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TONGA MALOHI: TONGAN FORTIFICATIONS IN WESTERN POLYNESIA

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Initial reviews of the West Polynesian (location map, Fig.1.) group of fortifications, by archaeologists such as McKern (1929:81), posited the view of a diffusion of ideas that originated in Fiji. More recently, Best (1993:434) has suggested their independent origins, building on certain basic principles. Tongan fortifications (*kolotau*) are generally considered as being introductions from Fiji during the Civil War period of the late 18th and early 19th centuries A.D. (Swanson 1968:49-50). Early historic European accounts have attributed the idea of warfare itself as being a Fijian introduction (Somerville 1936:164; Martin in Cummins 1972:44).

Fairly extensive archaeological overviews of fortifications in Tonga are provided by McKern (1929:80), Davidson (1964:12), Swanson (1968:22), and Havea (1990[pt.2]). Spenneman (1989:483) has provided a list of facts and figures on the fortifications on Tongatapu, presented in Table 1 with modifications by myself. They are only discussed in passing by Best (1993), who concentrated on Fijian and Samoan examples. Thus it is worth reviewing this topic at greater length.

Swanson, Havea and Spenneman all emphasised the importance of looking at the different shapes fortifications on Tongatapu exhibited. A typical lowland Fijian fort consisted of a circular ditch, the spoil of which had been thrown up to form an outer bank (Palmer 1969:193; Parry 1977:56). Swanson put forward the hypothesis that the circular forts on Tongatapu had been used by the more "traditional" Heathens of the Civil War period, while rectangular structures were forms adapted for the use of gun warfare by the more "progressive" Christian groups. Further consideration, however, has shown that aspects of this argument do not stand up to the evidence (Spenneman 1989:484).

Looking at the basic information on Tongan fortification structures assembled in Table 1, two very striking points can be seen. In Tongatapu, most fortifications have linear/rectangular outlines. The other point, stressed by Spenneman (1989:480), is that the banks in an overwhelming proportion of Tongatapu *kolotau* are positioned behind the ditch, contrary to most Fijian examples. Although no Tongan fortifications have been radiocarbon dated, the Lapaha defences at the former royal capital of Mu'a can be dated from genealogical reckoning to the 14th or 15th Century A.D. (Spenneman 1989:481) - "an antiquity consistent with the fact that the defence works tie in with an old shoreline of the lagoon" (Poulsen 1987(l):7). And it is interesting to note that, although open on one side to the lagoon, this Mu'a fortification, when more properly mapped (Spenneman 1988:18; cf. McKern 1929:95), is rectangular in

Table 1: TONGATAPU KOLOTAU (see Spenneman 1989:483).

SITE NO.	NAME	OUT-LINE	DIMENSIONS	AREA	STYLE
TO-Fo-01	Longoteme(?)	C	310	75100	1 0 D ¹
TO-Ha-01	Houma	C	300	70800	1 1 B ²
TO-Ma-01	Fahefa	C	250	49150	1 1 A
TO-Ko-02	Kolovai	C	220	38100	2 4 C ³
TO-Ha-02	'Utulau 1	C	190 x 230	34800	1 2 C ⁴
TO-Fu-13	Nakolo	C	70 x 90	20000	2 3 Z ⁵
TO-Fu-89	Fua'amotu	C	120	11300	2 1 A ⁶
TO-Fo-05	Folaha	C	?	?	1 0 D
TO-Nu-06	Sia-ko-Veiongo	C	?	?	2 4 C ⁷
TO-Mu-04	Lapaha	Or	400 x 550	220000	1 1 A
TO-Ka-04	Ha'atafu	Or	80 x 190	1520 ⁸	1 1 ? ⁹
TO-Mu-05	Tatakamotonga	Or	?	?	1 1 A
TO-Pe-07	Pea	Os	580 x 370	250000	1 1 A ¹⁰
TO-Fo-04	Vaini 2	Os	300 x 320	81900	1 1 A
TO-Fo-03	Vaini1	Os	360 x 220	45500	1 1 A ¹¹
TO-Ma-08	Nukunuku	I ¹²	150 x 150	22500	1 1 A
TO-La-01	Matahau ¹³	I ¹⁴	100 x 100	10000	3 0 D
TO-Mu-72	Kolotau	I ¹⁵	120 x 70	5700	1 1 A
TO-Pe-11	Ha'ateiho	R ¹⁶	400 x 400	160000	1 2 C ¹⁷
TO-Nu-41	Kolomotu'a	R	400 x 400	160000	1 1 A
TO-Ko-04	Kolohau	R	320 x 350	112000	1 0 D
TO-Ko-01	Te'ekiu	R	275 x 310	85250	2 4 C ¹⁸
TO-Ma-09	Hule	R	250 x 250	62500	1 1 A ¹⁹
TO-At-30	Pouvalu	R	190 x 150	28500	1 1 A

