

The Tectonic of the *Fale*

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Figure 1: Inside the Falehau, Tonga, in 'A new, authentic and complete collection of voyages round the world ...' London 1784. The image shows the tectonics with lavalava connecting the structure.



Lalava: The 'lashing' of the *fale*

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2. The fale is in some sense treated like an upturned boat-hull. In fact, the technology used for its construction is based on replaceability of its components or parts, just as parts are replaced when boats are serviced. With the use of lalava, the joints or members are not weakened by cutting, drilling or nailing. The fale could even be portable: in his book *Tongan Society* (1929), Gifford mentions early voyagers' accounts of portable houses set up at convenient places near anchorages for the reception of visitors.

As part of Pacific and, more specifically, Polynesian building culture, Tongan architecture is essentially derived from notions of ocean, sea faring and navigation, and cosmology (Refiti, 2002). As discussed by Tomui Kaloni, in his paper "The Evolution of Tongan Architecture" (2005), Tongan culture resulted from a process of differentiation by adaptation, and developed within a unique environment. Kaloni advocates that this uniqueness should not be mistakenly generalized.

Tongan aesthetics are based on *heliaki*—to say one thing, but mean another (Wood-Ellem, 2004). As context and meaning change, this use of allusion and metaphor allows for the passing on of cultural knowledge. Therefore, some insight into the poetics and politics of Tongan verbal and visual modes of expression is necessary to understand Tongan aesthetics, which are not just "an artistic penchant; ... [but] a philosophy; a way of life"... (Stevenson, 2002: 18).

As a way of analysing Tongan architecture, I propose exploring the tectonics of the *fale* in terms of lashing, or *lalava*. The essence and form of *lalava* reflect not just a general Pacific 'tectonic tool', but a specifically Tongan one. Applications of *lalava* are not restricted to the *fale*, but can be extended to other uses: for instance, to boat building, tool making, and traditional clothing.² Thus, *lalava* not only integrates the *fale* and its components but reflects every other aspect of Tongan culture, society, and way of life.

Tectonics: Ontology and Representation

In general, Tongan arts are divided into *faiva*, performance art, and *tufunga*,³ material arts. Both art forms are governed by time and space: *faiva* translates as 'time and space', and *tufunga* as a temporal production of 'form in space' (Mahina, 2002: 5). The Tongan conception and praxis of *ta* and *va*, 'time' and 'space', critically govern the arts of lineal and spatial intersection from which *lalava* comes. In an anthropological dimension, *tufunga lalava* can be related to aesthetic concepts and practices of particular and universal significance.



Figure 3: Lalava, fata section of the Fale Pasifika, The University of Auckland, 2004. All photos by Semisi Fetokai Potauaine.

While *ta* may generally be less significant than *va* in Tonga, they are of equal currency in formal social and aesthetic contexts. This is critical in the performance of reciprocal social obligations and creations to do with beauty and harmony.

Like the world over, both *ta* and *va* underpin the overall Tongan conception of the practice of art. Not only are the ontological entities, time and space, the medium in which all things are, in a single level of reality, spatio-temporality or four-sided dimensionality, they are epistemologically intensified and reorganized, thereby giving rise to art. Art can, thus, be defined as the rhythmic and symmetrical reorganisation of time and space that produces harmony and beauty. A type of *ta-va*, time-space, transformation, art is formally investigative and functionally therapeutic ... (Mahina, 2002: 5)

As social obligation, hereditary profession or way of life, *tufunga* were the obligation of *ha'a tufunga* and *faiva* that of *ha'a punake*. The *ha'a tufunga* class was divided into several subclasses,⁴ but all *ha'a tufunga* use intertwining line and space, and all *tufunga* professions use the *lalava* as their main tool.⁵ In fact, all *tufunga* masters will get involved in the construction



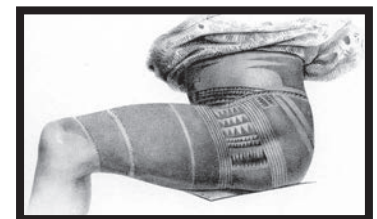
Figure 4: The construction of the Fale Pasifika involved *tufunga tamaka* (stone), *tufunga tongi'akau* (wood) and *tufunga langafale* (architecture).

of a *fale*, along with the whole of society (reciprocal duties). In this highly strung society, the professions are shared and collective: *tufunga tāmaka* are responsible for the elevated platform or the *'esi*; *tufunga tātongitongi* and *tufunga tongi'akau* for the wood preparation; and women, usually, are responsible for *lālanga* of coconut leaves and woven mats for wall and roof coverings.

