



5 ART AND TECHNOLOGY

While the artistic heritage of the Pacific is no doubt rich and representative of its cultures, it is more than merely something to be gazed upon and admired. Rather, Pacific art is both functional and symbolic of deeper meanings. Items as commonplace as bows and arrows, masks, and meeting halls are tangible expressions of the spirit of a culture. The themes in the final section seek to represent this spirit. In examining the Tongan *kupesi* traditions, for example, we see how the symbolism contained within the art, beyond its outer function, is reflective of the indirect nature of Tongan culture and somewhat akin to the practice of using *heliaki* in speaking. Likewise, in learning the complex process of building Palauan *bai* meeting houses, we can see that the structures stand not only as important functional spaces but also as carriers of cultural motifs and legends passed down over time.

All these themes attest to the art and technology of the Pacific societies as not only reflecting aesthetics but also serving a function. Traditional technological know-how allows the Pacific islanders to use available resources to their best advantage. Architectural designs, motifs, lashings, knots, stone walls, and pavement ensure that structures withstand the test of time while also carrying vital symbolic knowledge.



KUPESI: A CREATIVE TRADITION OF TONGA¹

TUNA KAIMANU TONGA FIELAKEPA

*I will string you pua garlands
To drown your homesick fears
And help you feel
The pulsating chord
The rhythm of our inheritance*

—Konai Helu Thaman²

INTRODUCTION: THE TRANSMISSION OF CULTURAL KNOWLEDGE

Tongan children learn their culture through observing, listening, and doing. It was the obligation of the parents, the family, the extended family, and the community at large to ensure that every child had the opportunity to experience the culture. In the first half of the twentieth century, Tongans enjoyed a close-knit society bound by extended families in which everybody knew each other's business. In this intimate society, I learned the art of *ngatu* production. *Ngatu* is the Tongan name for *tapa*, or bark cloth. *Ngatu* is the end product of *tapa* production, so it is only called “ngatu” when the whole process is completed. Tongans regard *ngatu* as “ours” because it remains an integral part of our cultural heritage. While bark cloth production is known in Africa, South America, Malaysia, Indonesia, Melanesia, and Polynesia, today there are three notable centers for its production in remote Oceania: Tonga (*ngatu*), Samoa (*siapo*), and Fiji (*masi*). These three neighboring island nations maintain close historical ties in trading and blood relations while their strong cultural heritages give them their unique identities.

1. The images in this article were provided by the author and printed here based on consultations with the country coordinator.

2. Konai Helu Thaman, “Part III,” in *Langakali*, Suva, Fiji: MANA Publications, 1981.

The paper mulberry (*Broussonetia papyri era*) produces the best quality of ngatu. There were two notable women who were very knowledgeable of Tongan culture, and both learned their skills from elderly ladies who were royal palace attendants. As young women they had learned much from their grandmothers about the rich cultural environment that surrounded them. The first woman, the late ‘Olivia Kaho Mafile‘o of Kolomotu‘a, could recite any aspect of the Tongan culture, especially concerning the women’s *koloa* (crafts). Over the years she imparted to me the hidden story behind ten out of the eleven traditional *kupesi* of Tonga described in this paper. The second woman, the late Tupou Kaho Fanua, who became a researcher and recorder for the Tonga Traditions Committee, confirmed ‘Olivia’s information with little variation.

Today ‘Olivia’s daughter (also Tupou’s niece), ‘Amilali Mafile‘o Latu of Halaleva, who inherited that knowledge, is a researcher for the Tonga Traditions Committee. Siokapesi Tauali‘i of Kolomotu‘a was my friend, neighbor and mentor. She taught me about the many aspects of ngatu production as well. Siokapesi’s daughter, Aola Tuituiohu, and granddaughter, Tonga-Ha‘apai Fielea, both of Kolomotu‘a, inherited Siokapesi’s knowledge.

The *kupesi* is the stencil for printing designs onto the ngatu. The Tongan ngatu is the traditionally manufactured material onto which the *kupesi* designs are transferred. Instead of cutting the designs on plastic, the designs are embossed onto a double layer of *paongo* (pandanus) and *kaka* (the fibrous integument at the top of a coconut palm) with coconut coir (sennit rope made of coconut fiber) as sewing string. The *kupesi* is plastered onto the *papa koka’anga* (bench table for ngatu production).

