gods with an appropriate prayer so that the coral might grow into land. When Kapu did this, the coral grew into the island Hawai'i. Kapu then continued to fish up pieces of coral and, with the offering of pigs, these became Maui, Oahu and the other islands of the Hawaii group. Fornander (1878, 2:18–19) and Westervelt (1910, 29) tell similar stories. While the basic ingredients of many fishing-up myths are here, the name of the fisherman is different from most and, critically, the detail of the rock type is wrong. Aside from some surficial emerged reef deposits of localized extent on a few islands (Grigg and Jones 1997), the Hawaiian Islands are exclusively igneous in composition and bear no resemblance to white coral. It is suggested that this key detail, so central to this famous chant, indicates that the fishing-up story is not autochthonous to the Hawaiian group but has been recently introduced, perhaps from emerged coral-reef islands, like many of those in the heartland of fishing-up myths.

A comparable situation may exist with other fishing-up myths beyond the heartland. For example, it has been suggested that because Maui and Tikitiki (the same person) exist side by side in the pantheon of Tokelau, where fishing-up myths are common but only atoll islands (exhibiting no signs of uplift) exist, these myths must have been derived from external sources here (Macgregor 1937, 16).

Geological Detail in Fishing-Up Myths

Most low-latitude Pacific Islands can be readily classified on the basis of their dominant lithology into volcanic islands, (high) limestone islands, and *makatea*-type islands. The latter are volcanic islands with a fringe of emerged coral-reef limestone, which dominates the landscape and might be considered the dominant lithology for the development of oral traditions. Most limestone islands

in the Pacific have been uplifted above the ocean surface, and many have experienced (successive) uplift events within the time of their human occupation that may be recalled in myths (Nunn 1994).

This section of this article discusses three groups of geological detail that are believed to be significant in an understanding of why fishing-up myths developed where they did. The first group looks at what myths recalling the initial appearance of an island during fishing-up might mean. The second looks at the specific case of islands that are recalled as having risen up suddenly, rather than gradually on more than one occasion. The third looks at accounts of instability that occurred during the process of fishing-up.

Initial Island Appearance. The basic detail of all fishing-up myths is the initial appearance of an island. In its simplest form, it may be, as some writers have suggested, simply a way of recalling the initial discovery of an island. But alternative myths for this exist (see below), suggesting that the fishing-up motif means something more.

An obvious explanation is that fishing-up is a way of recalling a volcanic eruption. Both the direct and remote consequences of eruptions in the Pacific Islands can be seen from far away, and it is likely that the first inhabitants of the heartland described above either witnessed eruptions therein or had come from or passed by islands where eruptions had been occurring or where a memory of an eruption was sufficiently recent to be conveyed to others by those who witnessed it. There is a greater concentration of active island volcanoes in Papua New Guinea, Solomon Islands, and Vanuatu than anywhere else in the low-latitude Pacific, and it is likely that the first inhabitants of the islands to their east associated island formation with volcanic eruptions. Some of these eruptions are likely to have been audible and visible great distances away. To demonstrate this point, it has been suggested that the A.D. 1452 eruption of Kuwae Volcano, in central Vanuatu, darkened the sky during the siege of Constantinople (now Istanbul) in Turkey and was of a magnitude sufficient to cause a succession of harsh winters throughout the northern hemisphere (Pang 1993).

In some myths, as noted above, an island was visible beneath the ocean surface before it was fished up or was known to be there because it had sunk at an earlier time. These are most likely to recall islands that periodically appear and then disappear once more beneath the ocean surface. Characterized by some as “jack-in-the-box” islands, these are underwater volcanoes the summits of which lie within a few hundred meters of the ocean surface. Eruptions of these volcanoes can produce columns of

steam and ocean-surface disturbances and, in many recorded episodes, cause islands to form. Some of these islands are several hundred meters high and several kilometers in area but remain above the ocean surface only a short time after the eruption has ceased, because, once material has stopped being supplied to the island, the unconsolidated materials of which it is formed are easily eroded by the waves and the island “disappears” (Nunn 1994).