3. *Tufunga* can be juxtaposed with the Greek *tektion*, but *tufunga* governs all aspect of creating. It is a way of living, a profession important in society. Even the gods are referred to as *Tangaloa Tufunga*.

4. *Tufunga fo'uvaka*, *tufunga langafale* and *tufunga tātongitongi*, *tufunga tongi'akau* and *tufunga tāmaka* which to deal with *'akau* (wood) and *maka* (stone). Both *tufunga fo'uvaka* and *tufunga langafale* have more direct connections with *tufunga lalava*.

5. "Working with *kohi* or *tohi*, by way of *ta* or beating of time, makes *lalava* an abstract art form. By extension, *tufunga lalava* is akin to *tufunga tātatau*, body art or tattooing. Although they are differ in subject matter, or space, the former is a work with houses and boats and the latter with *sino* or the body. Both arts utilise line and space, with *kafa sinnet* made from coconut fibres and black ink or *vaitohi'uli* as respective means of interlacing *kohi* and *va* ..." (Mahina, 2002: 5)





Tufunga masters, as non-academic professionals, are empirically oriented. They draw their inspirations—like their predecessors—from their experiences with their physical and social environment. With ancient *lalava*, masters ingeniously created abstractions of real life and everyday in many *kupes* or *lalava* patterns with direct connections to the lashing of boat and house construction.

In “Rappel a l’ordre: The Case of Tectonic” (1990), Frampton discusses Semper’s “theory of formal beauty”, which viewed architecture as an “ontological world-making art” despite its “static representational form” (5). This applies not just to symbolic form, but also to the urge to strike a beat, string a necklace and, in this case, perform the *lalava*. Semper also regarded architecture, together with dance and music, as cosmic arts, in contrast to painting and sculpture. This concept has a parallel in the conception of Tongan art, where *tufunga* (material art) and *faiva* (performance art) stand side by side: the making of -cloth (*koka’anga*) is always accompanied by singing and chanting. This explains the unity and execution of reciprocal duties among the social groups taking part in the *tapa*-cloth making, where *ta* and *va* are both practiced. Performance by singing creates the *ta*, and *tapa*-cloth making brings about the social *va* between the participants.

From an anthropological perspective, the Tongan concepts of “such things as the sky, the human body, and social practices such as *lālānga* (weaving) and *koka’anga* or *ngatu*-making” are all “associated with the lineal and the spatial” (Mahina, 2002: 5).⁶ *Lalava* is a term made up of two words, *lala* and *va*. This two-word scenario is a common occurrence, especially in the language of art, crafts and society. *Lala* means to intersect, as in the

6. “The celestial bodies in the sky or outer space, or *vavā*, were treated as *kohi ’a velenga*, where the points of spatial intersection of imaginary lines form the actual stars and galaxies, of value to navigation and voyaging. In fact, *kohi* is the older form of *tohi*, hence *tohi-tohi* or *kohikohi*. The word *tohi* applies to *lālānga* and *koka’anga*, especially when making dried pandanus leaves into *fe’unu* or fine threads or fibres for weaving, and painting over printed *kupes* using *koka* and *tongo* ‘black-dye’ made from treated sap of *koka* and *tongo* trees, which are known as *tohi lālānga* or *tohi ngatu* respectively.” (5) There are parallel analogies.

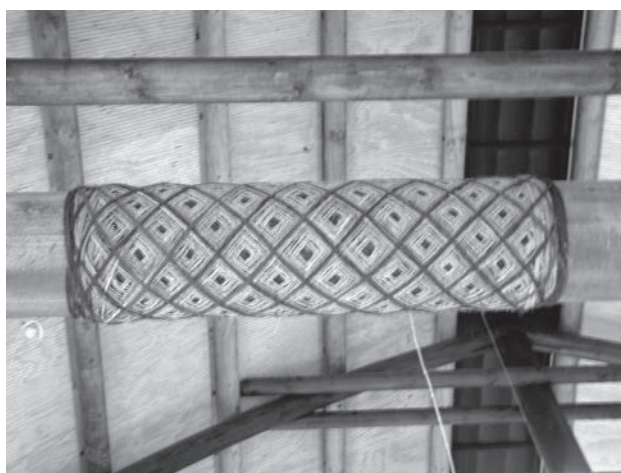


Figure7: Lalava pattern, Fale Pasifika.