The *kupesi* is a part of the tangible cultural heritage of Tonga, but it is the thought and the idea behind the *kupesi* that give life to the creative designs it reproduces. This is what makes it meaningful and interesting.

The Kupesi (Stencil)

There are three methods of making Tongan kupesi, all of which feature geometrical figures with abstract designs within.

- *Kupesi Tongo*. Designs are woven from strips of *tongo* (mangrove stems) using a string either of *fau* or *pulu* (coir), e.g., the motifs named Ve‘etuli and Tatau Tuisipa.
- *Kupesi Tui*. Designs are made from coconut leaf midribs (*tu‘aniu*) on a background of *paongo* (pandanus) lined with *kaka* (fibrous integument that wraps around a young coconut leaf), e.g., the motifs named Tokelau Feletoa and Kalou.
- *Kupesi Fokotu‘u (setup)*. Designs are set up a day before the production of a ngatu. Using the stalk of the coconut leaf, these designs are easier to set up than Kupesi Tongo or Kupesi Tui. However, the Kupesi Fokotu‘u is not permanent. Examples are the motifs named Amoamo Kofe and Potuuamanuka.

In the past, traditional knowledge holders were reluctant to share their knowledge. Today, it is important that the origins of the traditional kupesi of Tonga are recorded so that they may be better understood and appreciated.

Over the years the Tongan people learned to manufacture *feta‘aki* (unprinted white tapa). The white *feta‘aki* was used at times of births, at puberty, and for medicinal dressings. They soon also discovered that dyes could be obtained from the bark, fruit, and leaves of trees as well as from the rich red clay (*umea*) that is found in Tonga. They developed the art of producing black soot from burning the candlenut kernels as dyes for the black tapa.

The beauty of the ngatu gave the women an incentive to design the kupesi stencils to decorate the material. The men had developed their own arts such as *lalava* (sennit lashings) of the rafters of the King’s house, canoe building, and weapon and tool carving. Bamboo fences rich in designs were built around the dwellings of the king or chiefs. The men tattooed their bodies while the women made sweet-

scented oil to cover their skin, making it smooth and beautiful when they danced to the songs composed by the men. Decorated ngatu were presented for traditional obligations and used as clothing and blankets or for household requirements.

The ladies of the court had the time to observe the beauty of their land, both the natural world and the artifacts surrounding them. They designed the kupesi, and female attendants were selected to make the stencils from the raw materials of their environment.

Furthermore, Tongans admire the art of speaking and composing songs and poems. The use of indirect *heliaki*³ discourse in language is an art, for it is regarded as rude and coarse to speak directly. Likewise, with the design and creation of the kupesi, its meaning was *heliaki*. The background of the kupesi urges its beholder to wonder what it means, why it was made, and for whom it was made. Tonga's ancestors placed much wisdom into the creation of their designs.

KOKA'ANGA

Koka'anga is the process of joining the *feta'aki* (white tapa cloth) and applying the kupesi (stencil). 'Uheina Tonga Tu'itavake of Kolofo'ou advised that the selection of the kupesi for a *koka'anga* was very important.⁴ When 'Uheina asked me, "Why are you doing a *koka'anga*?" I replied that it was because the following year, there would be a royal celebration for the Queen's sixtieth birthday; requiring traditional presentations, and I wanted to prepare the *koloa* (crafts) well in advance.

'Uheina told me that the *koka'anga* for a royal celebration must befit the receiver. She advised that, as there was no *Ve'etuli Kupesi*⁵ available, we should make a *Pangaikafa Lautefuhi* (100 length) and decorate it with a *matahilihifi* (a design containing slanted lines as in a grid) and large *Fo'i Hea* (a design consisting of three black circles, representing the three lines of kings). In creating ngatu, various units of measure are used and are significant ceremonially, for certain lengths are appropriate only for royal or chiefly recipients. For example, a *langanga* is eighteen inches by eighteen feet. For smaller ngatu, a *langanga* could be fourteen inches by fourteen feet.

3. For a discussion of the practice of *heliaki*, see "Heliaki: The Symbolic Depiction of Life and Living in Tonga," in this volume.

4. 'Uheina Tonga Tu'itavake, personal communication with author, 1986.