Islands of this kind occur in Solomon Islands and Vanuatu but are especially common in Tonga. One of the most active is Fonuafo’ou (Falcon Island), which has erupted seven times since 1850, forming a sizeable island on at least five occasions that subsequently disappeared (Nunn 1998). There are shoals at such places, and the summit of the underwater volcano may be visible beneath the ocean surface. Combined with the memory of an island in such locations that once existed but subsequently disappeared, it is suggested that this accounts for this variant on the basic fishing-up myth as it appears in the Pacific Islands. The occurrence of this motif variant in Tokelau, Tongareva, and elsewhere, where jack-in-the-box volcanic islands do not exist, is explained most simply by diffusion from Tonga, where they do (Figure 3).

In Figure 3, those islands where fishing-up myths are found are included within the shaded area. Conspicuous exceptions include the main Caroline Island groups in the northwest Pacific, all Fiji Islands apart from Rotuma, Rarotonga in the southern Cook Islands, and the Austral Islands of French Polynesia. It is suggested that those fishing-up myths likely to recall the effects of shallow-water volcanic eruptions originated in Tonga and sub-

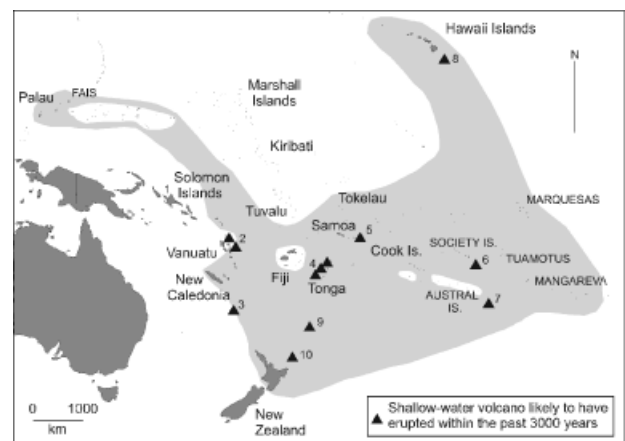


Figure 3. Distribution of those fishing-up myths in the Pacific Islands likely to recall shallow submarine volcanic eruptions and places where these are likely to have occurred within the past 3,000 years. See Table 3 for data on numbered locations.

sequently diffused in most directions. It is possible that the detail of the diffused myths was renewed when particular groups of people encountered other shallow-water volcanoes erupting. These are identified by number in Figure 3 and described in Table 3.

Another type of island that rises must also be considered within the category of those fishing-up myths that recall the emergence of an island above sea level. Within the period of their human occupation, most Pacific islands have emerged, largely as a consequence of sea-level fall within the past few thousand years (Nunn 2000). Since this sea-level fall has been so slow, it is unlikely to have registered in myth except where it was accelerated by island uplift and/or where large areas of new lowland were formed that accommodated a growing population on a remote island. An example of the latter is Niuatoputapu, one of the Tongan islands that was fished up (see above). There has been a 312-percent increase in land area

associated with the emergence of a reef flat to elevations of as much as 3–4 m since people first settled the island about 3,000 years ago (Kirch 1988). This was a situation in which slow uplift combined with sea-level fall to produce a massive increase in land area, which could hardly have failed to escape the attention of the island's inhabitants. In other situations in which late Holocene uplift has occurred, the effects have been less noticeable, except where that uplift was sporadic, associated only with large-magnitude earthquakes. This category of coseismic uplift (abrupt uplift coincident with large-magnitude earthquakes) is discussed in the following section.

Islands That Rise Up Suddenly on Successive Occasions. Several fishing-up myths speak of successive upward pulls of the same island. An example in Samoa and Tonga is when Tangaloa uses his fishhook a second time to raise the land to an elevation at which his son's feet would

Table 3. Shallow-Water Volcanoes That Are Known to Have Erupted or May Have Erupted within the Past 3,000 Years