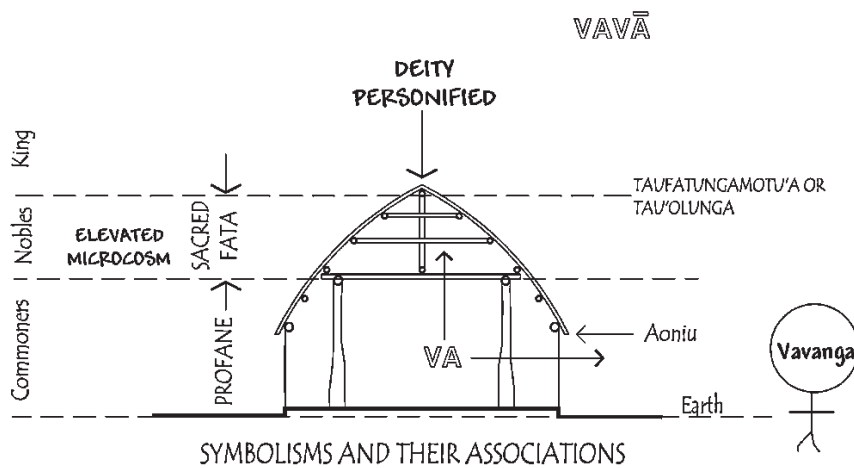


Figure 8: Section of a typical Fale. Drawing by Semisi Fetokai Potatauine based on Tomui Kaloni, 2005.

intersecting of two or multiple lines (*kohikohi*). Thus *kohikohi* is a multiple intersecting of woven cords (coconut sinnet) in lashing, black-dyed *koka* and *tongo* in *tapa* making, lining threads of leaves (*fe'unuu*) in weaving and line productions with black ink in tattooing.

Mahina (2002: 6) states that, “in its ‘pure’ form, the word *lala* evokes a pristine state”—harmony; and that “the notion *lala* lies in close proximity to the concept *noa*, meaning a zero point, which depicts a state of nothingness, emptiness or formlessness” (6). A number of contradictory yet intersecting tendencies are counter-poised, giving “rise to unity, harmony and beauty” (6).

In “Rappel a l’ordre” Frampton also refers to *The Tectonic of the Hellenes*, by Karl Boetticher (1843). Boetticher regarded construction as an appropriate interlocking of two constructional elements. These conjunctions are seen as body forms, simultaneously articulated and integrated. This not only guaranteed the finish of the building material, but also enabled form to acquire symbolic meaning. Boetticher then distinguished between “structural nucleus” and “decorative cladding”, in which “decorative cladding” somehow symbolised the status of the “structural nucleus”. In the *lalava* of the *fale*, the interlocking of the constructional elements can be easily fitted into Boetticher’s position.⁷ The *lalava* reiterates the symbolic, and aesthetic, of the *fale*’s tectonics by further intersecting the intersected constructional element. According to the *lalava* master of the *Fale Pasifika*, University of Auckland (2004), Filipe Tohi,

the *kafa* sinnet used is normally in *kula* or red and *’uli* or black, the spatio-temporal intersection of which eternally reproduces four-sided dimensionality, the colours symbolise men and women, who are physically united and genealogically related in time and space, and connected through procreation ... (cited in Mahina, 2002: 5)

In fact, the old Tongan term for copulation and sex is *lala*, and symbolises the physical ‘intersection’ between male and female, in all animals—but particularly between women and men. Referring to Pierre Bourdieu’s analysis of the Berber house (published in 1969), Frampton points out that the Berber house itself constitutes a cosmos in the way in which its tectonic order unites language and the collective beyond the house itself. It is possible to explain certain aspects of the *fale*, the *lalava* and their relationship with the wider society in this way. On the other hand, Semper’s “Conception of Style” points at ancient monuments and constructions, emphasising that “they are the free creations of men, who employed understanding,

Firstly, the term *kālava* refers to both types of the blood vessels, that is, arteries and veins. *Kālava* then translates into arteries and veins intersecting to form the human body. Secondly, the human brain, which is referred to as the *’uto*, is believed to be a collection of (various intersecting) thread-like or fibrous substances (a reference to coconut sinnet). Thirdly, various types and forms of thinking such as *vavalo*, *vavanga*, *havala*, and so forth all refers to their spatio-temporal *ta-va*, *kohi-va* or *lalava* origin. The term *Tauhivā* literally translates as ‘the beating of space’ or in a more formal sense means ‘nurture the space’. These are all to do with maintaining exchange relationship between so.

7. Similarly, Marco Frascari’s essay on the “The Tell-Tale Detail” (in Frampton, 1990: 13) seems to summarise every aspect of the architecture of the fale: it is an art not only for the basic need for shelter, but puts together materials in more than just a meaningful manner. This occurs through ‘formal’ and ‘actual’ joints, and it is here that the ‘construction’ and ‘construing’ of architecture takes place.

observation of nature, genius, will, knowledge and power” (in Rykwert, 1982: 129).

Following Semper, one could say that *fale* are microcosmic and mirror the law of nature—while not necessarily following natural law. Rather, they are the products of the collective, of society, exactly in the same way as language.