5. *Ve'etuli* is a design based on the footprints that golden plovers make on the beach. It is an example of kupesi designs that are inspired from the natural world.

Therefore, each piece of ngatu is designed beforehand knowing which recipient it is intended for.

Tonga still has active artists who have mastered the making, repair, and duplication of kupesi along with the other aspects of ngatu production. Masters of the art who have passed away in recent times included the late Nauna Ma‘umalanga Fisi‘ihoi of Tatakamotonga, her mother, the late Kalolaine Ma‘umalanga, and her younger sister, ‘Atilila Ma‘umalanga Vuna of Haveluloto.

TRADITIONAL KUPESI OF TONGA

Kupesi, like many objects in Tonga, include a number of ranked and titled pieces.

Ve‘etuli (Kupesi Tongo)

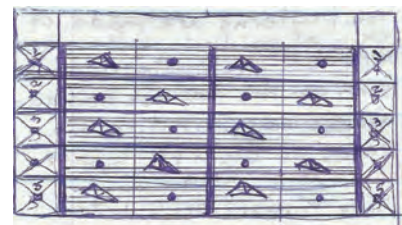
The highest ranked kupesi originates from Tongatapu. The motif of this kupesi represents the concentrated imprint of the feet of the Tuli bird, confirming its ceaseless activity on sandy beaches. It is an uncommon migrant shore bird, its color all pale. Always in action, it does not waste time. This kupesi is ranked highly because, like the bird, it is rare.



Knowledge owner: ‘Olivia Kaho Mafile‘o of Kolomotu‘a.

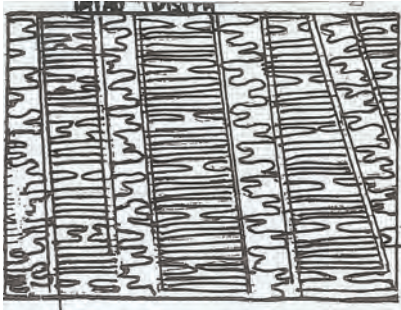
Pangaikafa (‘ila ‘aki ha Matahififi moe Fo‘i Hea folahi)

The second-highest ranked kupesi originates from Tongatapu. The pattern is *kafa* (sennit) that is wound around the *papa koka‘anga* (table). It should be lightly rubbed with the dye so that the stripes stand out. The decoration of the Pangaikafa is the *kupesi matahififi* (the slanted triangular shape) alternating with *fo‘i hea* (the dark circles representing a kind of local fruit and chiefly lineages). Thus, decorations are placed according to the men planting yams. The *fo‘i hea* completes the decoration. The “Pangai” in the name “Pangaikafa” is the King’s green, where he traditionally sits and meets his people. Likewise, the “hea” in the name “fo‘i hea” is a fruit from Holonga, Vava‘u.



Knowledge holder: ‘Uheina Tu‘itavake.

Tatautuisipa (Kupesi Tongo)



This kupesi originates from Tongatapu. “Tatau” means “partition” or “curtain.” It is made from the stem of the mangrove, which is split into fine strips. It is then woven with finely plaited *fau* into string, and then the string lashes the strips of the tongo, also creating a pattern. The strips are lashed diagonally, thus the name *sipa*. It is an imitation of the partition pattern.

Knowledge holder: ‘Olivia Kaho Mafile‘o, Kolomotu‘a.

Amoamokofe (Kupesi Fokotu‘u)



This kupesi originating from Tongatapu is set up on the *papa koka‘anga* (table) the day before the *koka‘anga*. The patterns are set up with the midrib of the green coconut frond (*palalafa*) and can be seen on the bamboo fences surrounding the home of the king or chief.

Knowledge holder: Siokapesi Tuali‘i, Kolomotu‘a.

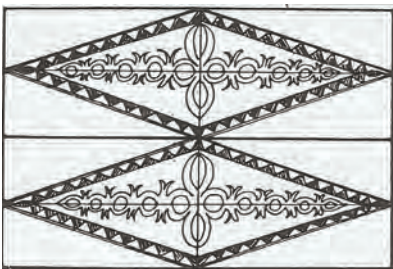
Tokelau Feletoa (Kupesi Tui)



This is a kupesi from ‘Ulukalala’s village of Feletoa at Vava‘u. The Tokelau Feletoa is said to be the flesh of the tuna fish when cut across the middle part. The pattern of the flesh is reflected.