TO-Ko-05	Kolosi'i	R	120 x 200	24000	1 2 C
TO-Fo-20	?	R	150 x 150	22500	1 1 A
TO-La-03	?	R	150 x 150	22500	1 1 A
TO-Ha-06	'Utulau 2	R	100 x 150	15000	1 1 A
TO-Fo-07	?	R	?	?	1 0 D
TO-Be-35	?	R	?	?	1 1 A
TO-Nu-07	Ma'ofanga	R	?	?	?

OUTLINE: C = circular and oval fort outline.
 O = fortification open on one side.
 Or = open rectangular outline.
 Os = open semicircular outline.
 I = irregular outline.
 R = rectangular/straight-sided outline.

STYLE: First number = no. of ditches.

Second number = no. of banks.

Third letter = position of bank.

- A = bank behind ditch, within fortification.
- B = bank on the outside, on enemy side of ditch.
- C = banks present on both sides of the ditch.
- D = no bank present.
- Z = combination of above bank positions.

N.B. Measurements for DIMENSIONS in m. and for AREA in m².

Notes for Table 1:

N.B. The Hamula sites mentioned by Spenneman will not be mentioned here because it looks as if they were more likely to have been road structures (Green's comment in Swanson's essay 1968:26). The Ngele'ia site also shown on Spenneman's chart has been omitted here, because no other information concerning it has been provided.

1. This one is odd because Swanson (1968:25) states that a fortification wasn't located at Longoteme, contrary to what McKern (1929:88) writes. Also, Spenneman's description of the fort here (with the presence of only one ditch) is contrary to McKern's description of there being two ditches with accompanying banks!
2. *Kolotau* Houma clearly has a bank on the enemy side of the ditch (Swanson 1968:map 14), a fact not attributed to it by Spenneman. An inner bank

- may have existed, but the traces are very slight.
3. Spenneman claims this *kolotau* has a single ditch. However, Swanson (1968:22, map 9) clearly shows it consists of two ditches.
 4. Although Spenneman shows this fort as having only one bank, traces of an inner bank in places are very visible in Swanson's map (1968:map 16).
 5. Nakolo is a complex circular fort. It consists of a circular ditch with a slight outer bank, and this, in turn, is encircled by another ditch with a slight inner bank and a major outer bank. This outer structure has parts extending out and around like tentacles (Swanson 1968:map 20).
 6. Fua'amotu is the only *kolotau* in Tongatapu situated on a prominent hill-top, and the topography may have governed its circular shape more than anything else.
 7. Although Spenneman does not give any data concerning this locality, for it has been fortified many times, and gardening and recent civic improvements have wiped out most of the evidence (McKern 1929:82), I have drawn on Mariner's description of the Nuku'alofa fortification built there (Martin 1991:79-80).
 8. The source of Spenneman's measurements is unclear, but may be from field observations. Swanson uses Green & Terrell, who managed to find one side of the fort (Swanson 1968:map 15).
 9. Because only one side of the fort was found, one can't be really sure about where the bank it has is actually located. Although in Swanson's map it looks to be located on the enemy side of the ditch, if you take the argument presented in the text, Green & Terrell may have looked on the wrong side for the other half of the *kolotau*. Its odd shape may be explained if the northernmost sides (that don't have banks) are seen as a path connecting the fort with a road running parallel to the modern road.
 10. Green & Terrell apparently found traces of an inner ditch inside the known one, providing evidence for an earlier fortification at that location (Swanson 1968:24).
 11. It must be noted that Vaini 1 and Vaini 2 are not two different separated forts, but are interconnected - an earlier one being cut through by a later built one.
 12. This fort has an irregularly shaped circular square outline.
 13. Havea (1990:(pt.2)12) believes this fort should be actually called Matahau, making it sound more like a Tongan name.
 14. *Kolotau* Matahau consists of a squarish ditch surrounded by two other ditches that stick out a bit more on the western side.
 15. This fortification, located less than five hundred metres from the Lapaha fortification, is of a D-shape.
 16. Ha'ateiho is a complex *kolotau* consisting of several intersecting rectilinear outlines.
 17. Spenneman attributes this fort with having a single bank, but parts of double banks were found on either side of the ditch on the eastern side by Green & Terrell (Swanson 1968: map 17).
 18. Spenneman claims this fort consisted of two banks, but on the diagram of Havea (1990:(pt.2)fig.4), four banks are shown, two appearing on either