Conclusion

Like other Tongan or Polynesian art, within a system of cultural knowledge the tectonic of the *fale* as a whole remains highly aesthetic. Its construction, from the elevated platform to the roof, involves the whole community. What is created in the *fale*'s tectonics reflects people's ways of living, their culture—not just within the confines of the *fale*, but within society as a whole.

As an analogy, the *fale* could be put alongside the Berber house, with the Berber house being stereotomic and the *fale* very 'monolithic' and uniform. However, with all due respect to Frampton and other followers of tectonic theories, the *fale* requires special treatment and special analytical tools. Its ethnic domain must be approached, and *heliaki* must be considered, in order for this architecture to be understood. For example, the fact that the *tufunga lalava* intersected *tufunga fo'uvaka* and *tufunga langafale* might not only confirm that the tectonic of the *fale* is based on the *vaka*, or boat, construction. It may also explain the role of an up-turned boat hull as current metaphor for the *fale* concept.

Lalava, then, is not only a structural necessity for the tectonics of the *fale*, but also an abstraction of society. *Lalava* can, indeed, be put alongside the *knot* as a primordial mode of the tectonic, as Semper conceived it. It is a variety of the *knot*, a record to hand down cultural knowledge.

The *lalava* of the *Fale Pasifika*, although not structural (due to Building Code requirements), still echo the main essence of *lalava*. Here, the functionality of the *lalava* is far removed (non-structural), but its recording mode and ideas are still present, its messages still as powerful as in ancient lashing. The patterns created in the *Fale Pasifika* depict, according to Filipe Tohi, the *Lalava* master responsible for the lashing, abstractions not just of academic relationships between Polynesian communities. The work knows no 'geo-political boundaries' and it relates to everything in Oceania. The *Fale Pasifika* is a modern *fale*, highly contemporised to fit modern requirements, intended not just for Polynesian students but for all of New Zealand and for a wider global audience.

Lalava in context is a philosophy, a way of life, which is vulnerable to changes, which are of course part of modern society and technology. But these changes can, as seen in the *Fale Pasifika*, also provide sustenance to Pacific cultures.

Glossary of Tongan terms (Mahina, 2002)

<i>faiva</i>	<i>Lit.</i> to do time and space; performance art.
<i>fale</i>	<i>Lit.</i> Tongan house.
<i>fe'unu</i>	Noun: fine threads; 'line' made from dried leaves for weaving; verb: sliding along, or readjusting of more than two things; refers to ladies taking position in weaving large mats.

<i>ha'a</i>	Professional class, usually hereditary professional class.
<i>ha'a punake</i>	Class of performance artists.
<i>ha'a tufunga</i>	Class of material artists.
<i>heliaki</i>	To say one thing and mean another; Tongan proverbs; <i>punake's</i> profession.
<i>kafa</i>	Sinnet made from coconut fibres; 'lines' for lineal-spatial intersecting.
<i>kohi</i>	Line; writing; older form of <i>tohi</i> .
<i>kohikohi</i>	Multiple lines; writing; older form of <i>tohitohi</i> .
<i>koka</i>	Black dye made from treated sap of <i>koka</i> trees.
<i>koka'anga</i>	Bark-cloth; <i>tapa</i> -cloth making; <i>ngatu</i> -making.
<i>kula</i>	Red, brownish colour.
<i>kupesi</i>	A design, a blue print, a pattern.
<i>lala</i>	Older term for sex, copulation. Also used as pristine, or nothingness place.
<i>lālanga</i>	Intersecting of line and space; mat weaving.
<i>lalava</i>	Intersecting of line and space; <i>kafa</i> lashing.
<i>noa</i>	State of purity, harmony and beauty.
<i>ta</i>	Time; tempo; beat; rhythm.
<i>tongo</i>	See <i>koka</i> ; black dye made from treated sap of <i>tongo</i> trees.
<i>tufunga</i>	<i>Lit.</i> 'to do time and space'; material art or artist.
<i>tufunga fo'uvaka</i>	Art of boat building, boat builder.
<i>tufunga lalava</i>	Art of intersecting line and space; lineal spatial sculpture; lashing master; <i>lalava</i> master.
<i>tufunga langafale</i>	Art of house-building or architecture; house-builder; master builder.
<i>tufunga tāmaka</i>	Art of stone cutting; stone sculpture.
<i>tufunga tātatau</i>	Art of symmetry-beating (of body); tattooing; body sculpture.
<i>tufunga tātongitongi</i>	art of wood carving; wood sculpture.
<i>tufunga tongi'akau</i>	See <i>tufunga tātongitongi</i> .
<i>'uli</i>	Black.
<i>va</i>	Space; social relation.

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