Knowledge holder: ‘Olivia Kaho Mafile‘o, Kolomotu‘a.

Kalou (Kupesi Tui)



The Kalou is said to be the inside of the *mapa* fruit. The *mapa* plant is one of the known *kakala*, a collection of fragrant flowers that are woven together as a garland to mark a special occasion or for giving a gift to a special person. Kalou grows well at the villages of Pelehake and ‘Alaki, thus the name *Vaomapa*. The word “Kalou” is not a Tongan word, but a Fijian word meaning “God.” There is a tale of one of the Tu‘ipelehake’s sons who was exiled to Fiji, where the

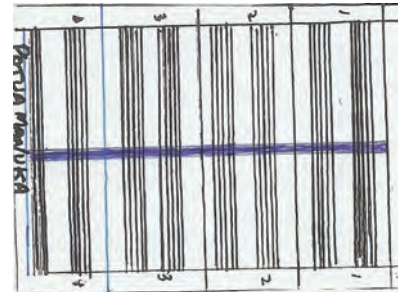
kupesi must have been created so that he would not be forgotten. His descendants are in Nadroga, Fiji.

Knowledge holder: 'Olivia Kaho Mafile'o, Kolomotu'a.

Potuuamanuka (Kupesi Fokotu'u)

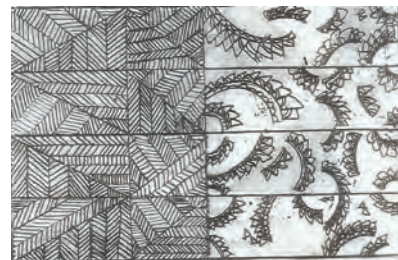
This is a black tapa kupesi originating from Tongatapu. This kupesi is set up on the table for ngatu production the day before the koka'anga. The meaning of this kupesi is still being researched.

Knowledge holder (setup): Siokapesi Tauali'i, Kolomotu'a.



Longolongo (Kupesi Tui)

This originates from Tongatapu and is named after *longolongo*, an ornamental tree fern grown in Tonga to decorate homes. Every part of the longolongo is uniquely arranged: the young leaf, how it unfurls through different stages, the trunk, and patterns formed from where the leaves were attached. Even the fruit and how it is attached to the parent plant is included. This shows the wonder of creation.

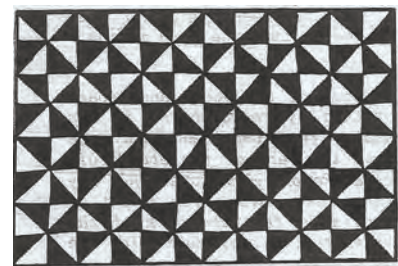


Knowledge holder: 'Olivia Kaho Mafile'o, Kolomotu'a.

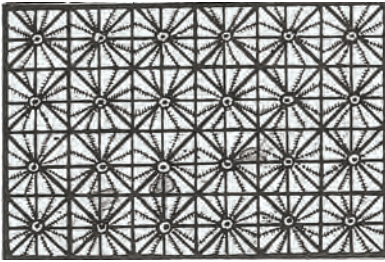
Manulua (Kupesi Tui)

This is an iconic Polynesian motif originating from Tongatapu. There are many interpretations of the Manulua, some saying it represents night and day.

However, the name means two birds back to back. This pattern is a mathematical figure that appeared in ancient architecture. There has been some discussion on the origins of this kupesi for copyright reasons, but to me this ancient traditional motif is one of the things that the women of Tonga should share in this small world of ours.



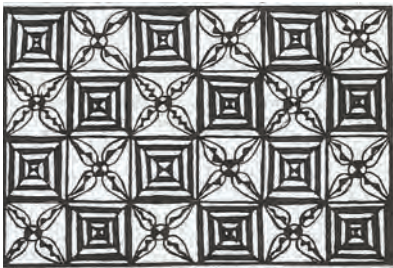
Knowledge holder: 'Olivia Kaho Mafile'o, Kolomotu'a.



Aotapu (Kupesi Tui)

Originating from Tongatapu, the Aotapu is the sacred turban of the King decorated with the Langakali flower. It is a sweet-scented flower used for *sisi* (girdle) and *kahoa* (lei), and it also gives Tongan oil a sweet aroma. It is a royal flower, second only to the Heilala.