side of each ditch.

19. This *kolotau* interestingly exhibits the outline of a ditch mostly filled with midden soil within the more visible outer ditch (Swanson 1968:map 11).

outline and consists of a ditch with an inner bank.

Pottery has been found next to or among the fortification structures of the squarish *kolotau* Matahau (Swanson 1968:Map 12), the two open *kolotau* of Ha'atafu (Swanson 1968:Map 15) and Pea (Swanson 1968:24), and the complex rectangular Ha'ateiho fortification (Swanson 1968:24).

Although the presence of pottery might not date the fortifications themselves, it does indicate that people had been inhabiting those areas for some time and one is tempted to assign some antiquity to the fort structures there. It is interesting to see that most of the above *kolotau* are complex in form, suggesting they have undergone additional renovations and rebuilding, hinting at some antiquity to their initial construction.

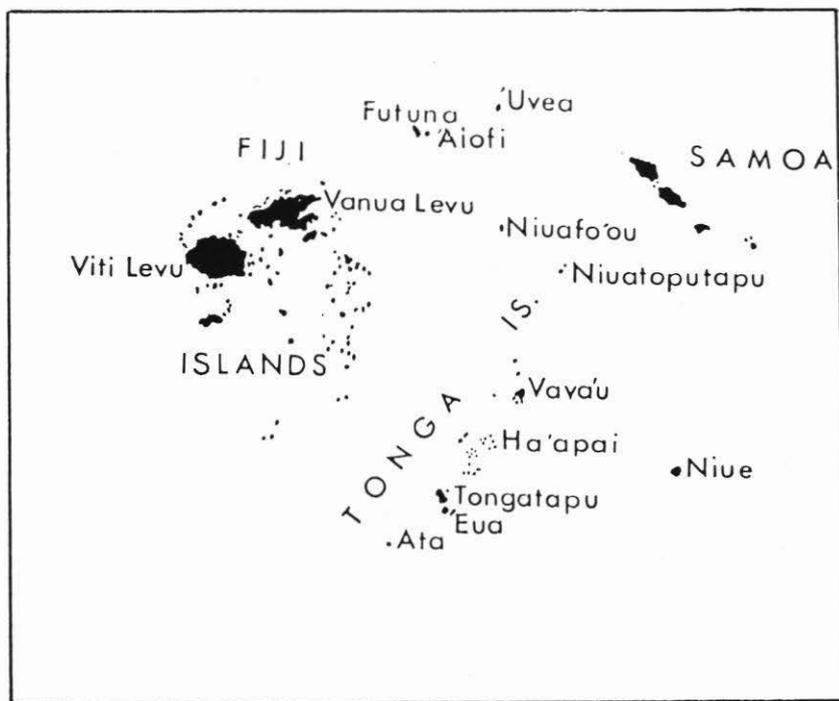


Figure 1. Location map.

Other forts on Tongatapu that have certainly been worked on are the rectangular *kolotau* Hule, and the semicircular open-to-the-lagoon fort of Vaini (see Notes in Table 1).

Turning to other Tongan islands, a fortification similar to the Lapaha one, but open to a coastal cliff, was mapped by Anderson (1978:3-6) on the little island of 'Ata. Human bones found in nearby graves showed that the area had been inhabited since the sixteenth century (Anderson 1978:18).