Number	Principal Volcanoes	Known Eruptions	Details and Sources
1	a) Kavachi, Solomon Islands	16 eruptions since December 1950	Data tabulated in Nunn (1994, 86)
2	a) Karua, Vanuatu	10 eruptions since 1897	Data tabulated in Nunn (1994, 87)
	b) Off Efate	Signs of submarine eruption 1881	Located at 18.72°S, 168.37°E (Simkin et al. 1981)
3	a) South of New Caledonia	Eruption report 1963	At 25.78°S, 168.63°E (Simkin et al. 1981)
4	a) Fonuafo'ou, Tonga	11 eruptions since 1781	Data tabulated in Nunn (1994, 87)
	b) Late'iki (Metis Shoal), Tonga	8 eruptions since 1851	Data tabulated in Nunn (1994, 87)
5	a) Manua Islands, American Samoa	Around 1866	Eyewitness account given to Friedländer (1910); located at 14.21°S, 169.60°W (Simkin et al. 1981)
	b) Manua Islands, American Samoa	Signs of submarine eruption 1973	Located at 14.23°S, 169.07°W (Simkin et al. 1981)
6	a) Moua Pihaa, Society Island	An active submarine volcano	Shallow-focus earthquakes at bathymetric high suggest underwater volcano at 18.4°S, 148.6°W (Duncan and McDougall 1976, 201); eruptions in 1969 and 1970 detected (Simkin et al. 1981)
	b) Rocard, Society Island	An active submarine volcano	Eruptions reported in 1966, 1971 and 1972 (Simkin et al. 1981)
7	a) Macdonald Seamount, Austral Island	Occasionally active	Active volcanism reported 500 m below sea level by Johnson and Malahoff (1971); signs visible at ocean surface; eruptions reported in 1928, 1936, 1967 (Simkin et al. 1981)
8	a) Lo'ihii Hawaii Island	Active	Although no eruption has yet been observed, there are numerous indications that this volcano has been active throughout the past 3,000 years; its summit currently lies more than 900 m beneath the ocean surface (Malahoff 1987)
	b) East of Kauai, Hawaii Island	Eruption report 1956	At 21.75°N, 158.75°W (Simkin et al. 1981)
	c) Northeast of Necker, Hawaii Island	Eruption report 1955	At 23.58°N, 163.83°W (Simkin et al. 1981)
9	a) Brimstone Island, Kermadec Island	Erupted 1825	At 30.23°S, 178.92°W (Simkin et al. 1981)
	b) Monowai, Kermadec Island	4 eruptions since 1958	At 25.88°S, 177.19°E (Simkin et al. 1981)
10	a) Rumble III	5 eruptions since 1958	At 35.70°S, 178.48°E (Simkin et al. 1981); summit 140 m below sea level (Volcano World n.d.)

Note: Numbers refer to locations in Figure 3. Not all active submarine volcanoes are listed for New Zealand, Tonga, and Vanuatu. A complete list is given in Simkin et al. (1981), and most are given by *Volcano World* (n.d.).

not be wetted when he landed on it (quoted above). These are considered likely to recall coseismic-uplift events and to be the same as those myths that tell of successive upward pushes (from the ocean floor) or stamps on the ground causing the island to rise. In such myths, the push/stamp is suggested as recalling the earthquake and the rise of the island its effect.

One myth from Niue Island states that when “the ocean rolled unbroken” over the island, Maui was in a cave on the ocean floor and pushed it up until it became “a reef awash at low water.” Then, with another heave, Maui “sent it higher than the spray can reach . . . and it became a [high limestone] island like to Tonga” (Thomson 1902, 85–86).

A classic case of stamping causing uplift, taken from another Niue myth, is discussed briefly here because it throws light on the fishing-up myth that was also collected from the island (Luomala 1949, 136, 270). The basic story, apparently collected independently by several different authors, is given here in the words of Peniamina, the first Pacific Islander missionary on Niue. He stated that Niueans

trace their origin to Huanaki and Fao, two men who swam from Tonga. They found the island [Niue] just above the surface, and washed by the ocean. They got up on it, stamped with the foot, up it rose, the water ran off, and the dry land appeared. They stamped again, and up sprang the grass, trees, and other vegetation. (Turner 1861, 468–69)

An analysis of Niuean myths suggests that the island may have experienced two coseismic-uplift events within the past 2,000 years. With an average net uplift magnitude of 1.4 m and a recurrence time of ~1,000 years, the situation here is similar to that in many other parts of the southwest and west Pacific Islands.

Stamping is not associated solely with island uplift in Pacific Island myths. Throughout the limestone islands of Tonga, stamping by Maui is used as an explanation for the existence of flat surfaces (see quote above) and it is surely no coincidence that these islands are those that experience most earthquakes in this region. Many of those earthquakes produce uplift (Nunn and Finau 1995), and it may be that unrecorded versions of myths from Tonga invoked stamping as the cause of this uplift, as on Niue (see above).