Knowledge holder: ‘Olivia Kaho Mafile‘o, Kolomotu‘a.



Fata ‘o Tu‘i Tonga (Kupesi Tui)

Originating from Tongatapu, the Fata ‘o Tu‘i Tonga is a very old kupesi. It originated from the Tufunga Lalava, the chiefly title bearer who practiced the art of *lalava* (ornamental lashing used for houses), used on the rafters of the Tu‘i Tonga’s house. This kupesi has changed over the years. The original was only the design in the first square, but today it is comprised of four symbols.

Knowledge holder: ‘Olivia Kaho Mafile‘o, Kolomotu‘a.

KUPESI DECORATIONS



Matahihifi

The *matahihifi* is often used to decorate a ngatu, e.g., Pangaikafa, as it is bare except for the beauty of the lalava on the papa koka‘anga (tapa production table) if the dye has been applied lightly.

Fo‘i Hea

Fo‘i hea (fruit of the hea tree) is applied on the Pangaikafa, or, alternatively, with the matahihifi, to represent how the men plant the yams. The Hea tree grows well in Holonga, Vava‘u.



Fo‘i Hea Fuoiki ‘e tolu

These three small hea fruits arranged in a triangle demonstrate how men plant their yams.

RITUALS INVOLVED IN NGATU PRODUCTION

In every stage of ngatu production there are rituals and techniques. Some have been forgotten while others are lightly adhered to. Personally, I quietly adhere to them, for I have in the past experienced ill luck. It was during the process to obtain black soot from the candlenut kernel, a process we had to do twice to have enough black soot for a koka'anga. The first time, I asked an elderly woman to do it. She kept the rituals right down to the small minute taboo. The second time, I thought another woman and I would perform it. We began the rituals, but halfway through, the heat in the little hut where the candlenut kernels had been burnt became unbearable, so I suggested that we move outside of the hut and that when the need arose for more candlenut kernels to be burnt someone could go in and do it. I broke the taboo, and the result was disastrous: although we obtained black soot, when we applied it, the soot did not produce the desired beautiful shining black color.

CHANGES IN NGATU PRODUCTION

From the second half of the twentieth century to date, Tonga has seen dramatic changes in the different aspects of the production of ngatu. The *hiapo* (paper mulberry) is planted commercially. The raw materials are now readily available in the local market. Ngatu is also produced commercially. A *lau nima* (fifty length) tapa is sold for \$1,500 up to \$2,000. Ngatu layers used to include two layers of *feta'aki* (unprinted white tapa), but today women have improvised with a facing or lining cloth for the under-layer of the *feta'aki*. Many linings are poor substitutes for the traditional *feta'aki*. Dyes are now imported from overseas, and the natural glue is now replaced by the use of flour mixed with cold water, which, unfortunately, encourages mites and insects to bore holes in the ngatu.

COMMEMORATIVE DESIGNS

Early kupesi presented abstract images, but in the early twentieth century symbolic kupesi were created to commemorate important events such as the centennial of the arrival of Christianity in Tonga. There is a kupesi that represents the planting of Norfolk pine trees

lining Tu‘i Road from the palace to the royal tombs, and others commemorate the World War II effort of her late Majesty Queen Salote Tupou III when her people raised and donated funds to Great Britain to purchase warplanes. An airplane kupesi was made and printed on ngatu after the war.

Today some people produce tapa without kupesi, painting the whole ngatu brown and hand copying the kupesi motifs onto the ngatu. Because no new kupesi are being created, there is a danger that the old kupesi, if their use is not revived, will disappear and soon be forgotten.

CONCLUSION

Ngatu-making is a traditional manufacturing form that goes back before written history and is probably the oldest manufacturing industry in Tonga. Ngatu-making is an economic achievement in manufacturing sustainability—a traditional industry that has been led by women for centuries. Tongan ngatu is highly valued in Tongan culture and is recognized as a symbol of the importance of women.

Langafonua ‘a Fafine Tonga (The National Women’s Council) has been active in training women in ngatu production and some in the skills of “ngatu craft” catering to tourists. There is a need to continue with this training, not only for the sustainability and continuity of the production of ngatu in all its traditional aspects but because it is vital to many families whose livelihoods depend on the sale of ngatu.

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