On Vava'u, construction work on the fort at Neiafu, which consisted of double ditches and reed fencing and was open to the coast on one side, is described by Mariner during his adventuresome stay in Tonga during the Civil War period (Martin 1991:125-6). According to McKern (1929:84), however, Mariner was possibly describing the rebuilding of those defences.

In the Ha'apai islands, Burley (1993:4-5) has noted a fortification with its front open to the sea, sufficient time having passed for the beach to have developed a series of three strand lines covering a distance of 30 metres or more - a context replicated by the Lapaha fortification. Also, according to local traditions, Tu'i Tonga Kau'ulufonua Fekai (a late 15th century ruler) sent his governor for Ha'apai, Mata'uvave, to force local chiefs to submit *inasi* or first fruits, and Mata'uvave is credited with the construction of the fort at Velata on Lifuka, together with other monumental structures (Burley 1993:5; Gifford 1929:69-70). According to McKern (1929:84-5), the Velata fort is almost egg-shaped, with two banks with accompanying ditches. Also, contrary to the above, McKern states that Velata was first constructed to resist the armies of Taufa'ahau before he became King George I Tupou. That account may actually refer to rebuilding/renovations done to the fort.

Beyond Tonga, ethnographic accounts claim that Tongans gained political control of the southern portion of the island of 'Uvea during the 15th century. To quash rebellions from northern chiefs and to protect Tongan colonies, two groups of warriors (the Ha'amea and the Ha'avakatolo) are said to have been sent to 'Uvea, and in about a century, a dozen fortifications were built consisting of basaltic stone walls as much as 4m high and 10m wide, surrounded by deep ditches (Sand 1993:45,47).

Most of the 'Uvean forts (see Figure 2) were sprawling linear structures, like Kolonui or rectangular in outline, like Makahau (Frimigacci *et. al* 1983:62-9). Lanutavake is a circular inland structure, but that is because it is constructed around a large crater (Frimigacci *et. al* 1983:51-5). Also, it is suggestive of the employment of the same concept that some fortifications are again open to the sea (e.g. Atuvalu - Frimigacci *et. al* 1983:113-7). Looking at Figure 3, we can see that the Mata Utu fortification looks very much like the Lapaha one on Tongatapu, and the shape of Ha'afuasia is very reminiscent of the Vaini and Pea *kolotau*. The small inland Maunga fort is also open on one side, opening up in this case to a crater's edge!

'Uvea is like Tongatapu in that it is fairly flat without much real topographic relief. Instead of building earth bank walls behind the defensive ditches, the volcanic stone abundant on the island was used for fortifications. Stone, when readily available, was also used in some Tongan fortifications, like the Kilikilitefua wall on Vava'u (McKern 1929:76-8) and the small circular fortification on Late that may have been constructed during the Civil War period (McKern 1929:85-6).

In the early historic period, the very special relationship Tonga held with Fiji is well attested. In 1830, after watching a display of Fijian dancing at Vava'u before Finau, the leading chief of that island, Orlebar noted the following:

"It is strange that this people... to the natives of the Friendly Islands... are so much respected and valued by the latter, -that a young chief's education is not considered finished... without his having visited the Figis, and engaged as a volunteer in some of the constant wars they have among themselves. The present king's brother is half a Fijian man, and has passed much time there: he brought over the natives I saw, and indeed always keeps some about him..." (Orlebar 1976:74-5)