Stamping by a god may also be a way of recalling the vibrations felt during large landslides on islands such as Rarotonga, Manihiki, and Rakahanga in the Cook Islands and on several islands of the Marquesas group (Williamson 1933; Buck 1954) where there are few earthquakes. It is possible that stamping is a myth-motif that originated in the Niue-Tonga area as an explanation

for coseismic uplift and then diffused to other places, where it was used to explain similar or other experiential phenomena.

Instability during Fishing-Up. The physical disruption associated with coseismic-uplift events can be considerable and is likely to have been incorporated into myth. For example, after Maui and his grandson fished up the island Efate in Vanuatu, it is said to have “rocked and tipped crazily in the ocean” (Luomala 1949, 122), and coseismic-uplift events along the coast of Efate are comparatively common (Howorth 1985). They are also quite common along the east and south coasts of North Island, New Zealand, and when Maui hooked it up, “[T]here came gurgling up foam and bubbles from the earth” (Luomala 1949, 46) or, alternatively, “seething waters” (Buck 1962, 5). Both these descriptions are similar to reported effects of coseismic uplift along the New Zealand coast. Coseismic-uplift events also occur in Tonga (Nunn 1998) and may explain why some fishing-up myths from these islands tell that “[T]he waters rose bubbling and foaming around the canoe, and smoke came from them with a thunderous rumble and roar, and the gods cried out in deadly fear” (Fison 1907, 143–44).

Instability during the process of coseismic uplift may also be why the island being hauled up is described so often as a struggling fish (see above). Consider this account from Anaa in the Tuamotus of the fishing-up of the legendary Havaiki:

[T]he hook moved right over beside the rock foundation of Havaiki [sic] . . . then Maui hauled his hook up; and as he pulled upwards the fish lunged powerfully downward . . . it kept on rising and rushing down again to Toga-reva . . . and now the fish had risen close to the surface . . . the head of the fish broke out above the waves [and] . . . they saw it was not a fish but a land-mass . . . again the fish began to thrash about, and it broke off abruptly in front, remaining smoothly rounded behind; it was very narrow in the middle. The under side rolled up above, and the upper side rolled underneath, and Maui chanted about the overturning of this fish upon the surface of the sea; that is, the fish which was said to be the land Havaiki. (*Tuamotuan legends* 1937, 36)

Once the fish is out of water, it sometimes still thrashes, often while being cut up by the fishermen. In one account, “[T]he great fish—the island—shook under the blows and with mighty earthquake shocks tossed” (Westervelt 1910, 22). This, too, can be interpreted as recalling the effects accompanying coseismic uplift.

A special kind of disruption may be recalled by myths in which islands are hauled up and then dropped again. This is found in Tongareva (Cook Islands), where Maui grabbed

a beautiful woman off the island he had just pulled up and then let it go (Langridge and Terrell 1988, 124–25), in Mangareva (see above), in the Marquesas (Luomala 1949, 185), and in the Tuamotus (Emory and Stimson n.d., quoted in Luomala 1949, 194–95). These may well be coseismic-uplift myth-motifs that diffused from Tonga and were used to explain coastal/flank landslides, which sometimes cause the land to vibrate and occasionally cause parts to be rapidly submerged (Keating and McGuire 2000).

It is possible that a third kind of coseismic-uplift myth-motif also exists in Tonga. Several authors quote a myth that recalls Tangaloa drawing up the Tonga Islands as a single land mass; then the line broke, and the situation was left as it is today (see, e.g., Martin [1817] 1981a, 1:164–65; Wilkes 1845, 3:23). A comparable story involving the breaking of the fishing line comes from the Hawaiian Islands (Westervelt 1910, 19; Beckwith 1940, 230). In another, the big fish being hauled up escapes at the last minute and “the islands slide apart again” (Beckwith 1940, 232). Assuming that the Tongan version of this myth predates the Hawaiian, it is possible that this motif recalls the effects of both coseismic uplift and volcanism (particularly the existence of jack-in-the-box islands—see above) in an attempt to explain the present geography of Tonga. The transfer/recollection of the myth for Hawaii may have been an attempt to explain both the active volcanism there, which built islands up, and the widespread occurrence of (coseismic) coastal subsidence (Henderson 1980; Moore et al. 1989).