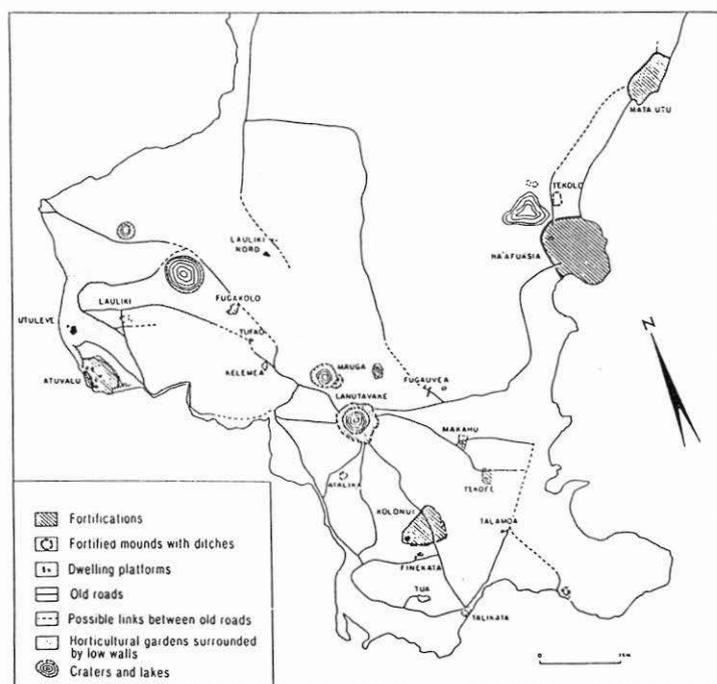


Figure 2. Map of southern 'Uvea showing fortifications attributed to the Tongan presence (from Sand 1993:48).

Aspects of Fijian culture, especially that to do with war, were prevalent in Tonga during the historic period, as can be seen in the warriors' preparations for the storming of the Nuku'alofa fort that Mariner witnessed:

"Most of them had discarded the decent Tongan VALA-skirt, and had adopted for the war the Fijian MAHI - a scanty loin-cloth, passed tightly between the legs; and had also painted their bodies in the hideous Fijian fashion, with the idea of striking terror into the foe." (Somerville 1936:163)

If we look at the circular *kolotau* on Tongatapu, it is worth noting that many can be dated to the historic period (see Table 2). The great circular fort at Nuku'alofa mentioned by Mariner was itself built by Tupou-Malohi, the Tu'i Kanokupolu, on his return from Fiji (Somerville 1936:166). Rectangular forts were also constructed in the historic period, but these were either very small (e.g. Kolosi'i) or were very square in outline (e.g. Nukunuku).

Another interesting point is that all the fortifications exhibiting not only the Fijian style of a bank on the enemy side of a ditch (i.e. a 'B' style), but also double-banks on either side of a ditch (i.e. a 'C' style), are mentioned either as having been constructed at that time or are those forts claimed to have had some work done on them in the historic accounts. A Fijian influence and a sort of compromise between a Tongan and a Fijian style would appear to be a reasonable outcome. The complex circular *kolotau* of Nakolo, which I can't find mentioned in historic accounts exhibits a combination of the above styles and is very likely to be of the Civil War period.

On Vava'u, the small circular *kolotau* known as Ha'apai's fort (Davidson 1971:35) and the huge circular fortifications at Felata (Martin 1991:107-8; Somerville 1936:306-7) are again attributed to the Civil War period. It is interesting to note that Mariner explained the building of a high outside bank at Felata as protection against guns and cannons. Many fortifications in Fiji also adapted in such a way in the historic period (Clunie 1977:17).

This paper has put forward the idea that fortifications developed locally in Tonga, in line with Best's view on the topic. This tradition is exhibited in linear and rectangular forms that were either enclosed or open to a body of water. Some Fijian fortifications on Viti Levu are open on one side to a stream or river edge. However, they usually consist of several surrounding ditches (Palmer 1969:192), compared with just the single ditch in most Tongan examples.

The basic "elements" involved in Tongan fortifications were the ditch and the bank/wall, and when these two elements were combined, the bank/wall would always be situated behind an encircling ditch. During the historic period, Fijian ring-ditch styled fortifications came to be built with the onset of the Civil Wars.

The Tongan fortifications probably evolved out of structures used to demarcate property boundaries. Reed fencing was a prevalent feature of Tongan

fortifications. We even have an account from Vason of a fort that was nothing more than a pole-and-reed enclosure, built by the people of Hihifo (Ferdon 1987:273). Reed fencing was also extensively used to demarcate house and garden boundaries, as is mentioned in Cook's accounts and can be seen in a drawing by Louis de Sainson on Dumont d'Urville's first voyage (Spenneman 1988:54-5).

Linear outlined *tofia* or hereditary land units, like the one excavated on Lifuka in Ha'apai by Burley (*in press*), were bounded by a low mound and surrounding ditch. As Burley puts it:

"... this feature functioned predominantly in a symbolic role, one visibly affirming property boundaries and one assigning these boundaries a degree of permanence not afforded by the more typical fences of interwoven bush or mats." (Burley *in press*)

Traditional accounts mention an alliance between two chiefs of the Hihifo (western) district of Tongatapu against the people of the Hahake (eastern) district in the early 19th century (Havea 1990:(pt.2)14; McKern 1929:87). Tu'i Pelehake, a leader of the Hahake people then set about building Tonga's version of the Great Wall of China - a *kolotau* that extended the entire length of Tongatapu (running for some 14 to 16 km.), severing the two districts (Swanson 1968:23; Spenneman 1989:480). Spenneman is of the opinion that it is more plausible to identify this tremendous field monument, the Keli-a-Pelehake, as a sunken road. However, this is contrary to McKern's (1929:87), Davidson's (1964:14), and Swanson's (1968:23) account of a bank still being present in places. The whole feature may have been impossible to defend, and it is probably better looked at as a highlighted boundary and as a hindrance rather than as a major defensive structure. It must also be noted that the ditch was on the enemy (Hihifo) side with the bank behind it (McKern 1929:87).

On Vava'u, just south of Makave, a long narrow peninsula extends, and at its narrowest part a stone wall (the Kilikilitefua) almost 2m. wide and 1.5m. high is present, effectively cutting off the peninsula from the main body of the island (McKern 1929:76-8). Just south of Longomapu, Davidson (1971:35) found a deep ditch running from the lake to the sea, cutting off an isthmus area. She also found an earthwork that ran from the cliff edge to the inner lagoon north of Tefisi, effectively dividing the entire island. Davidson considered these forts "unlikely to have been efficient in relation to their size". Again, it is probably best to compare these structures with the Keli-a-Pelehake. The Longomapu and Tefisi structures are said to have existed before the Civil War period (Davidson 1971:35), and the Makave wall is of an uncertain temporal origin, tempting one to assign it some antiquity.

Apparently, the earliest Tongan fortifications utilised the natural defensive advantages of steep ridges. Such forts are claimed to be present on the hilly Tongan island of 'Eua by Gifford (1929:225), who saw one *kolotau* on a ridge

between two canyons with a transverse ditch cut in between. They are more like some Fijian and Samoan forts discussed by Best (1993).

Samoa fortifications are usually a combination of ditches and banks extending across a ridge from gully to gully (Davidson 1965:63, 1974:240-1; Best 1993:385-447), and traditional accounts in Samoa attribute the building of fortifications and some other field monuments to Tongan invasions said to have occurred from 950 to 1250 A.D. (McKern 1929:81; Davidson 1965:60, 1974:241).