Examples of Throwing-Down Myths

Throwing-down myths are less widespread than fishing-up myths in the Pacific Islands. Most throwing-down myths come from islands or island groups that were not fished up. The latter point is clearest in Tonga (Table 2), where none of the limestone islands are said to have been thrown down, only the volcanic islands. For example, the volcanic islands Kao and Tofua, both of which have erupted frequently in the 3,000 years since Tonga was first settled, are said to have been *maka fonua* or “land stones” thrown down (Buck 1954, 299). A similar story comes from Samoa, where volcanoes on Savaii and possibly other islands erupted within the period of human settlement, and from the volcanically active Hawaiian Islands. All throwing-down myths in Table 2 refer to volcanic island groups within which at least one volcano was active within the period of human settlement. The link between throwing-down myths and erupting volcanoes—which

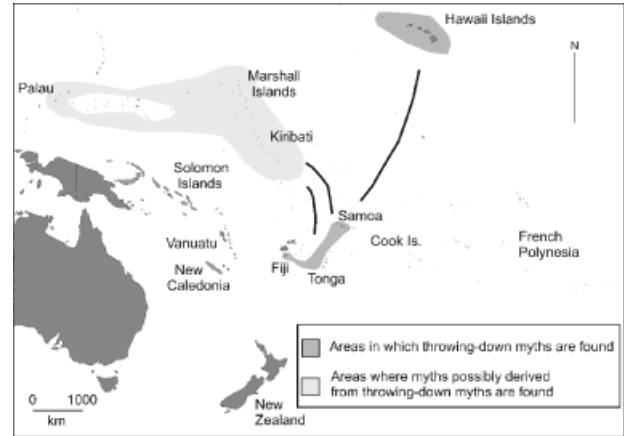


Figure 4. Distribution of throwing-down, falling-down, and related myths in the Pacific Islands and suggested pathways of diffusion.

often produce a rain of boulders and ash and sometimes create new land even new islands—is clear (Figure 4).

A variant on the throwing-down myth is when earth spills from a basket being carried by a giant or flying being and produces an island. For example, on Kadavu Island in southern Fiji, a basket of earth stolen from Nabukelevu Volcano, which has erupted within the period of human occupation, spilled as the thief was running away and created islands (Nunn 1999, 46). Similarly, the central part of the active volcano Niuafu’ou in Tonga was said to have been stolen by imps, who later dropped it to form the volcanic island Tafahi (Mahony 1915, 117). Both of these myths have been interpreted as recalling the effects of volcanic eruptions—principally falls of ash and pyroclastics—on nearby islands (Taylor 1995; Nunn 1999).

Some myths explaining the origin of Pacific atoll islands are similar. For example, the origin of the Marshall Islands is explained by earth spilling from a basket carried by Etao as he flew through the air (Knappe 1888, 65–66). According to another account, all the islands in the Marshall and Caroline Island groups of Micronesia were carefully placed in the ocean from a basket of earth (Davenport 1953, 222). The islands of western Kiribati have been explained as leaves that fell off a tall tree in Samoa (Hambruch 1914, 385–87). It is possible that the basis of these myths reached these places by diffusion from a place where a throwing-down myth associated with volcanic eruptions existed (see Figure 4). Other atoll peoples do not have this “falling-down” myth-motif but simply acknowledge the unconsolidated nature of atoll islands, speaking, for example, of sand and stones being poured out of a bag to create islands in Kiribati (Hyde 1886) or sand being accumulated on a reef to produce land (Krämer 1906, 433).

Alternatives to Fishing Up and Throwing Down

One difficulty with interpretations of fishing-up myths simply as ways of recalling the initial human discovery of Pacific Islands is that there are less elaborate mythical explanations that are easier to interpret in this way. These include islands that are cast up, spring up, or simply emerge, which can be interpreted uncontroversially as recalling the first sight of an unknown island on the horizon from an approaching vessel. A classic account, collected in French Polynesia in 1817, explains how the sea casts up islands:

The sea casts up Vavau [Borabora], the first-born . . . and Tubai, little islets of the king! Strike on, the sea casts up Maurua [Maupiti], strike on, they are Ma-pihaa [Maupihaa], Pu-tai [Manuae], Papa-iti [Motu One] . . . the sea casts up Huahine . . . the sea casts up Maiao-iti [little Maiao] . . . the sea casts up Nu'u-roa [Nukuru] in the rising waves of Tai-ovava [the Tuamotu Islands] . . . the sea casts up Pupua . . . the distant Nuuhiwa [Nuku Hiva] . . . the sea casts up Hotu-papa . . . there comes Tai-nuna . . . the sea . . . casts up Ma-a-hu-rai . . . there is cast up again Outu-taata-mahu-rei . . . the sea . . . casts up Fata-pu . . . casts up Te-vero-ia Island . . . strike north, the sea casts up Matai-rea . . . strike north, the sea casts up Arapa alone, Raparapa alone . . . just over the sea is Tai-Rio-aitu . . . that is Aihii [Hawaiian Islands]. (Henry 1928, 400–1, with additional information about island names from Orsmond 1894)

Another example comes from Samoa, in which the Tuli speaks: “Where is the land which first upsprang? Great Manu'a rose up first . . . Savai'i with its high mountain then sprang up, and up sprang Fiti and all the Tongan group” (Fraser 1896/1897, 21); “Upolu, a very small bit of rock, and Tutuila, a little stony land, are isles that thereupon immediately arise” (Fraser 1896/1897, 23).

Although there are both fishing-up and throwing-down myths referring to the islands of Hawaii (see Table 1), there appear to be many more that explain their origin in less elaborate ways. In the traditions collected by Fornander (1916/1917), Opuukahonua recalls that the island Hawai'i was discovered by a fisherman, while famous historian Kahakuikamoana speaks of islands being found or born, a theme developed by historian Pakui, who was descended from a long line of historians and told of the Hawaiian Islands as being the children of Wakea and his wife Papa. At the time of the Hawaiiloa migration to the Hawaiian group, there were but two islands (Hawaii and Maui) but later the others “rose out of the sea” (Beckwith 1940, 363). Many island origin myths from the Hawaiian Islands are similar to those for parts of French Polynesia, from which they may have been derived. For example,

Buck (1954, 247) quotes a chant referring to Raiatea (Hawaiki) in the Society Islands:

Now appeareth forth Hawai'i-nui-akea,
Great-Hawai'i-in-the-open-space,
Emerging out of utter darkness,
An island, a land is born,
The row of islands stretching away from Nu'umea.
The group of islands beyond the horizon of Tahiti.

There is a fishing-up myth for the island Rotuma, in Fiji, although the name of the land fished up is Toga (Tonga?), suggesting that the myth reached Rotuma from elsewhere. An alternative to fishing up is the Rotuman tale of creation, in which Samoan invaders claim to have planted and grown the island from baskets of Samoan earth poured into the ocean (Russell 1942, 230). Oral traditions from the Gilbert (western) group of Kiribati simply recall a person climbing a tall tree and sighting islands, which he named (Uriam 1988).

From all this, it can be concluded that fishing-up and throwing-down myths are not the only mythical explanations for island origin, and that there are other myth-motifs that offer simpler explanations for the discovery of islands by humans. This is not to say that humans never applied the fishing-up or throwing-down myth-motifs to their discovery of a particular island, only that alternatives were widespread. This strengthens the associations suggested above between (1) the development of fishing-up myths in areas of underwater volcanoes and rising high limestone islands and (2) the establishment of throwing-down myths for (active) volcanic islands.

Conclusions

There has been considerable reluctance to admit that details of Pacific Island myths can be interpreted meaningfully in terms of the experiences of the peoples who created or elaborated them. Much of this reluctance has vanished in recent decades, countered by strong statements regarding the value of mythic detail in understanding the Pacific Islands of the past (Latukefu 1968; Mercer 1979; Gunson 1993). Although most of the acknowledged value has been in the area of culture transformation and culture contacts, there is a growing body of examples demonstrating the value of environmental detail (Nunn 2001). This article has tried to add to this by examining the geography of two island-origin myth-motifs and explaining their various forms by environmental processes occurring in the areas where these myth-motifs appear to have originated.

Such research has the potential to illuminate details of environmental changes, particularly the recurrence of

particular natural phenomena (e.g., large earthquakes, volcanic eruptions, island-flank collapses, floods, droughts, hurricanes), during the prewritten history of the Pacific Islands. These data are very useful to scientists interested in reconstructing the long-term history of such phenomena. It is hoped that this study demonstrates the potential of such data in this context.

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