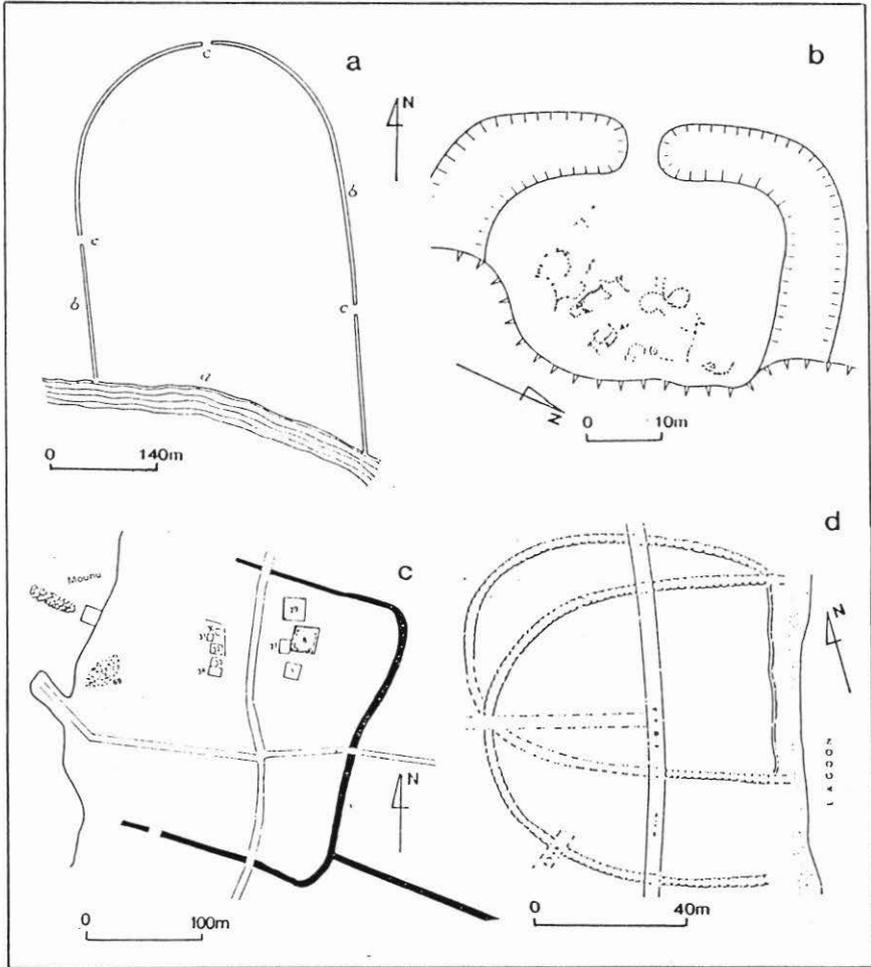


Figure 3. a. *Kolotau Pea* (from McKern 1929:86); b. Fortification on 'Ata (from Anderson 1978:6); c. Lapaha fort at Mu'a (from Spenneman 1988:18); d. Vaini forts (from Havea 1990:figure 15).

Fortifications on Futuna, which consisted mainly of ditches cutting across steep and narrow ridges (Kirch 1975:294), are also said to have been built by Tongans, and some apparently date to around the beginning of the second millennium A.D. (Sand 1993:50).

Also of a similar date is the expansive terraced ridge fort of Ulunikoro recorded by Best (1984:106) on Lakeba in the Lau group, Fiji. Dates from eight samples from different locations on the fort were pooled to give a date of 930 ± 19 B.P. (Best 1984:130). It appears that the fort was not built in separate stages, but was probably one event. The Ulunikoro fort complex's sudden appearance was a definite break in the island's occupation sequence and Best argues that it can be attributed to the presence of Tongan political authority, which can be confirmed by many traditional accounts concerning the site (Best 1984: 657). An equally early date for a Fijian fort is 1200 A.D., provided by Frost (1974:122) after looking at samples from Taveuni.

After looking at fortifications in Western Polynesia and Fiji that have been claimed to have been built by Tongans, we find that the Tongan tradition of fort-building has had a very long history indeed, and probably has its own independent origins.

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Table 2. SOME ACCOUNTS of KOLOTAU CONSTRUCTION on TONGATAPU.

Houma :

Built by a certain Vaea - early historic period (McKern 1929:87).

Te'ekiu & Kolovai :

In the first quarter of the 19th century, 'Ohuafi, son of the matapule Motuapuaka, is said to have constructed these two forts (Gifford 1929:204). However, McKern claims that:

"Kolote'ekiu had probably been previously fortified, but the walls and moats needed repairing and refencing". (McKern 1929:87)

Kolovai was said to have been built to accommodate an overflow when it was found that Te'ekiu couldn't shelter all the people.

The Keli-a-Pelehake fortification joins these two *kolotau*. Looking at the stratigraphy of the structures, Swanson (1968:23) claims that the Kolovai fort was built after the Keli-a-Pelehake was constructed.

'Utulau :

Built by a certain Valu - early historic period (McKern 1929:87).

Nukunuku :

This *kolotau* was built by Tu'i Vakano, chief of Nukunuku, just before King George I came to the throne in 1845 (McKern 1929:88; Gifford 1929:204).

Hule :

This fort was claimed to have been constructed by a non-Christian group after 1828 (Havea 1990:(pt.2)10). The inhabitants only stayed there for a short time, as Christian forces under Taufa'ahau overran the area in 1837 (see Gifford 1929:216). The site that this *kolotau* was built on looks to have been previously fortified (see Notes in Table 1).

Kolosi'i :

Kolosi'i was built by Ata, a Hihifo chief (Havea 1990:(pt.2)7), after Taufa'ahau's unsuccessful attempt at seizing *kolotau* Pea (Gifford 1929:217).